

A BETTER FUTURE



White Paper #1
November 2019

Mobility – a future that is sustainable, delivers social value, and benefits SMEs and social enterprises



Better
infrastructure

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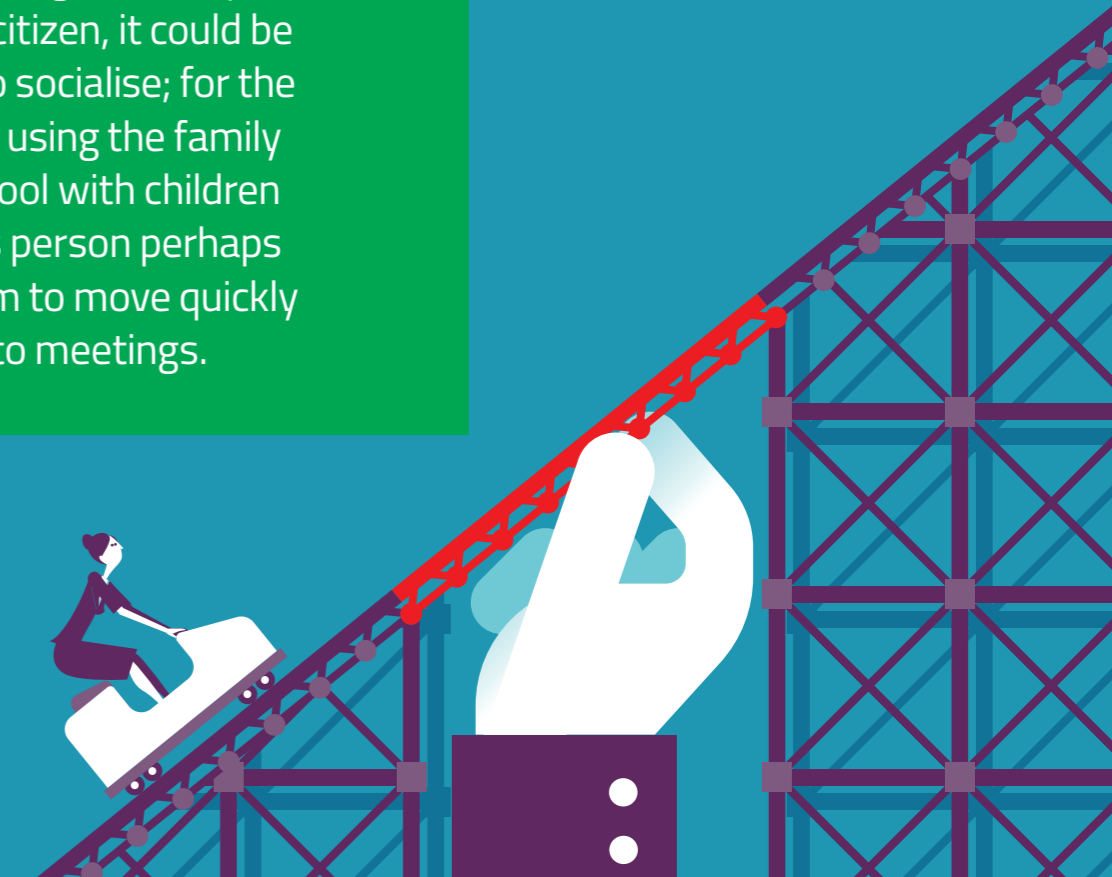


Setting the scene

Mobility – defining a new way to connect



Mobility means many things to many people. For the elderly citizen, it could be about boarding a bus to socialise; for the busy parent it might be using the family car from home and school with children in tow; for the business person perhaps the uber taxi helps them to move quickly and easily about a city to meetings.



Whichever way you look at it, how we move is changing fast. The 'traditional' forms of transport – the bus, train and car – all have their place in the mobility mix. But the new entrants such as electric and hybrid vehicles, e-bikes, on-demand services, ride-hailing, ride-sharing, micro-mobility and autonomous vehicles are now (at long last some might say) starting to gain traction.

Traditional transport is already being disrupted by data and new technologies and by private sector businesses which, knowing that enhanced mobility drives new opportunities, want to play their part. When it comes to mobility, central and local government policy is still catching up with technology and questions remain around how policy thinking must change to meet today's and tomorrow's mobility needs. Transport policy, as we know, is determined by many areas including issues around air quality, congestion and social inclusion – factors that will shape mobility in the years to come.

At the same time, it remains unclear how we might encourage a multitude of mobility solutions to blossom so that the traditional forms of transport co-exist and are successful alongside the new ones.

Buses, for example, will remain a big part of mobility yet bus deregulation (outside of London) is struggling to deliver a basic quality of service – a problem especially prevalent in towns and in rural areas. Is the answer in a light-touch regulatory approach so that all forms of mobility can co-exist, and the consumer decides what survives?

