



New and Future Mobility

Emily Ellis - Consultant



Future Mobility is now

“...the benefits are potentially far greater than just transforming how we travel from A to B – this revolution offers huge industrial opportunities as well. Because of its potential to deliver hundreds of thousands of high quality jobs, increased productivity and new trade deals abroad, we have put the Future of Mobility at the heart of our modern Industrial Strategy,”

***Rt. Hon Jesse Norman MP
Minister of State for DfT***

***Future of Mobility: Urban Strategy
March 2019***





Recent news

UK Autodrive project concludes with autonomous Range Rover demo

By [Natalie Middleton](#) / 5 days ago / [Large](#), [Latest News](#), [Medium](#), [Small](#), [Today in Fleet](#) / [No Comment](#)

A Range Rover Sport has completed the first ever self-driving lap of the Coventry Road, showcasing its ability to change lanes, merge with traffic and exit junctions at a speed limit of 40mph.



The demo formed part of the last three days of government-funded [UK Autodrive](#) project, which after a three-year programme.

The project was the largest of three to have emerged from the government's 'Introducing Driverless Cars' competition in 2015, which had the aim of establishing the UK as a global hub for the development of autonomous vehicle technologies.

Aurigo leads world's first autonomous vehicle demo

Posted on 10 Oct 2018 by [Maddy White](#)

Coventry-based manufacturer, Aurigo is playing the largest role in the world's first ever multi-connected and autonomous vehicle demonstration today (10 Oct).

The specialist, which employs 81 people, is using its Pod Zeros to showcase an autonomous first/last mile transport solution in Coventry and Milton Keynes.

It marks the peak of the UK Autodrive project, which was created with the aim of establishing the UK as a global hub for the development of autonomous vehicle technology.

The company has used the programme to test its autonomous control systems and to refine the design of its advanced production line at its facility.



All aboard: Alstom and Eversholt Rail unveil UK hydrogen train design



MOST READ

- Tipping point: Electric vehicle ownership costs to undercut petrol and diesel cars from 2022.
- Storage, smart grid, and energy efficiency firms see investment almost double in 2018
- REA to review UK bioenergy's long-term potential in low carbon energy mix
- UK has biggest fossil fuel subsidies in the EU, finds commission
- Outsmarting waste: Does AI hold the key to a circular economy?

Engineering firms have secured a deal that could see low emission hydrogen trains on the rails by 2025. The firms today unveiled the design for a new hydrogen train for the UK and are close to announcing a deal that would see the low emission train in service within two years. The deal will entail the conversion of existing Class 321 passenger trains and will thereby emit only water and vapour rather than CO2 or harmful

Addison Lee aims to deploy self-driving cars in London by 2021

Tech pioneer Oxbotica to start mapping public roads as it calls deal with hire firm 'huge leap'



▲ Addison Lee's service centre in Euston, London. Photograph: Felix Cui for the Guardian

Self-driving car services could be on the streets of London within a year, under a partnership between the private hire firm Addison Lee and British driverless car pioneers Oxbotica.

Volkswagen and Tesco partner for EV charging revolution, powered by Pod Point



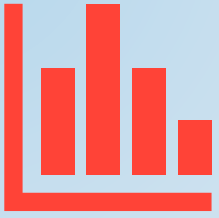
30 November 2018

Volkswagen and Tesco are proud to announce the development of the largest UK retail electric vehicle (EV) charging network, powered by Pod Point. The world's largest retailer, Tesco, and the UK's largest EV retailer will roll out more than 2,600 EV charging bays across 600 Tesco stores within the next three years.

- Volkswagen, Tesco and Pod Point will roll out 20% target retail network of EV chargers
- 2,600 ultra-rapid bays will be installed at Tesco's six nationwide
- 600 stores will have fast or rapid charging by 2020

William Green - Volkswagen and Tesco are proud to announce the development of the largest UK retail electric vehicle (EV) charging network, powered by Pod Point.





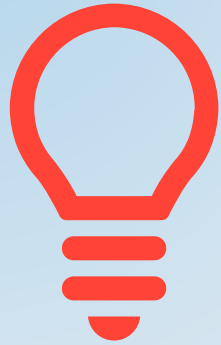
Why does this change matter to the UK?

