

# The future of roads and mobility – journey to 2072

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- 1 If you could speak to someone from the future who could tell you anything about roads, what would you like to ask?
- 2 What is your vision for success?
- 3 What are the dangers of not achieving your vision?
- 4 What needs to change if your vision is to be realised?
- 5 Looking back, what are the successes we can build on?  
The failures we can learn from?
- 6 What needs to be done now to ensure that  
your vision becomes a reality?
- 7 If you had absolute authority and could do anything, is  
there anything else you would do?

## The Futures Toolkit



Tools for Futures Thinking and Foresight  
Across UK Government

Edition 1.0  
November 2017



Try doing this for yourselves and comparing notes

1

**If you could speak to someone  
from the future who could tell  
you anything about roads,  
what would you like to ask?**



“To keep the 1.5-degree limit agreed in Paris within reach, we need to cut global emissions **by 45 percent this decade**”  
(below 2010 levels)

[UN Secretary General, 4 April 2022](#)

“at 2 degrees, we start getting into scenarios that make most dystopian horror movies look like children’s colouring books”

<https://www.climaterealityproject.org/blog/why-15-degrees-danger-line-global-warming>

- Are we all travelling in shared, connected boats, surviving flying on?
- Is Elon Musk living on Mars?

How bad is climate change globally, and in the UK?

In terms of roads, what did we do to make a difference?

What is most uncertain and most important to us?

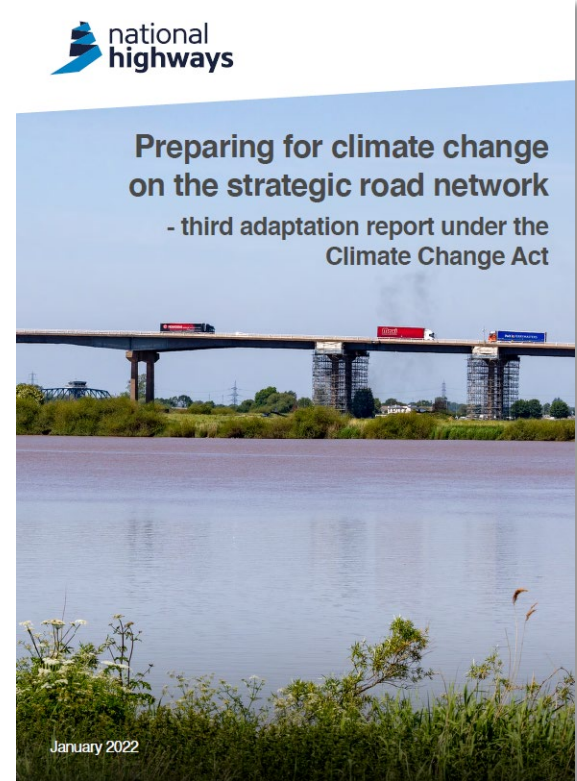
more extreme weather ● hotter, dryer summers ● milder, wetter winters

Risks posed to roads and associated structures come from flooding, erosion, extreme temperatures, high winds and lightening

**Cascading** failures could occur across infrastructure networks (water, energy, transport and ICTs)

Risks themselves include:

concrete blow-ups ● failure of joints and bearings on structures  
● melting and deformation of asphalt ● destabilisation of geotechnical assets ● affects on structural integrity ● wind action damage ● storm surge scour damage



ARP3

What is our outlook today?