Equally, what is the role of the private sector in investing in mobility and, with the demise of Private Finance Initiatives (PFIs), what will the relationship between the private sector and local government look like around financing the required infrastructure?

Understanding the new revenue models that will emerge from the private sector is key – models that will enable them to succeed in the mobility market while at the same time, deliver social good.

This paper sets out our recommendations to address these and the many other questions that are faced by the private and public sector in this, a new era for mobility.

Challenge 1

The need to change public policy thinking



We need a shift in central and local government policy thinking towards locally focused mobility solutions that meet citizens' needs.

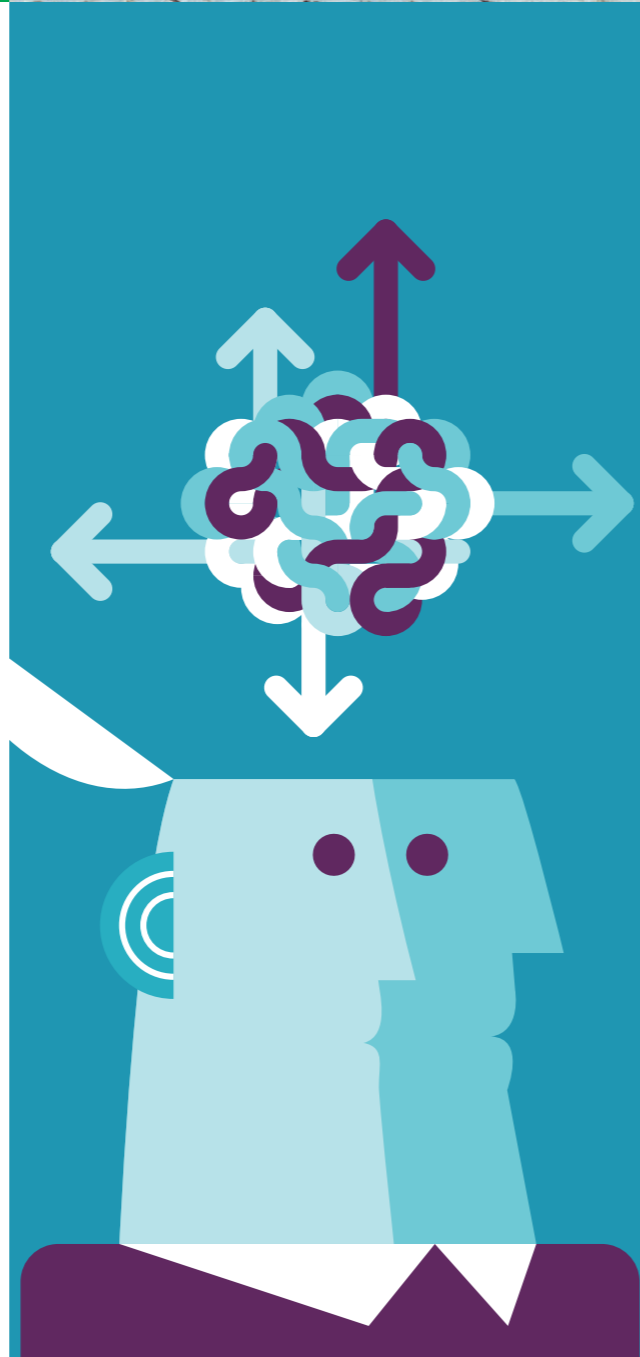
New mobility is a composition of three different, major sections: the actual mobility services (such as car sharing, etc.) and the physical and digital infrastructure that underpin them. There are problems and challenges across all three, but they are fundamentally different for infrastructure and services, and they need to be treated as such.

What is common for all segments of the market is that cities need a vision (specific to their unique aspirations) for their mobility system. That vision needs to be defined and driven at local level, providing clarity on the outcomes that the city wants, and allowing private operators to align with it when establishing their services.

Recommendation

Mobility code of conduct: Cities should develop a code of conduct to which all mobility infrastructure and services operators adhere if they want to do business in the city. This code would reflect the expectations of the city with regards to data sharing, KPIs around the quality of the service and infrastructure, and generally how the city expects the service to impact and interact positively with the city.

Consistent EV charging policy: Cities should request any operator planning on entering the EV charging market to agree to be interoperable with other networks in the city, so that any user can use any charger in the city. In comparison to the European model, where with a single card, any EV driver can generally charge at any charging station in any city, the UK market is highly fragmented and not collaborative.



Challenge 2

New financial support models must be adopted to underpin investment in future mobility infrastructure



New infrastructure funding mechanisms are required to ensure our mobility aspirations are affordable and deliverable.

For new mobility infrastructure (i.e. EV charging, energy storage, hydrogen, etc.), we believe that government funding should be channelled differently. There are success stories in other sectors that should be copied where revenue subsidies acted as a catalyst to attract private sector investment.