Accidents
-£35bn
per year

Congestion
-£30bn
per year

Air Quality
-£54bn
per year

New
benefits
+£?bn
per year



Core principles

Digitally connected



Automated



Business Models

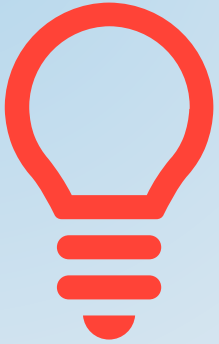


Electrified



Shared





People, place and activity

*Individuals and businesses **accessing** opportunities and needs*

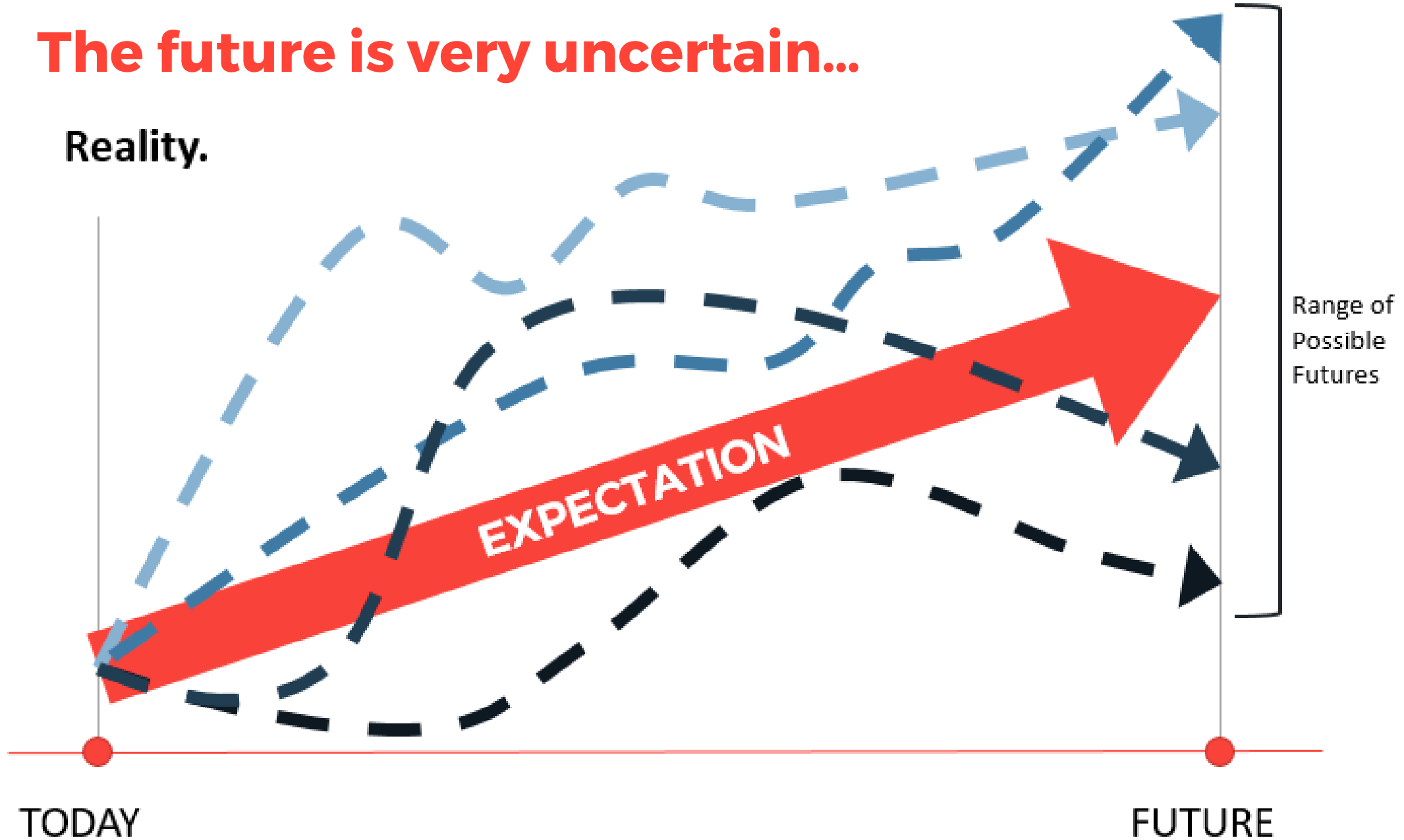
- **Employment opportunities / skills**
- Educational attainment
- Healthcare needs
- Goods and services
- Raw materials, crops, products & waste
- Social interactions
- Retail and leisure
- Tourism

***Fundamental
to economic
and social
activities***



The future is very uncertain...