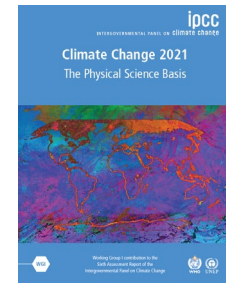
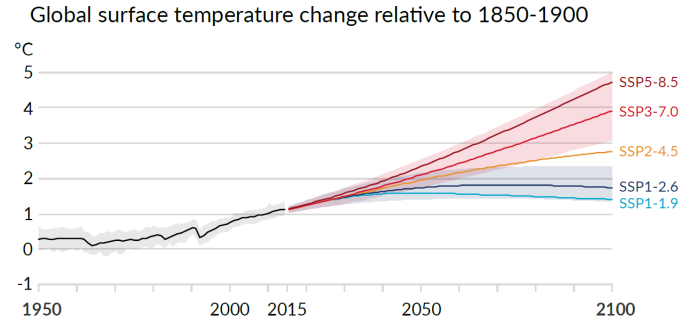
Preparing for climate change  
on the strategic road network  
- third adaptation report under the  
Climate Change Act



January 2022

“RCP 4.5 and RCP 8.5 were chosen for this assessment as they roughly align to a **future world where global average temperatures are 2°C and 4°C above pre-industrial levels** respectively [by 2100]”.

“At present, data from the Committee on Climate Change suggests **we are on course for somewhere between the two**, so this provides a useful spread for testing risks and adaptation.”



Preparing for it to be bad

# See what 3°C of global warming looks like

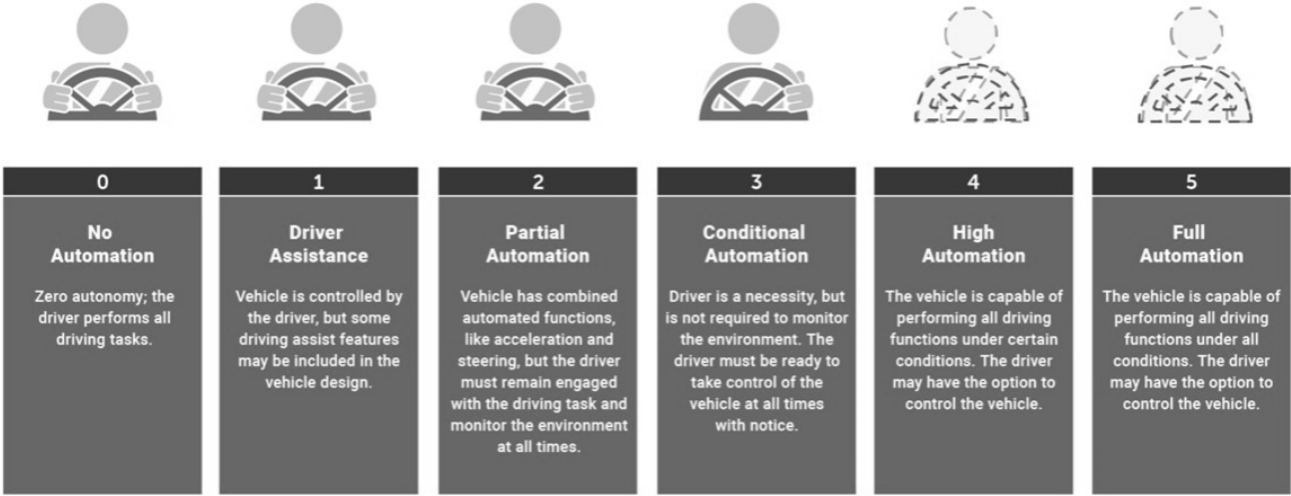
<https://youtu.be/uynhvHZUOOo>

“Once you get to a 3°C world, you are in real bad global trouble”

**2**

**What is your vision for  
success?**





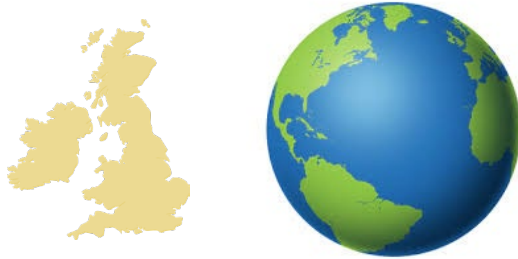
6

**Smart Automation**

The vehicle is capable of preventing its use for an intended car trip where the user should have the sense not to make the trip or to make it using public transport or active travel.