If we look at the renewable sector, Contracts for Difference (CfDs) lowered sector risk, incentivising investment in nascent renewable energy schemes. Developers of projects with high upfront costs and uncertain future revenues obtained protection from volatile wholesale electricity prices. CfDs provide fixed price assurance and safeguard public funds from overcompensating when electricity prices are high.

Such mechanisms should be explored in the mobility infrastructure space, where there are also high upfront costs and with volatility coming from utilisation rather than the price itself. Encouragement of early investment in policy driven initiatives must address the risk of initial underutilisation.

We believe there are synergies to be explored in the CfD scheme and would encourage Government to explore developing a similar scheme which will unlock mass scale investment in mobility infrastructure.

Recommendation

Coordinated public mobility policy: Whilst the solutions need to be developed locally, there needs to be co-ordination in the UK from a policy perspective. Each city trying to do this on their own will lead to mixed results. Government should build on the ambitions set out in the recent Future of Mobility strategy to "seize the opportunities from the changes happening in urban transport". It should tie in funding or grant support to promote wider mobility which has been set in policy and agreed with the regions or Local Authorities but crucially, driven by Central Government.

"The role for government is to set some policy. Take EV charging - there are no rules, processes or thinking going into what the community wants. The problem is that there is a mix of policies and it's not joined up between local priorities and central government."

*Asif Ghaffoor, Managing Director
Amey Investments*

"We need to get government focus on infrastructure but also to empower the regions and give them more flexibility over long-term funding options."

*David Lutton, Director
London First*

Encourage revenue-driven business models that also create social value



but complemented with Amey's own investment and fund raising. The authority's policy approach has enabled Amey to develop an innovative business model in a reduced risk environment.

Amey has proposed an EV charging platform in which the local public can invest and make a return. We have also brought to the platform several technology-driven start-ups that can deliver mobility-related services around parking and journey planning. The start-ups benefit from access to customers on a live platform so they can scale up their businesses and Amey gains from a share of their revenue.

The approach demonstrates an end to linear thinking around funding infrastructure and a start to a richer eco-system of sustainable user-pays business models for service delivery with integration of micro services and the connectivity between them. Crucially, the business model delivers a means by which local people can gain from the platform both as users and investors – demonstrating that generating revenue and delivering social good can and should go hand in hand.

The reality for public sector infrastructure managers is that most of its financial and operational challenges are centred on running and maintaining the existing network rather than building new capital projects. Most of the funding that comes from central government is in the form of capital investment.

However, for all this investment, what will really change mobility for communities is the creation of revenue-driven business models. The private sector must make the case for and work with the public sector to enable this change.

Private sector operators are already coming up with business models to try and generate revenue but often this is in spite of local government or, indeed, after little discussion. Too often we see these companies ignoring the social impact benefits that their businesses can create.

Recommendation

Auditable commitment to creating social value: As part of the code of conduct mentioned earlier, private operators should take responsibility for creating a positive impact in the communities in which they operate and focus on leaving a positive legacy. They should commit to publicly disclosing how they are delivering for the good of society and should be open to scrutiny from their clients and from the travelling public about the services they deliver and their overall performance in delivering both a good service and social value.

"The industry is moving to a service driven approach while we, as a government, are still investing in capital schemes."

*Llewelyn Morgan,
Head of Innovation
Oxfordshire County Council*

"More transparent, and just-in time performance linked data can be used to help move away from older inflexible contracts, with poor alignment of interests, towards something far more powerful and learning focused with better delivery outcomes."

*Matt Vickerstaff,
Deputy Chief Executive Officer
Infrastructure and
Projects Authority*

Delivering 21st century services – a new way of thinking

Councils across the UK remain under funded and heavily reliant on central government for capital funding. Many of them struggle to deliver statutory services within budget, let alone consumer-facing services such as EV charging. When a transport authority in the north sought an EV charging infrastructure service provider in 2018, it needed to consider how EV charging could be delivered at a meaningful scale for citizens and how the business model of the service provider would work.

The authority recognises that supportive policy settings are key to attracting private investment into EV charging. It has allowed the space for the private sector to install EV charging infrastructure on a sustainable user-pays basis. Amey is working with them on what is essentially a simple infrastructure contract with some funding coming from central government grant money



Embrace the role of technology and data in future mobility solutions



“There is an over reliance by the private sector on the public sector to make things happen. We must get more of a balance between what the private and public sector does and try to re-establish those roles. The dynamic of investment has changed and so we have to change the way we engage and operate.”

*Asif Ghafoor, Managing Director
Amey Investments*

We must embrace technology to boost whole life mobility outcomes and assign greater value to data collection and use.