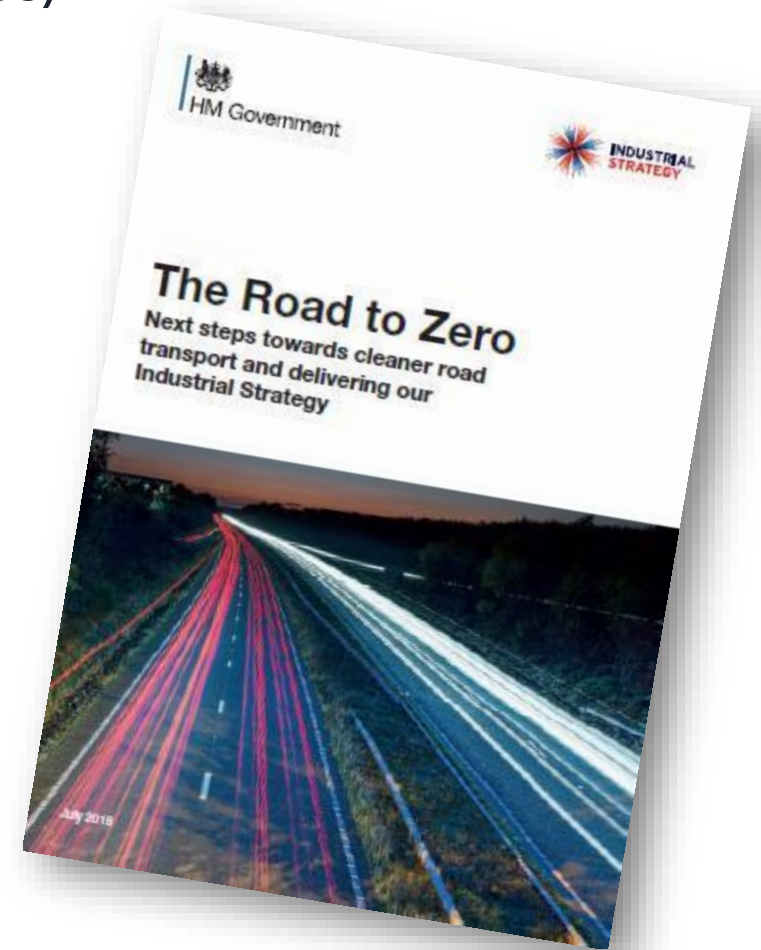
Reality.





Policy and strategy landscape...

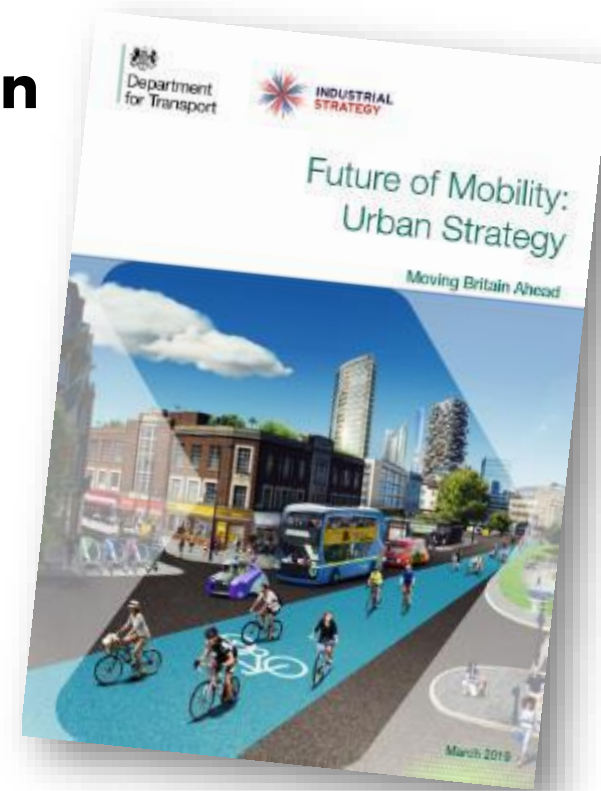
- BEIS, Industrial Strategy (grand challenges)
 - *Artificial Intelligence and data*
 - *Ageing society*
 - *Clean growth*
 - *Future of mobility*
- DfT, Road to Zero
- National Grid, Future Energy Scenarios
- Centre for Cities, Delivering Change
- DfT recent calls for evidence
- DfT EV plug-in subsidy change
- 2018 Budget allocations
- DEFRA, Clean Air Strategy (2019)
- DfT, AV Code of Practice (updated 2019)
- Future of Urban Mobility Strategy (2019)





DfT, Future of Mobility: Urban Strategy

- **...must be safe and secure** by design.
- **...must be available to** all parts of the UK and **all segments of society**.
- **Walking, cycling and active travel must remain the best options** for short urban journeys.
- **Mass transit must remain fundamental** to an efficient transport system
- **...must lead the transition to zero emissions.**
- Mobility innovation **must help to reduce congestion...**
- The **marketplace for mobility must be open...**
- **...must be** designed to operate as **part of an integrated transport system...**
- **Data** from new mobility services **must be shared**

