



Transforming the world  
to sustainability

# Yorkshire and Humberside Behind the Covid Mask: Exploring the impacts of lockdown on the Environment and Public Transport

22<sup>nd</sup> April 2021





# Welcome and Housekeeping

Morag Robertson

## Agenda and Welcome

- Welcome and introduction
- House keeping
- The impact of COVID-19 on air quality
- Room to breath: Optimising social distancing seating on public transport
- The return to public transport?
- Bus operator perspective
- Getting back on board





## Housekeeping

- Finish at 10:30 at the latest
- Recording
- Raising a question or make a comment
- Get involved!
- Follow up





# What impact has COVID-19 had on air quality?

Sam Pollard

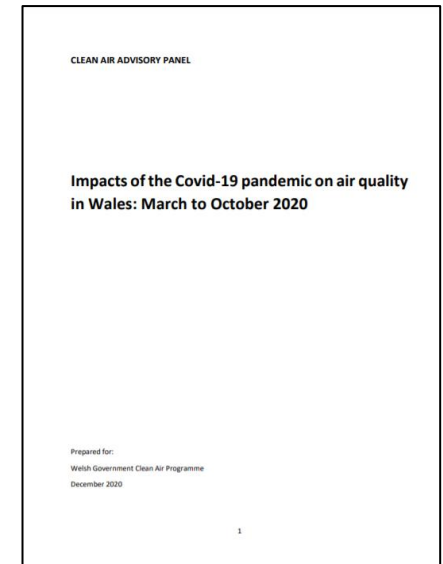
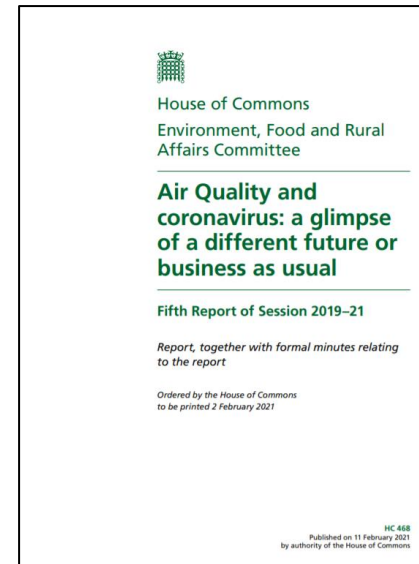
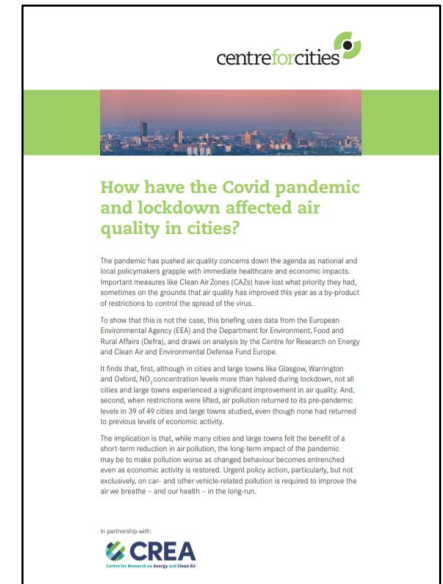
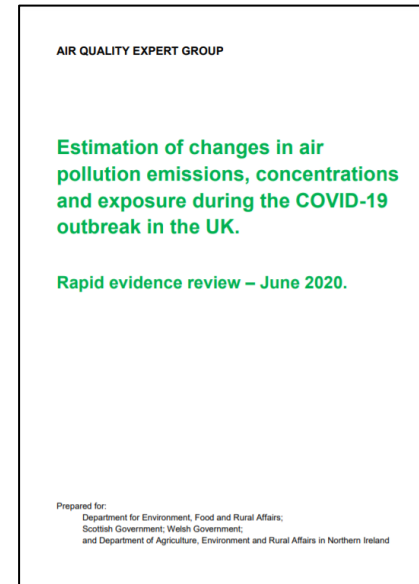
# What impact has COVID-19 had on air quality?