The public sector must work with the private sector to create an enabling environment for mobility solutions – a safe environment to trial innovations which helps the industry and is good for the wider UK economy. This will mean breaking down silos and working collaboratively to support mutually beneficial innovation in a way that has already demonstrated success in the offshore wind industry. Such ideas should be encouraged to help drive innovative mobility solutions.

Help for employers to embrace and encourage the new environment of home working and shorter working weeks, with investment in the technology and policy incentives to support this new norm, is vital to maximising the mobility benefits and minimising the negative impacts of this change.

Amey Investments welcomes the recommendation of the Government’s Future mobility Strategy: ‘data from new mobility services must be shared where appropriate to improve choice and the operation of the transport system’.

Recommendation

Data sharing strategies: Cities need to set up the right infrastructure to efficiently provide and share that data with mobility operators. We recommend cities develop city-wide data hubs to collect, process and make transport and mobility data available for operators to deliver data-driven decisions in their services.

Valuing data: Providing open data for free, as a principle, actually diminishes its value and reduces the need for data providers to provide accurate, up to date and good quality data. We recommend that, contrary to the general trend, data collected from the data hub is made available on a commercial basis, with prices according to the size and revenue of the companies requesting it.

Support for employers: Cities must establish policies and invest in technology that support local employers to encourage home working and flexible hours.

“You can solve the problem of peak hour traffic by addressing working practices. There is a lack of progress in thinking about working hours - it’s staggering how slowly we are changing our thinking.”

*Llewelyn Morgan,
Head of Innovation
Oxfordshire County Council*

“Disruption through data will clearly play a part in the future of mobility and we need to understand how we can apply this technology and turn information into practical application and deliver true mobility that is wider than just the use of the car. We need to bring it all back to something which is practical in a very short space of time.”

*Asif Ghafoor,
Managing Director
Amey Investments*

Creating value for everyone through our connections with technology-rich, market disrupting SMEs

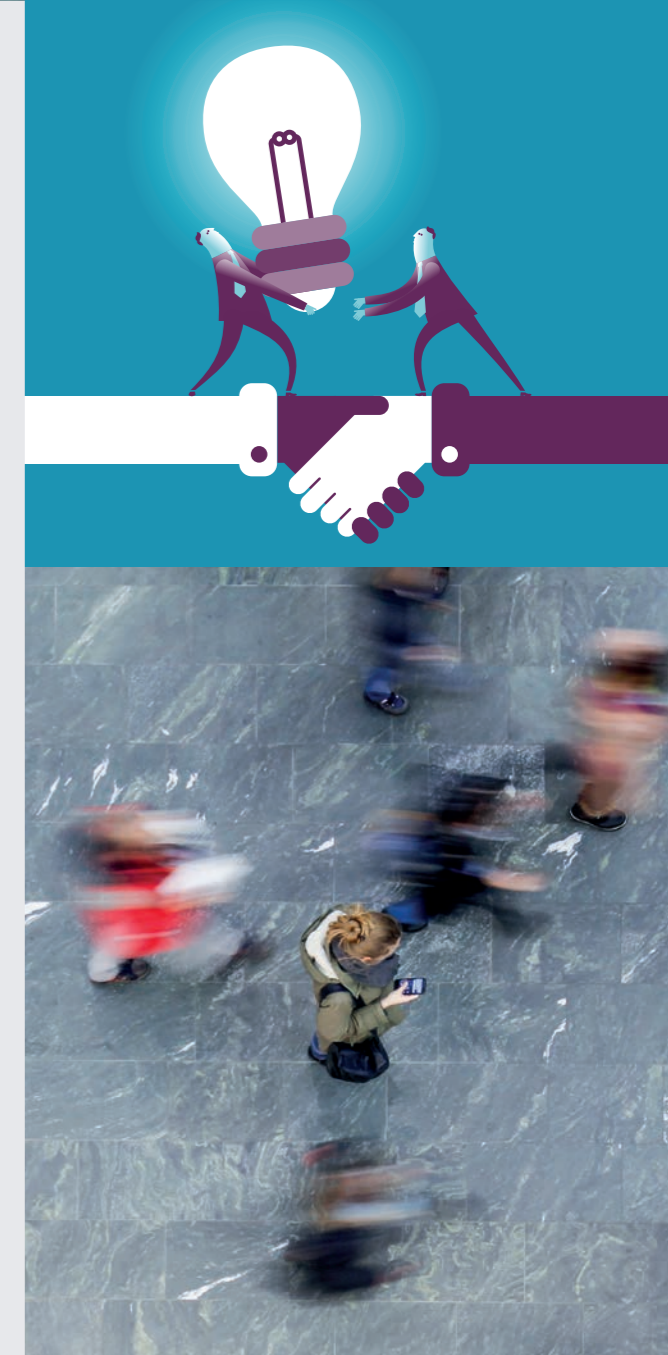
As Amey pursues opportunities in the EV charging market, we recognise we don’t have all the answers in the fast-moving mobility world.