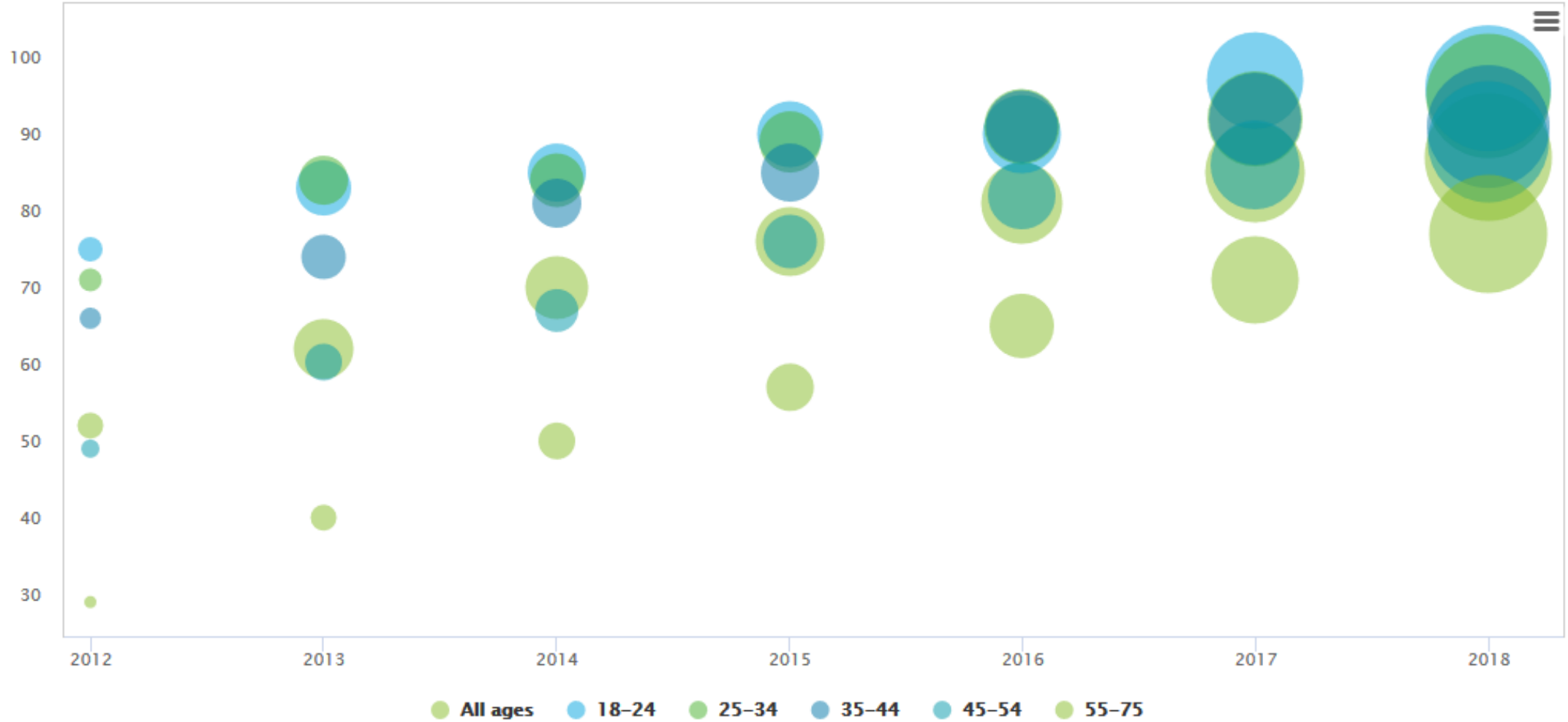




Data is an imperative



Smartphone Penetration by Age Group (2012-18)