Responsible innovation will have won the day

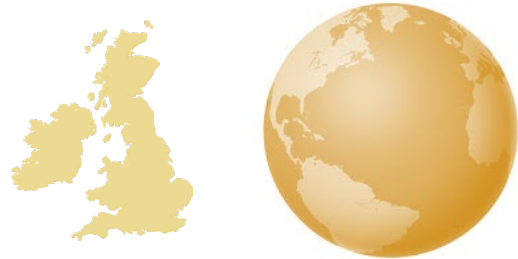
Global Outcast



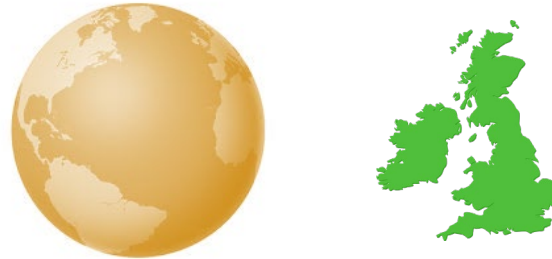
World as One



Shared Misery



Righteous Hell



We promised, delivered, inspired and enabled



<https://transform.scot/blog/2021/02/09/transport-priorities-must-change-to-achieve-a-green-recovery/>

When we reach 2072 we will have...

- built little if any new road capacity for many years
- returned all footways to walkers and wheelers and restored them
- significantly reallocated roadspace to accommodate sustainable modes
- long forgotten ICE vehicles and dirty sources of energy
- restricted motor vehicle sizes to support people & place instead of profit
- priced for and seen an appreciable descent from 'peak car' in terms of VKT
- invested heavily overall in *accessibility* resilience in society
- rationalised roads and their use to efficiently and effectively support society
- been in the vanguard of a global transition in values and behaviours