So, we have partnered with Wayra, an innovation hub under the global telecommunications brand, Telefónica, to connect us with technology-rich SMEs looking to deliver different solutions in mobility, for example, intelligent parking and travel.

Through Amey, these market-disrupting SMEs gain access to live customers, giving them the chance to scale up and invest in their businesses, contributing to growth and employment in the burgeoning mobility sector and connecting Local Authorities and the travelling public to the latest mobility technologies.

Connecting the public and private sectors in this way is a new approach for Amey and not something being done by other infrastructure providers in the market today.

It is evidence of the real opportunities to create value – growing the potential of technology-driven SMEs, providing the public access to new and exciting services, helping Local Authorities be leaders in mobility and creating new markets for Amey.



Define and measure value from investment in mobility solutions



The mobility sector must develop a new vision for value beyond the economic measure.

Consensus over what constitutes value for public money invested in infrastructure remains hard to achieve. Finding consensus over the value achieved from private investment in public assets is even harder to achieve.

The subjective nature of outcomes from infrastructure investment necessarily make this a difficult judgement. Given that historically this measure has been based largely on calculations of economic uplift, too often we have failed to adequately capture the positive or negative social or community impact of that investment.

Understanding more about what contributes to a better user experience is vital to understanding the public's measure of value.

To properly and consistently engage the private sector in the delivery of mobility

"The answer very often to mobility is understanding travel behaviour and adapting to that behaviour. But it is also about providing virtual connectivity so that people don't have to physically travel on every occasion."

*Miranda Sharp,
Director of Innovation
Ordnance Survey*

Take action to attract and retain digital skills



"The industry doesn't have the skills to understand what it doesn't understand - that's at the centre of successful innovation. This requires the sector to open its mind and bring in the structures and talent that enables fresh new thinking with new and different ideas."

*Raphael Ani,
Head of Intelligent Mobility
Wayra*

infrastructure that supports mobility, it is also critical that relevant and useful measures are put in place to assure the public and authorities that public money and assets are being appropriately utilised.

Recommendation

Establish new measures for valuing investment: The consumer focus of the mobility challenge means that our measure of value from investment must change. Private sector operators must commit to ensuring that the consumer understands and buys into the changes that are on offer as we manage and disrupt this emerging mobility sector.

Campaign to encourage mobility: Service providers and the public sector need to work together to promote conversion to new mobility areas that offer value in their own right – more bike lanes, scooter adoption for last mile travel and fleet conversion or credit support for taxis and those with large fleets.

Delivery of the UK's mobility transformation will require a raft of new skills to bolster the traditional infrastructure requirement and underpin the new digital systems and data centric information technologies that will necessarily be at the heart of driving innovation into this revolution.

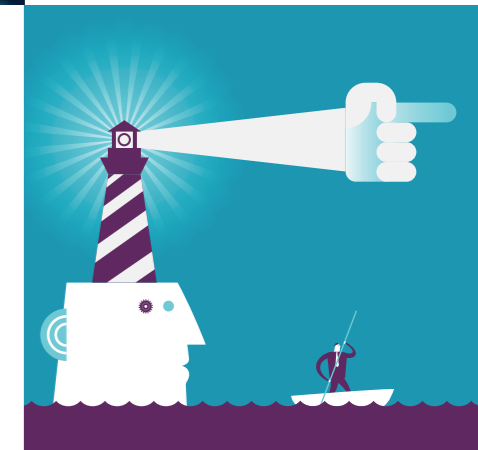
Success will come from inspiring the next generations toward careers in mobility and infrastructure, searching from a wider pool of talent to bring on board new ideas and innovative thinking but also through retraining existing staff.

In a post-Brexit world, the UK will have to ensure sufficient freedom of movement to guarantee that the best skills and minds are able to join the UK private sector workforce and come up with the ideas that maintain the mobility revolution.

Recommendation

Investment in talent: The UK needs to invest in and nurture new talents to ensure the roll out of new mobility solutions are not held back in the same way that a lack of available skills historically held back the development of nationwide fibre optic networks.

Education policy must focus on data analysis skills: Data drives the new era of mobility. Educational policy needs to recognise that expertise and skills in real time data gathering are fundamental to the design construction, management and operation of new transport and mobility systems, across the public and private sector. The policy should support the urgent clamour for data analyst skills in the mobility space – competing with a plethora of other industries such as finance and manufacturing who are equally incentivised to find and employ these talents.



Looking ahead, our perspective on the future of mobility



“Technology has huge potential to allow the public sector to become more responsive to citizens’ needs in a low cost, lower risk way.”

*Alex Jan, Director
Arup*

Embracing data and technology

As an industry, we are a long way from understanding how these new technologies will come to bear on the existing infrastructure and communities. Engaging with local people, to ask and answer the questions around what form of mobility they want and how they want it, will be increasingly important. A data hub can provide the information that transport authorities need to address their challenges around reducing journey times, better understanding traveller preferences, better prediction of demand management, improved infrastructure and network management and timely responses to incidents on the travel network.

