Autonomous Vehicles

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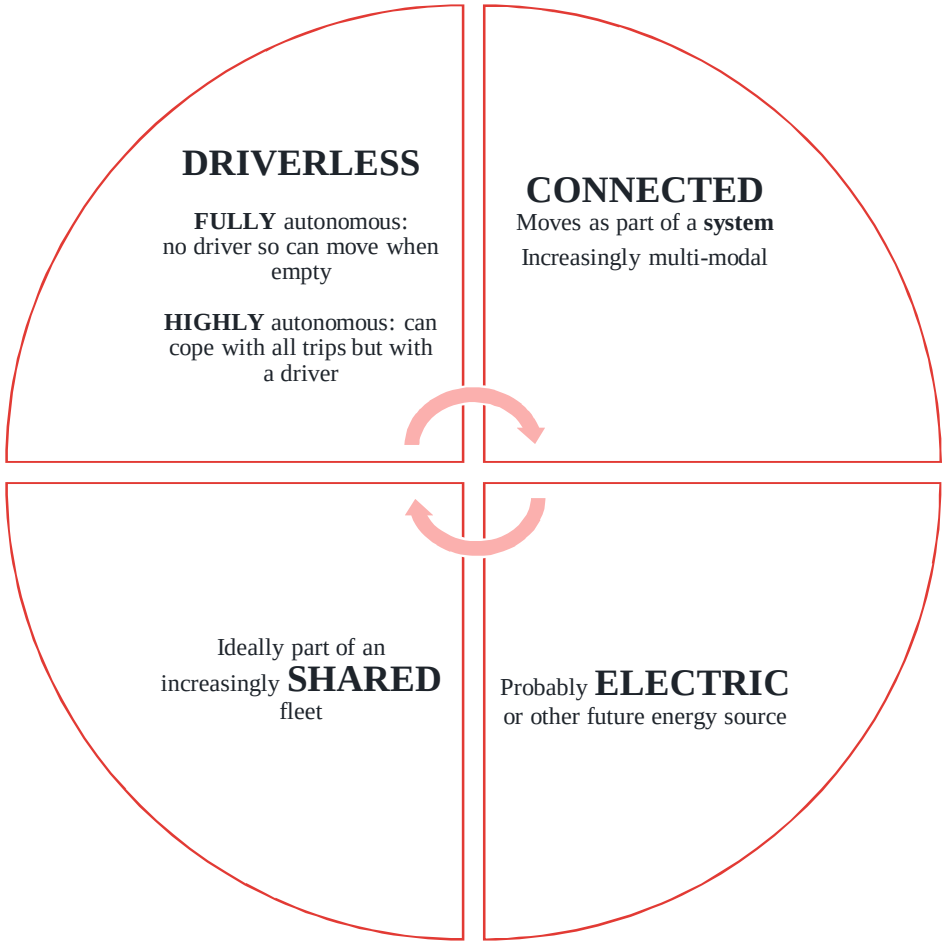
The start….

Connected & autonomous vehicles (C/AVs) are coming. They will be **transformational**

The transition has **already started** – it will affect **vehicles** (cars, buses, freight etc), **routes,** land use, urban realm, economics and future **places**

Autonomous Vehicles

What Will the AV Revolution Mean?



1. Impacts…

1. Potential effects of C/AVs on road infrastructure & traffic demand…and the opportunity for “pay-as-you-go”

Autonomous Vehicles

1. Road Network: Drivers of Supply/Demand changes

Trip ends will decouple

A C/AV will not have to finish its trip at the same place as its “driver(s)”

Road network becomes a system

Joins other modes to form wider, integrated system

Both local & strategic routes

C/AVs provide a rare opportunity to manage the road network more proactively

Quality & quantity of movement

Desired quantum of movement becomes a system input, not a derived demand

2. Place making

2. C/AVs and the added long-run potential for better place-making, homes & jobs growth

Autonomous Vehicles

Regeneration Potential for New Places: an “AV zone”

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Autonomous Vehicles

Upgrading City Centres - Without Major Infrastructure Investment…

Congestion relief & smoother flows

30-45%

of drivers in urban centres today are searching for parking

Safety

If **50%+** fewer urban accidents,

hundreds of lives and thousands of serious injuries saved every year

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Improving Suburban Lifestyles and Places

Reducing car ownership without reducing mobility

80% of the time, our cars are parked at home. Many of us buy cars because of a lack of suitable alternatives

Safer – with a better quality of life

Up to **500%** reduction in fatal accident risk when suburban vehicles travel <30mph

Residential roads become social spaces for people.

Autonomous Vehicles

Safer, more efficient motorways and major routes

Capacity transformation

1.4 x capacity

uplift if a route was fully connected

…or up to 3.7 x

if fully autonomous

Safety benefits

£240 - 400m p.a.

savings in UK motorway accident costs/yr, excluding delays

Route impact reduced

Adjacent land could be converted to other purposes or could remain as roadspace but with much larger headroom for the future

Autonomous Vehicles

Rural market towns: redesigned for the community

Improved access and mobility

Different business case for rural areas. Wider benefits at the forefront.

Autonomous Vehicles

Initiative Cities

Autonomous Vehicles

In 15 – 20 years.....

Car Battery to provide >200 miles

US$20k/vehicle

Tesla 18 moving parts

Maintenance is almost zero

Land Transport will switch to Electric

10 x cheaper

Oil prices will collapse to below

$US20/bar

En masse switch to EV self drive – vehicles on demand

Car Mechanic Shops will disappear

It will be hard to find petrol stations

Value of 2nd hand cars will collapse

You will need to pay to dispose of your vehicle

Car Dealers will disappear

Insurance costs will drop

Car Manufacturers will become variants of UBER

AVIS/ will become a big player

Household Income Savings of E4,000/year

UK will phase out Diesel Cars

India to phase out diesel/petrol cars by 2032

US$60 billion savings

China: >7million EV by 2025

RethinkX report

16 May 2017

Thank you.....