**3**

**What are the dangers of not achieving your vision?**

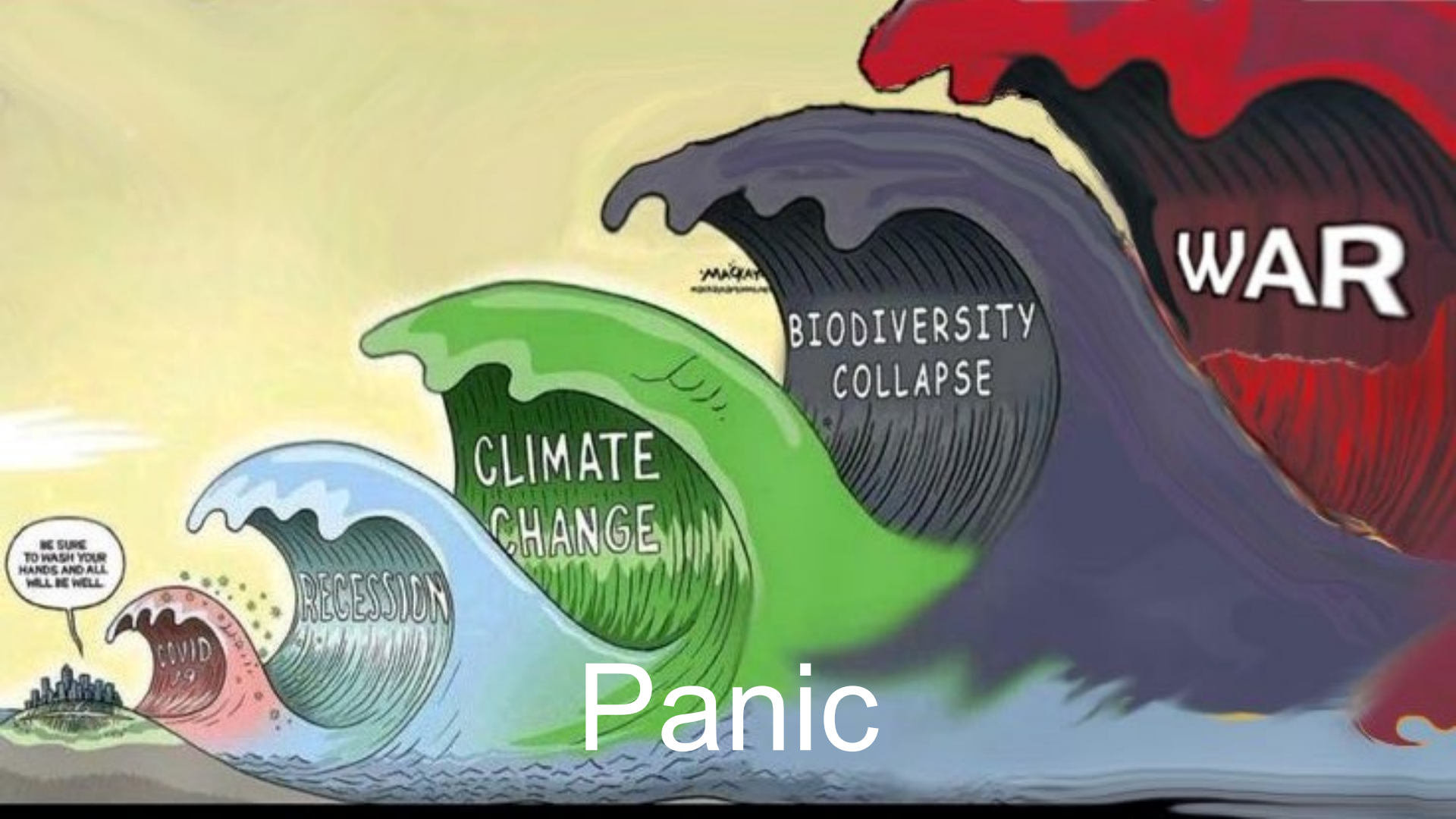
Fuel duty frozen  
for 12 years in a row –  
that's great right?

Finally we got our  
new bypass

Are we missing  
something?



Drift



Panic



**4**

**What needs to change if your vision is to be realised?**

# Expand congestion zones and tolls to force drivers out of cars, says Boris Johnson adviser

Infrastructure tsar urges ministers to push commuters on to public transport

By Oliver Gill, CHIEF BUSINESS CORRESPONDENT  
30 June 2022 • 10:01am



A low traffic neighbourhood in Manchester, the likes of which Sir John Armitt would like to see extended | CREDIT: PAUL COOPER



1 July  
2022



**Ian Walker**  
@ianwalker

Looks like Wiltshire hasn't got any further from the 1960s since I left

Where's the dislike button when you need it? Cars are essential for economic growth and prosperity. We need to be enhancing connectivity and building new roads, not stymieing drivers and creating middle class ghettos to effectively keep out 'undesirables'.

[telegraph.co.uk/business/2022/...](https://telegraph.co.uk/business/2022/...)

## Will we have escaped the 1960s by the 2070s?





In 2072 will we have moved on from tethering our horses?