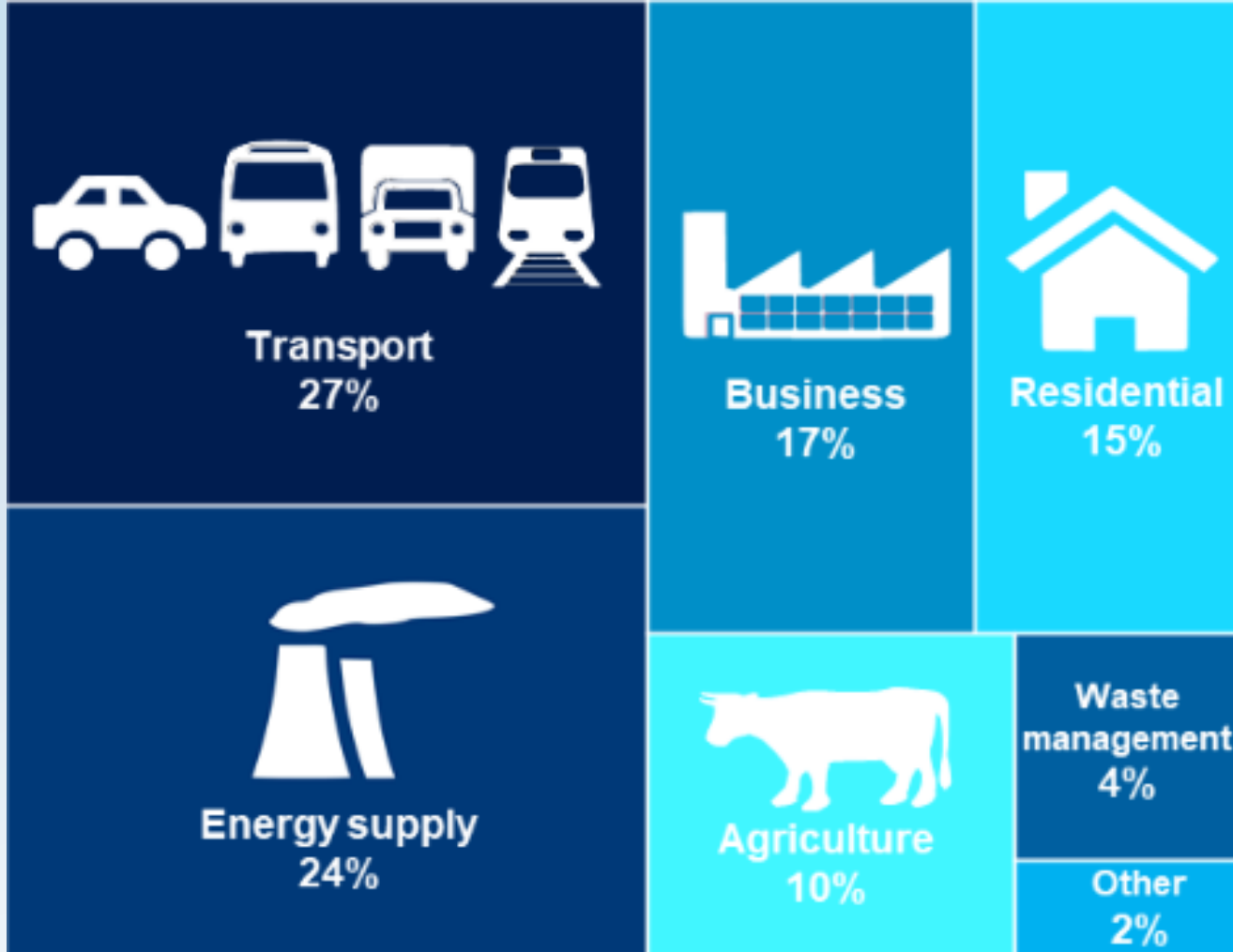
Highcharts.com





Electrification / decarbonisation is now





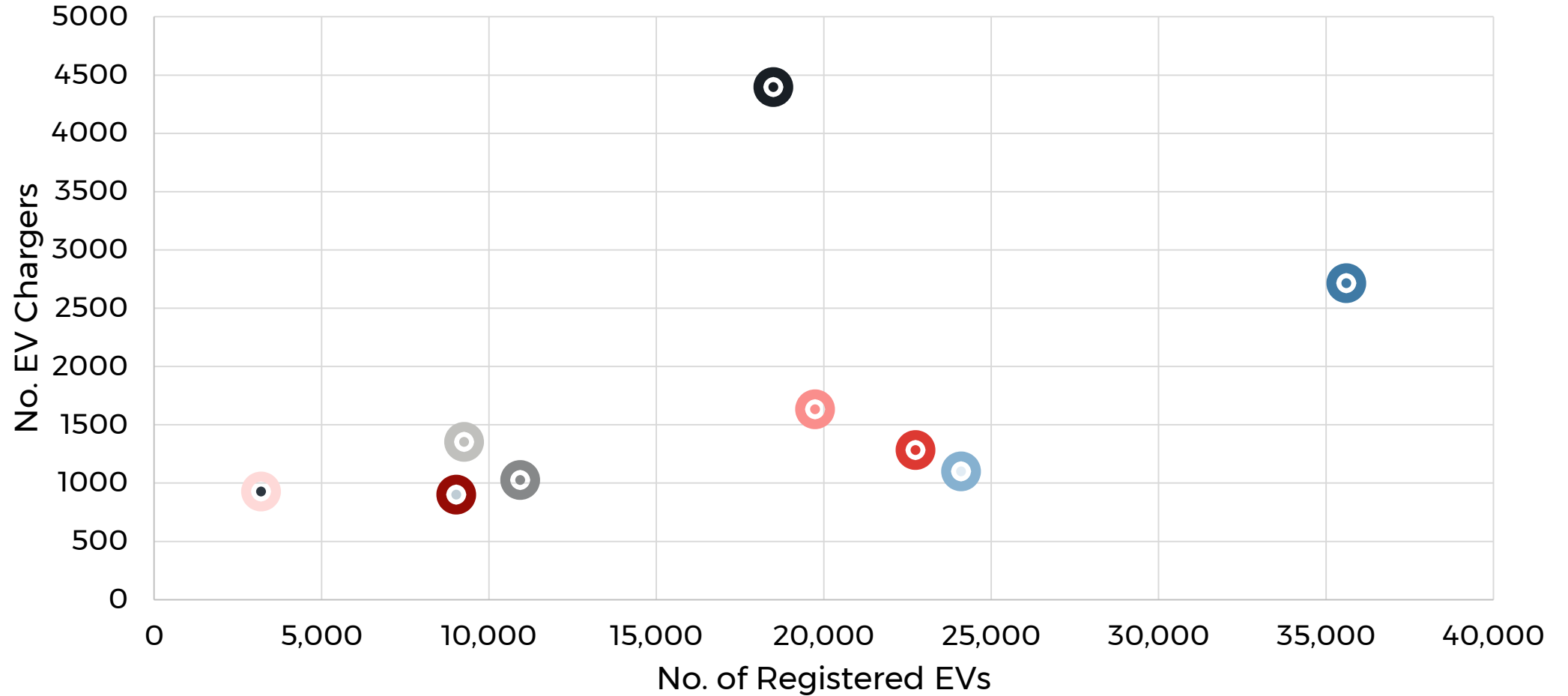
	2016-2017 % change	1990-2017 % change
Transport	↔ 0%	↓ 2%
Energy supply	↓ 8%	↓ 60%
Business	↓ 2%	↓ 30%
Residential	↓ 4%	↓ 16%
Agriculture	↑ 1%	↓ 16%
Waste management	↑ 1%	↓ 69%
Other	↓ 2%	↓ 88%



