Access to transport

64 million – km of roads in the world

33% – greenhouse gases contributed by transport

Access to transport

The widespread need for individuals to travel short distances becomes a key feature of urban design and regeneration. Planners use transport infrastructure to influence social change and lower carbon living.

The impact that transport has had on society is all around us. The past century's near universal love affair with the automobile shows that transport can shape landscapes, stimulate economies and feed individual desires. The US Federal Highway Administration says that every $1 billion invested in highways supports 27,823 jobs. Globally, many road building strategies rest on that premise, and the CIA Factbook estimates that in 2013 there were over 64m kilometres of (paved and unpaved) roads in the world. Car-based systems have brought much accessibility, connectivity and convenience but at the price of introducing pollution, high land-use needs, urban sprawl, urban decay, respiratory issues and in some high-use areas, increased social isolation. Countries like the US are very car-dependent, a need compounded by under investment in maintenance of roads as well as in other transport forms.

But not all countries are equally beholden. In the World Economic Forum Global Competitive Index, the UAE and Singapore top the rankings for (all) transport infrastructure and in the EU the Netherlands is the highest ranking country (4th overall).

Inclusive transport solutions will challenge inequality, while flexible and integrated solutions develop mobility.

Transport could be used as a transformative tool in shaping the societies that we hope for, addressing significant challenges such as inclusivity, mobility, urban design and adjustment to lower carbon living. Inclusive transport solutions will challenge inequality, while flexible and integrated solutions develop mobility. Design and environment-led transport solutions can improve urban living (better serving our growing urban populations) while low carbon lifestyles help address climate change. Transport is much more than the journey, it can positively influence how we move, and even why we might want to move.

Part of the thinking required is to focus less on providing transport and more on providing access. In its Future Demand Scenarios, looking out to 2042, the NZ Ministry of Transport states: We should recognise we are trying to improve access not just mobility. There are three different ways we can achieve this: with good transport systems; with good spatial planning; or by improving digital access.

Fuelling these wider conversations is increased urbanisation, where inhabitants require other forms of transport and in a variety of services. Other drivers of this change include new ownership and usage models, such as Uber. But, as many experts of the phenomenon of Peak Car having pointed out, a fundamental shift certainly needs to take place. With transport today contributing around 33% of all greenhouse gases, it is an obvious place to seek improvement.

What can we expect of integrated, inclusive transport? Greater choice, better connections (and thus efficiency as well as ease for the traveller) as well as more green and sustainable options. Many cities – Sheffield, Belfast, Singapore, Dundee, Shenzhen – are discussing the need for and success of Integrated Transport Hubs (ITH). However, the ingredients for each ITH vary considerably, given the locality. In Singapore, the addition of shops and air conditioning while waiting for buses and trains is critical, while Shenzen aims for an ITH with 5 underground railway stations, a border control point and numerous commercial areas.

The urban poor suffer from a lack of mobility options.

Transport solutions that address key societal needs, benefitting the urban poor, are a key target. The urban poor suffer from a lack of mobility options and associated issues such as exposure to emissions and to unsafe conditions. To counteract this, avoiding the marginalization of areas inhabited by low income populations, improving opportunities for informal transport options, facilitating bicycle ownership and providing adequate infrastructure for pedestrians (safe footpaths, seating, toilet facilities, etc.) are all vital.

This is not just a developing world issue, it is a daily reality for millions in Europe and the US as well. Indeed, New York has its own extensive, quasi legal transport network called dollar vans that serve those lacking in access to public transport. A broadly similar model can be found in Nairobi where the “matatu” remains the most popular mode of travel.

In part because of its clogged up roads, South America is at the forefront of pro poor transport - particularly for cyclists. Bogota, Mexico and Buenos Aires all boast effective initiatives, including interest free loans for cyclists and the development of cycle lanes.

However, to have a greater impact there needs to be a significant shift in approach requiring new partnerships that include new players, tech-enabled, and new business models.

Doing 'new' is hard. But technology and visibility can play a huge part in the transition taking place. These areas can instil a greater expectation on providers and showcase solutions for all to see. But government cannot do this alone; a shift requires new tech-enabled partnerships and business models. models. Hammarby Sjöstad (Hammarby Lake City) is an eco-friendly urban development in Stockholm, and its sustainable transport front features a tramline, bicycle and pedestrian networks, carpooling and a ferry. Infrastructure here was planned as 'closed loop' systems for water, waste and energy – all feeding each other.

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Related insights

Autonomous transport

The shift to fully autonomous transport is an evolution via truck platoons on highways and small urban delivery pods. Connected cars create the network and test the technologies for the eventual revolutionary driverless experience.

Built-in flexibility

The path to a connected, accessible and distributed infrastructure is fraught with complex, costly and risky issues: Upgrading and repurposing systems to make them more open plus on-going maintenance need significant resources.

Infrastructure deficit

Infrastructure again becomes a source of competitive advantage. Emerging economies invest in new railroads and highways for more effective movement of people and goods, while developed nations suffer from poor legacy.

Optimising last mile delivery

Seamless, integrated and shared last-mile delivery replaces inefficient competition and duplication of goods distribution. Greater efficiency in moving things is as important as in moving people and so a major focus for innovation.