Digital technologies will be central to the effective management and maintenance of mobility infrastructure assets and will transform decision making such as, say, where to put EV charging points based on how much utilization is being made of them and by who. This presents a huge opportunity for the private sector, and a huge opportunity to cooperate and come up with joint solutions with the public sector.

Data analysis and digital systems also present the opportunity to gain a much better understanding of and transfer of risk, not least around demand risk investments will also enable greater contractual transparency, enabling the private sector to more readily come on board.

Locally-led and socially inclusive mobility solutions

New mobility services need to fully integrate with existing public transport options, encouraging as many people as possible away from private

cars onto shared mobility or active travel solutions. But one size no longer fits all. Meeting the mobility challenge is very much a local, individual issue, which, while requiring central government support, policy and funding, must be tackled at a local, city-wide or regional level.

It must also be socially inclusive bearing in mind that getting around by bike is great if one is young or physically fit and using mobility apps will suit the technology-savvy but not everyone will have access to the technology. Just 53% of disabled people have a smartphone¹ in their household, compared to 81% of non-disabled people. In terms of internet usage in 2019, 7.5% of adults in the UK have never used the internet.²

Private sector opportunity

The private sector must play a significant role in delivering the necessary innovation and investment required to bring these technologies into the mainstream and step forward with bold new ideas and solutions that create efficient and affordable mobility solutions for the future.

Private firms must focus thinking away from simply building infrastructure towards working with local authorities and cities to create an environment where they can help realise the ambition of communities.

That might include investing to promote longer term strategies to tackle air quality, deal with congested or dangerous roads or meet carbon emission challenges.

Public sector leadership

The public sector and its ability to set policy, provide funding and manage risk, holds the key to

our mobility future. Its ability to regulate the transport sector and apply taxation means that central and local government will continue to control much of the future investment strategy.

A public-private partnership

The public sector has a responsibility to engage with the private sector and create a framework for outcome-based procurement, that incentivises long-term outcomes over short-term gains and ensures social value and value for money are delivered. Early engagement with the private sector to truly collaborate in the risk allocation of the project is critical for the acceleration of mobility solutions.

The private sector can collaborate and compete while reaching out to the public sector to bring forward new ideas and new investment models that can transform the way that communities interact with public transport assets.

The urban/rural divide

The move towards urban living - 68% of the global population is expected to live in cities by 2050³ - is necessarily pushing mobility issues down to the local level - to be solved by those who know the issues best.

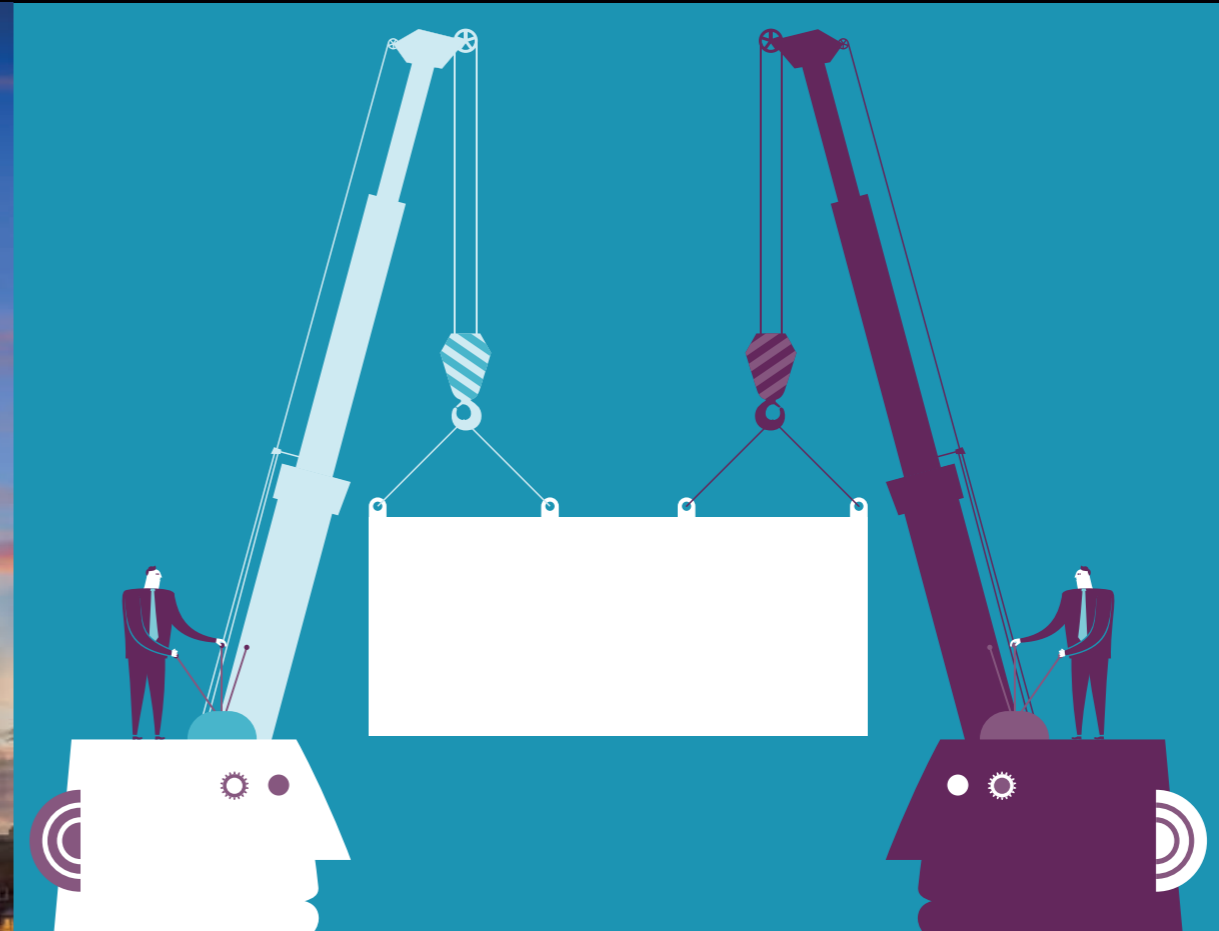
Similarly, the mobility needs and challenges of rural communities are equally important, not least as we attempt to balance the economy across the regions and prevent social exclusion. It is important for government, especially local government, to accept that they will need to subsidise the less commercially viable rural services.