Source: BEIS 2017 UK Greenhouse Gas Emission, published 2019



No. EV Chargers Vs. Registered EVs



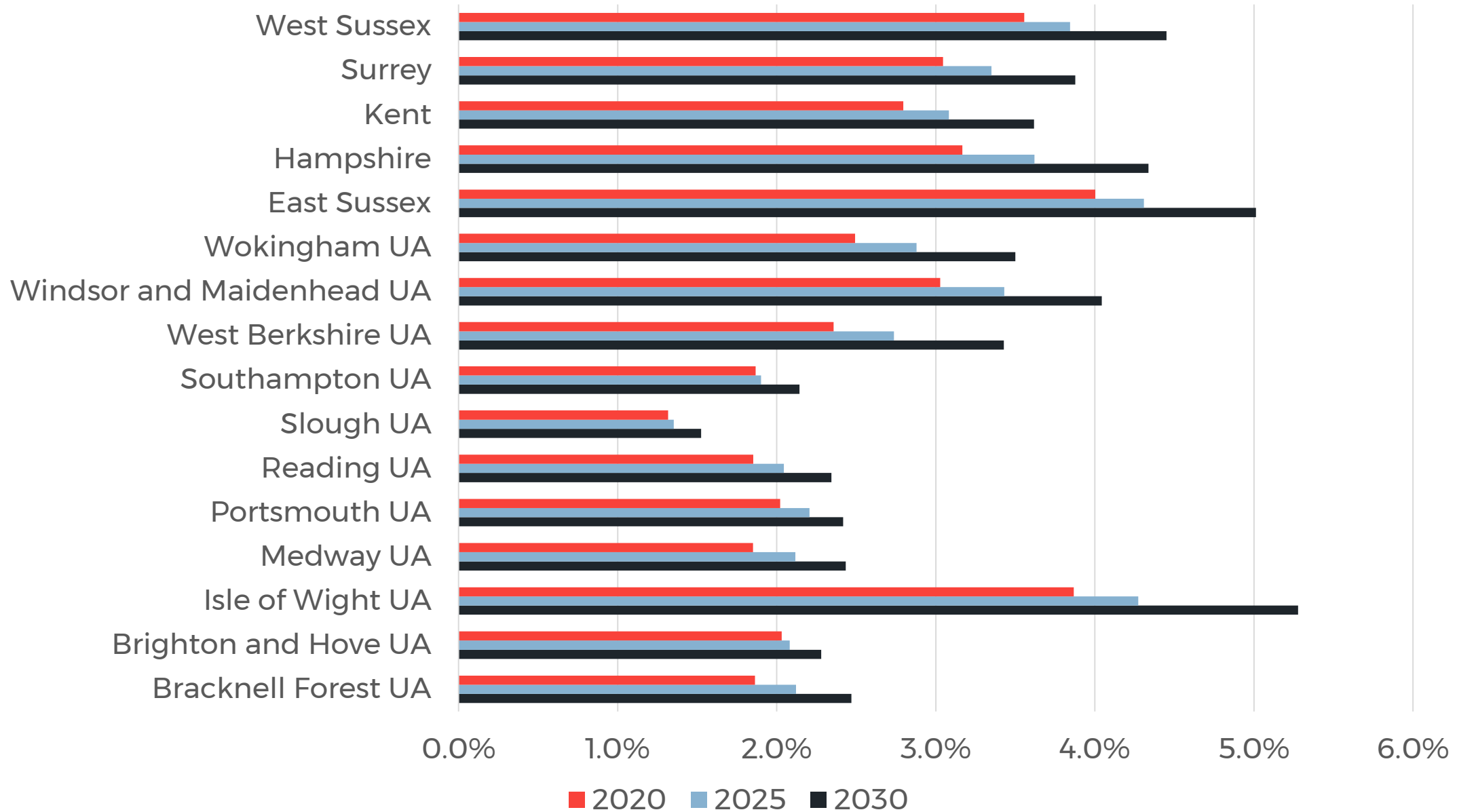
- East
- East Midlands
- London
- North East
- North West
- South East
- South West
- West Midlands
- Yorkshire & The Humber