Sam Pollard

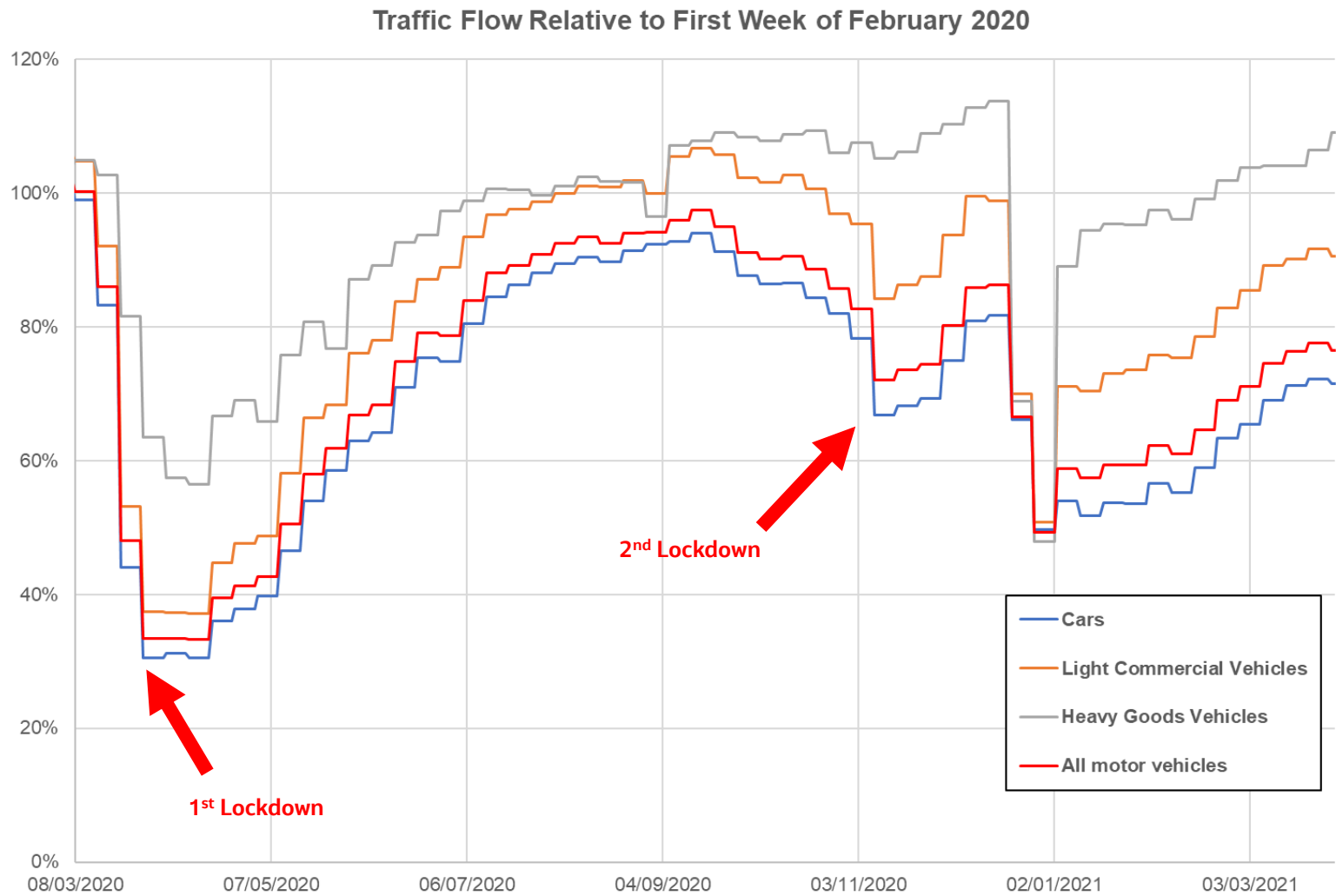
Technical Director for Air Quality at Jacobs

# Why is this of interest?

- The COVID-19 pandemic resulted in substantial and abrupt changes in travel behavior across the UK
- By analysing air quality data collected during this period we can:
  - improve our understanding of the contribution made by road traffic emissions to air pollutant concentrations in our towns and cities
  - potentially use such findings to inform the development of air quality improvement measures
  - consider how air quality may be affected in the future as economic activity returns to 'normal'