¹ Ofcom – Access and Inclusion in report, 2018

² Internet Users, UK – Office for National Statistics, 2019

³ United National – Department of Economic & Social Affairs report, May 2018



The recent announcement by the UK government to accelerate its work to cut carbon emissions, bringing forward its 2050 carbon target from an 80% reduction to net zero, brings with it many substantial implications for mobility and the infrastructure that supports it.

The vision for this future must include this critical new target and value measure.

For many these policies are a real game changer prompting an accelerated scrapping of diesel and petrol cars in cities and increased investment in EV and the associate charging infrastructure. The question remains over whether that investment risk should be borne by the private sector or the tax payer.

In addition, we must also bear in mind that ambitious government targets and policies at national and regional level, such the pledge for an end to internal combustion engine vehicle production by 2040 and the introduction of low emission zones in London, are potentially challenging for the public to embrace and afford.

They also potentially put significant pressure on the private sector manufacturers and infrastructure providers to invest and enable the transition. Unless properly managed, this creates the risk of a massive disconnection between the public and the intensions of government policy.



This paper will be of interest to anyone in the private and public sectors who wish to see the UK's mobility sector thriving over the coming decades.



About the Mobility White Paper

The Mobility White Paper is part of a programme of work launched earlier in 2019 by Amey Investments to explore A Better Future for the UK's infrastructure.

It is designed to stimulate thinking, discussion and, ultimately, prompt actions across the diverse range of partners and stakeholders operating in the infrastructure market.

Amey, in this paper, has set out the challenges we see need to be addressed and we make recommendations for these challenges. In summary:

- We believe that public policy on mobility needs to be driven and supported by central government but with local and city authorities having the flexibility to shape their mobility strategies according to the vision they have each set out for their town, city or county.
- Private sector investors in mobility need to be able to see what the revenue model is and working with the public sector, the revenue model needs to work for both parties, if investment is to grow. At the same time, investors need to create social value, bearing in mind that new innovations and technologies can often exclude people from society based on their income, age or physical or mental abilities.
- City and local authorities can provide a much-improved transport service to

their citizens through data-rich insight around traveller preferences, preferred journey routes, etc. We believe that this kind of data is highly valuable and needs to be protected. We conclude that providing open data for free diminishes its value and reduces the need for data providers to provide accurate, good quality data. Amey recommends that any data collected from a data hub be available on a commercial basis only.

- Mobility should be measured so that the travelling public knows how it is benefiting them, their society and their city and are therefore incentivised to embrace the new ways of getting about and the technology that underpins it.
- Finally, in a post-Brexit world, the UK needs the best skills and minds to join the UK private sector workforce and come up with the ideas that maintain the mobility revolution. Encouraging these people and developing the right skills is crucial to realising a UK that is truly mobility-focused.



About us

We're the faces behind the services you use every day and we've been in the business of creating better places to live, work and travel for nearly 100 years.

Our team of 17,000 people and the depth of services we deliver, makes us a leading supplier of consulting and infrastructure support services in the UK and internationally.