Mobility needs are changing

% Population Aged Over 85 in TfSE Region in 2020, 2025 & 2030



Source: ONS 2016-based subnational population projections for local authorities and higher administrative areas in England





Modes are blurring



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*No matter your budget or your politics,
your football or your music...
we've got a seat for you.*

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VIA  VAN

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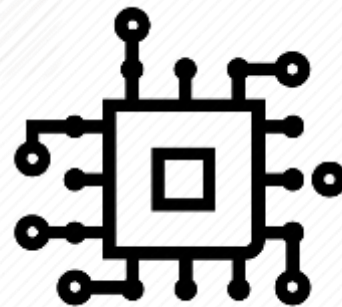
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Mobility has dependencies



People + places + activities



Energy + digital + access



Automation is coming







wsp



Consequences for places



NACTO's Blueprint for Autonomous Urbanism

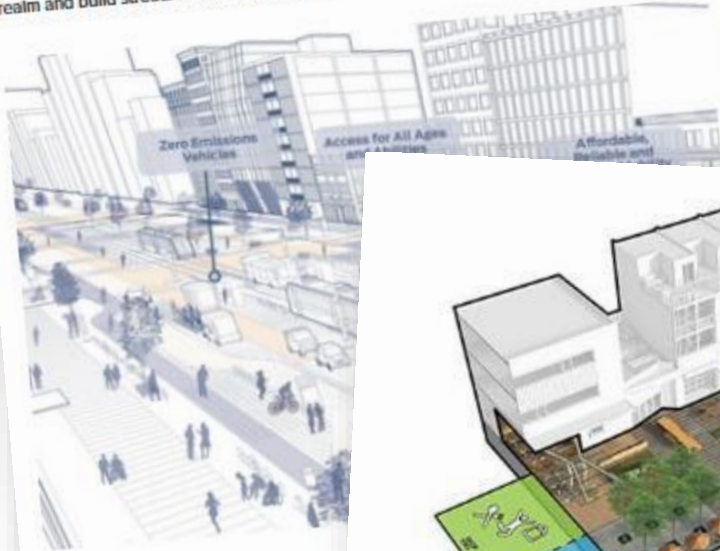
DECEMBER 15, 2017 - HQ

[FACEBOOK](#) [TWITTER](#) [LINKEDIN](#)

DOWNLOAD GUIDE

The National Association of City Transportation Officials (NACTO) has created the *Blueprint for Autonomous Urbanism*, a first-of-its-kind street design vision to help cities worldwide prepare for the age of autonomous vehicles. Building on NACTO's library of street design guidance, the Blueprint envisions a future where cities benefit from new transportation technologies to improve the urban realm and build streets that work for people, rather than merely redesigning streets to accommodate emerging technologies.

Developed with a steering committee from cities and transit agencies and funded by philanthropies, the Blueprint outlines the steps that cities could take to ensure the urban realm is reimagined and redesigned to improve public space, strengthen the role



to project a vision that builds on present



Planning for the Urban Future of Autonomous Vehicles



allows pedestrian and AV traffic to intermingle

Manning Brian Jencek coauthored an Urban Land Institute report on the impact of autonomous vehicles on the future of our cities.

Research on the topic, the article explores how people-driven design and the impact of autonomous vehicles could change our city streets and parking garages.

to a subscription service with intelligent fleets of AVs, land currently used for parking for conversion to other uses. A **McKinsey & Company report** predicts that autonomous, driverless cars will cut the need for parking in the United States by more than 6.7 billion sq m—more than the entire state of Delaware.





Customer experience



Southern (@SouthernRailUK) · Twitter
<https://twitter.com/SouthernRailUK>

Weren't able to make our last Meet the Manager session at London Victoria last Thursday evening? We've compiled a summary of the feedback and themes here

#SNUppda trespassers between Cc and Purley running at speed. Tr running t stations or delay mins. i journe

Zap-Chats

Click here to comment.

@TheEVside (twitter & YouTube) - 27 Feb at 10:44
Mereoak Park And Ride, RG7 1PB
Dev: 70117
Conn: (3) unknown
Connector issue reported
Ccs fails after 10mins

@TheEVside (twitter & YouTube) - 27 Feb at 10:38
Mereoak Park And Ride, RG7 1PB
Dev: 70116
Device working
All good

ZoEmma - 27 Feb at 10:26
Long Stratton Car Park, NR15 2XG
Dev: UKN-SL-01
Device issue reported



Fill That Hole 4+
CTC
★★★★★ 4.5, 23 Ratings
Free

Your rating

Understanding your rating

Ratings allow us to ensure a great experience with Uber for both riders and partner-drivers. In the same way you rate partner-drivers, partner-drivers can rate riders on a scale of 1-5 stars after each trip.