**A**utonomous  
**C**onnected  
**E**lectric  
**S**hared

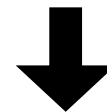


**A**ctive  
**C**arbonless  
**E**quitable  
**S**ustainable

technology-centric  
future mobility

people-centric  
future mobility

Politics, Power, Profit

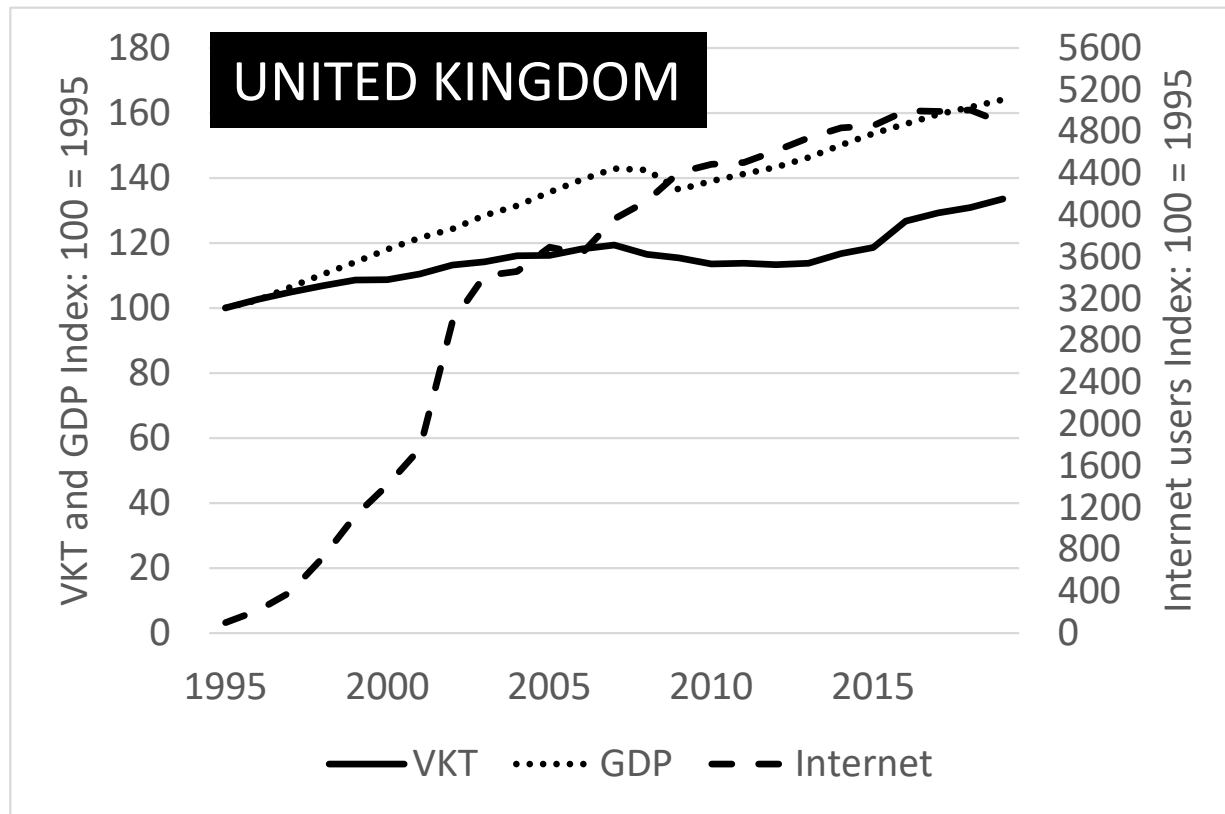