We design, build, maintain and invest in services and infrastructure and we're proud to make a difference. Serving the communities we work in, whatever the weather and whatever the challenge.

Amey Investments has been helping to structure and fund vital infrastructure and services projects for nearly 20 years.

Our dedicated Investments team help our Government and Utilities clients to make and set up, really smart, innovative funding and financing structures – meeting the UK's infrastructure challenge of today and deliver technology led infrastructure solutions for our future. Over the past 15 years we've raised over £4bn of private finance, including traditional bank debt, bond issues, prudential borrowing and European Investment Bank funding.

Combining the skills of lawyers, estimators, financial modellers, commercial managers and bankers, the Investments Team has a range of specialist knowledge rarely found in companies such as ours. We help our clients structure solutions to unlock the major funding sources that transform major projects into reality.

Our objective: financial solutions to secure infrastructure ambitions. We are part of the solution – helping to solve the UK's budget challenges.



Strategic Business Development

Our strategic thinking creates tangible, long-term, high value infrastructure business opportunities, to meet the UK's future infrastructure needs.

We solve complex problems facing public and private sector clients, helping them deliver better outcomes for their customers.

Financial and Commercial Solutions

We are experts in; commercial structures, raising capital, financial modelling, risk management and negotiation. We solve clients' funding and financing problems to deliver the best project outcome.

Investment and Stakeholder Management

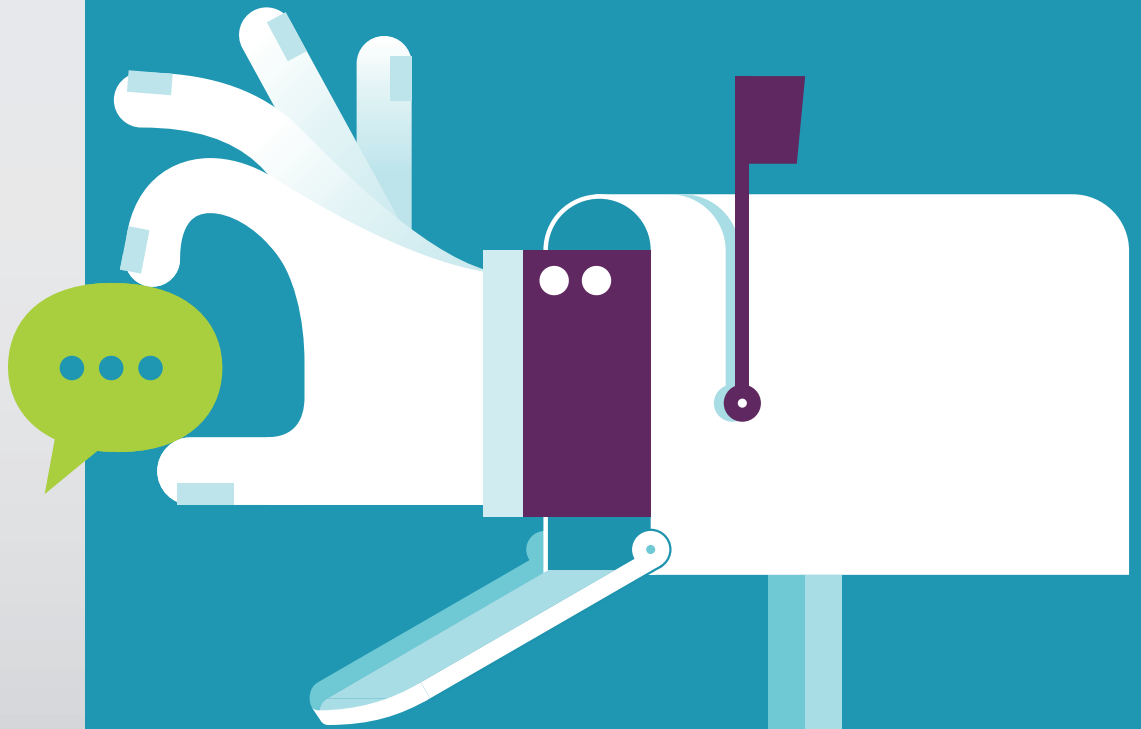
We work with our clients and other stakeholders to build the long-term relationships needed to influence better outcomes across their evolving investment objectives. Our structuring and investment management expertise protects the assets and enables our clients to maximise the value of their investments.

We drive Amey's strategy into new markets with modern technologies. Our aim is to keep the UK a global leader in infrastructure.

- Expertise in banking, equity finance, law, financial modelling, technical advisory and engineering.
- Supporting 20,000 people in 300+ locations in the UK and overseas.
- Over £4bn of private finance raised over the past 15 years.
- Manage SPVs on behalf of over 40 banks and 20 equity investors.
- Invested over £200m of Amey equity.

If you would like to discuss any aspect of the points raised in this paper, please contact:

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