How your rating is calculated

Your rating is an average of the ratings you've received from partner-drivers and is measured out of 5 stars. Ratings are anonymous, so

The Northern Fail app

An app built by a very angry Northern Rail customer. Designed to give fellow Northern Rail customers access to historical data on fully or part cancelled train journeys to help in the fight against Northern Rail's astonishingly bad service and poor value for money.





With success comes failure



Ofo [Add to myET](#)

Ofo shuts international division as staff 'prepare for bankruptcy'

Dockless bike-sharing start-up scales back number of cycles available in UK



As of Wednesday afternoon, Ofo's mobile app was showing fewer than 10 bikes available in the coverage zone. © Getty

Josh Spera, Transport Correspondent JANUARY 10, 2019

Staff at struggling dockless bike-sharing subsidiaries are "prepared for bankruptcy" as Ofo shut its overseas department.

Daimler to pull plug on truck platooning

21 January 2019 | Will Shiers | Product



Daimler is to end truck platooning trials after real-world testing returned only minimal fuel economy benefits.

After thousands of miles of on-highway testing, Daimler has come to the conclusion that there is no viable business case for truck platoons, and while it remains committed to current projects, will not be embarking on any new platooning trials.

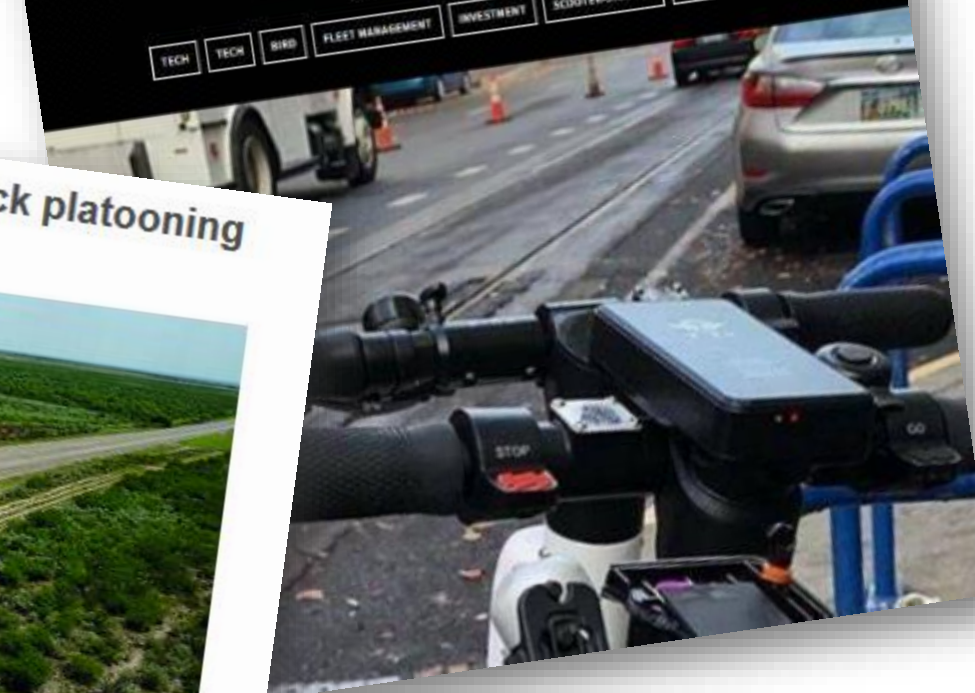
Making the announcement at the Consumer Electronics Show in Las Vegas last week, Martin Daum (right), CEO of Daimler Trucks & Buses, said: "Platoons do improve aerodynamics and fuel efficiency considerably in an ideal world, but not in real world traffic."

Investors Cool As Bird's Shared Scooters Hit Speedbumps

2018 was the year of the scooter. 2019 is looking like the year of the speedbump.

BY EDWARD NIEDERMEYER JANUARY 18, 2019

TECH TECH BIRD FLEET MANAGEMENT INVESTMENT SCOOTER-SHARING VENTURE CAPITAL



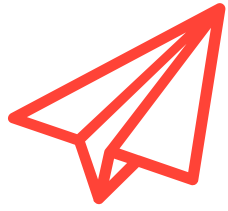


Danger of exclusion



Lot D Future Mobility - Approach to Task

- Inception
- Stage 1: Overview of Technological and Societal Trends
- Stage 2: Impacts of new mobility on demand
- Stage 3: Review of existing initiatives
- Stage 4: Review of governmental roles
- Stage 5: Assessment of new mobility business models
- Final Reporting



Thank you

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www.wsp.com