People, Planet, Prosperity

We will need a change of mindset and motives

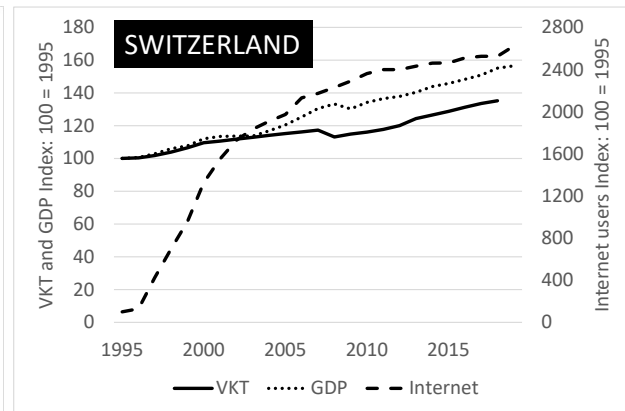
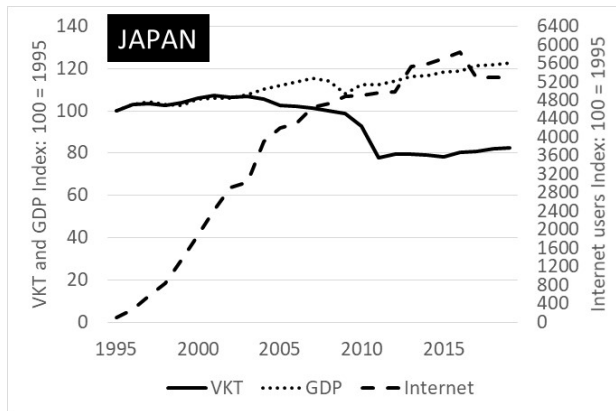
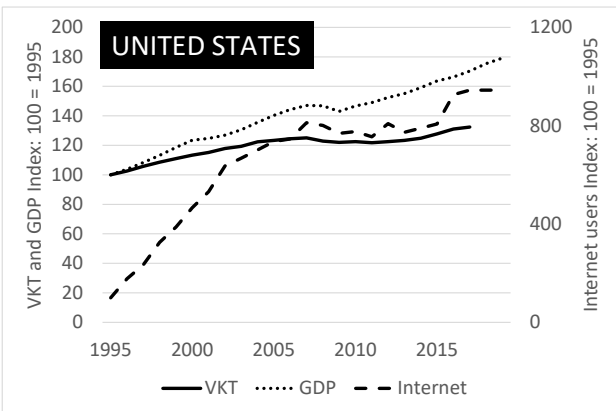
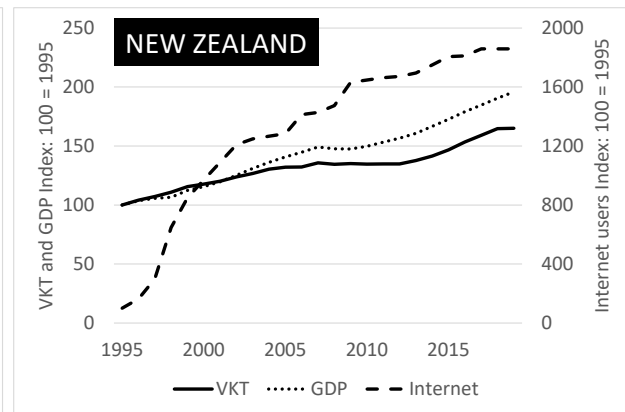
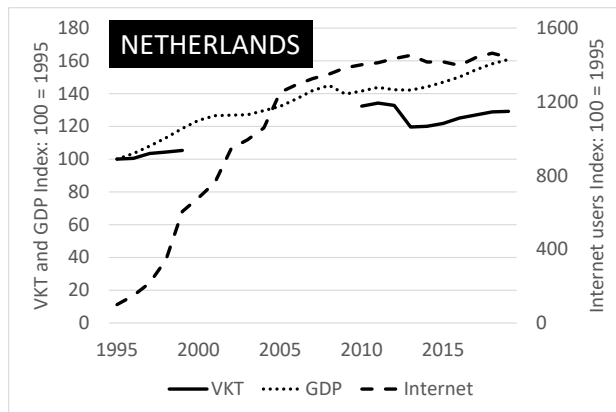
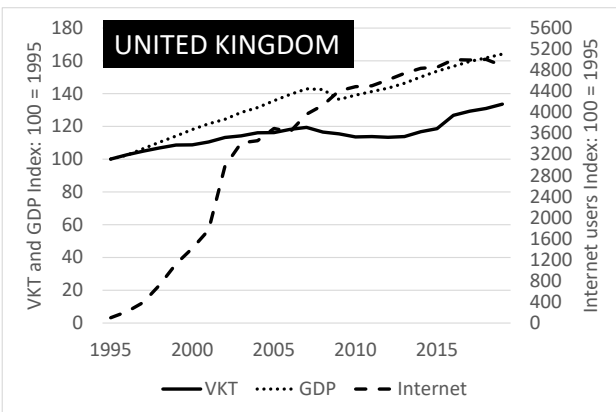
**5**

**Looking back, what are the  
successes we can build on?  
The failures we can learn from?**



VKT (total road motor vehicle traffic) data – ITF (OECD), except for USA - Vehicle Technologies Office (2018)  
GDP (constant 2010 USD) and Internet users (individuals using the internet as a percentage of population) data – World Bank

Isn't road traffic the lifeblood of the economy?



VKT (total road motor vehicle traffic) data – ITF (OECD), except for USA - Vehicle Technologies Office (2018)  
 GDP (constant 2010 USD) and Internet users (individuals using the internet as a percentage of population) data – World Bank

Isn't road traffic the lifeblood of the global economy?

Digital Age

Motor Age



1992



2022







If this is the answer, what was the question?

**6**

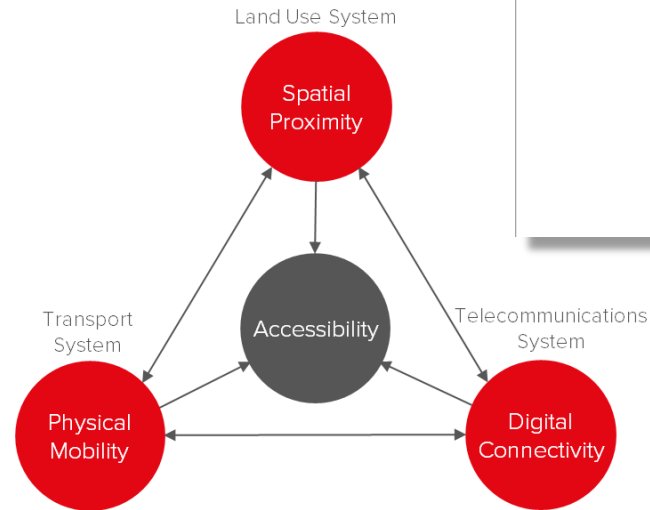
**What needs to be done now  
to ensure that your vision  
becomes a reality?**



"The Government has made the significant step of acknowledging **the need to limit traffic growth** and has provided significant funding to some key areas, but it **has not set a specific ambition or used all its available levers**. It now needs to go further to set this aspect of the sectoral pathway in motion".

<https://www.theccc.org.uk/2022/06/29/current-programmes-will-not-deliver-net-zero/>

29 June 2022



House of Commons  
Transport Committee

## Road pricing

Fourth Report of Session 2021–22

*Report, together with formal minutes relating to the report*

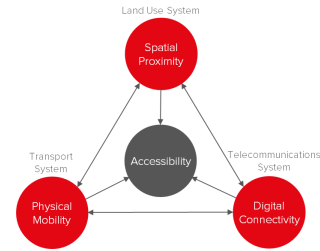
Ordered by the House of Commons to be printed 25 January 2022

National leadership (building upon that shown in Scotland and Wales)

**7**

**If you had absolute authority  
and could do anything, is there  
anything else you would do?**

- Create a **sensible balance** of physical mobility, spatial proximity and digital connectivity to meet society's access needs
- **No further highway capacity** for private cars than we already have
- Any new/reallocated infrastructure provision should focus upon **supporting active travel and shared motorised transport**
- Everyone in society to have a minimum level of opportunity to enjoy the benefits of **digital accessibility** which means addressing digital connectivity (and its affordability) as well as addressing digital literacy
- **Demand is left to respond (innovatively) to the supply on offer** – choice remains but is bounded by supply-side system conditions



**Decide and Provide** by creating a **triple-access** strategy for the UK



The notion of '**Highway to Hell**' has never been more pertinent to our future