# What impact has COVID-19 had on road traffic flows?



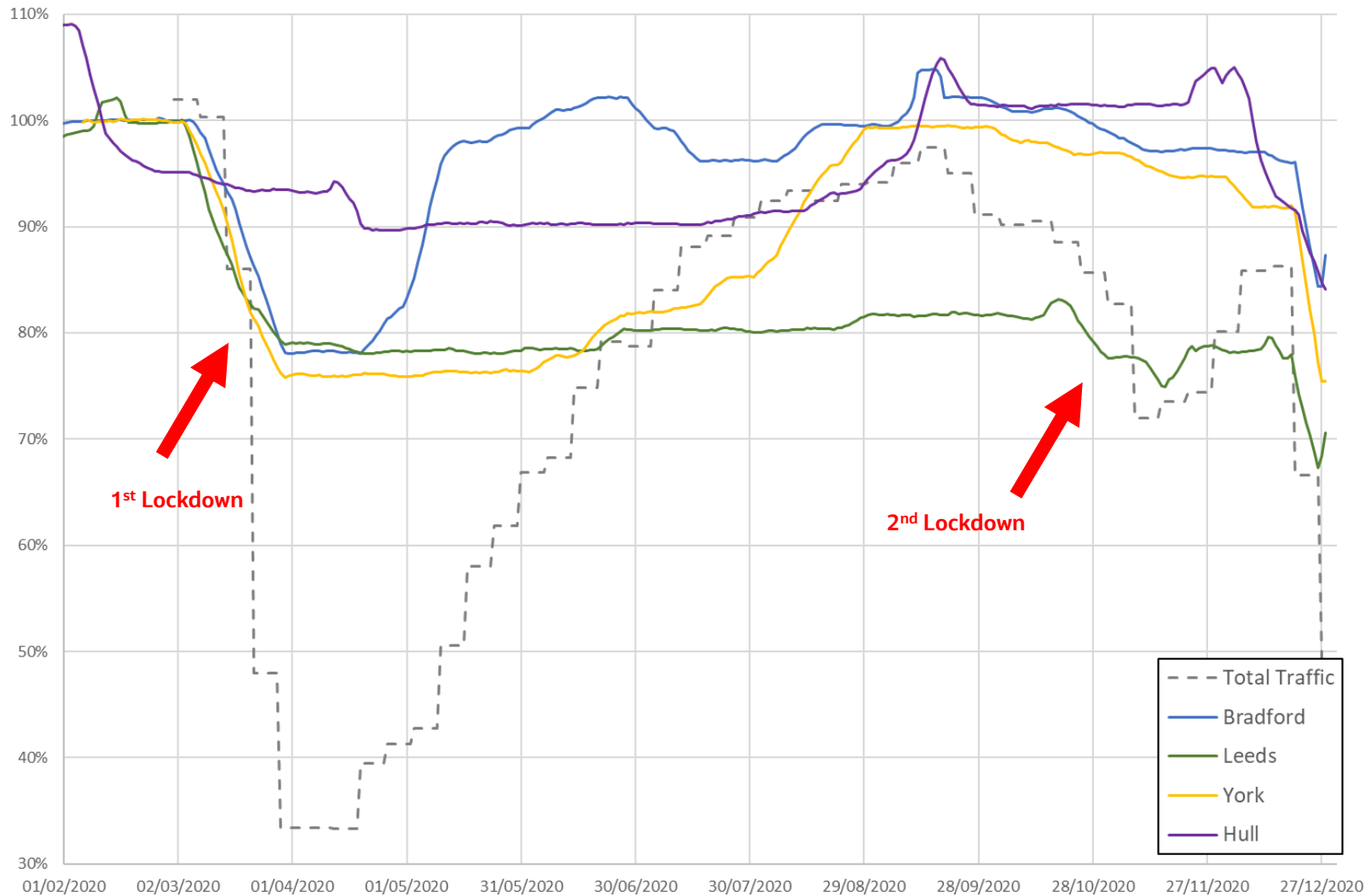
Source: Transport use during the coronavirus (COVID-19) pandemic, Department for Transport



# Estimating effects on air quality of changes in emissions

- Air quality is influenced by a number of different factors, including:
  - local and regional transport, commercial, domestic and industrial emissions
  - meteorology (e.g. wind speed and direction)
  - contributions from 'long range' sources
- Statistical analysis can, however, be used to 'remove' the influence of meteorology (called 'De-weathering') to estimate trend caused solely by changes in other factors, such as road traffic emissions
- Analysis therefore undertaken using data from roadside monitoring sites in Bradford, Leeds, York and Hull to estimate impact of changes in road traffic flows on concentrations of NO<sub>2</sub> and PM<sub>2.5</sub> during 2020

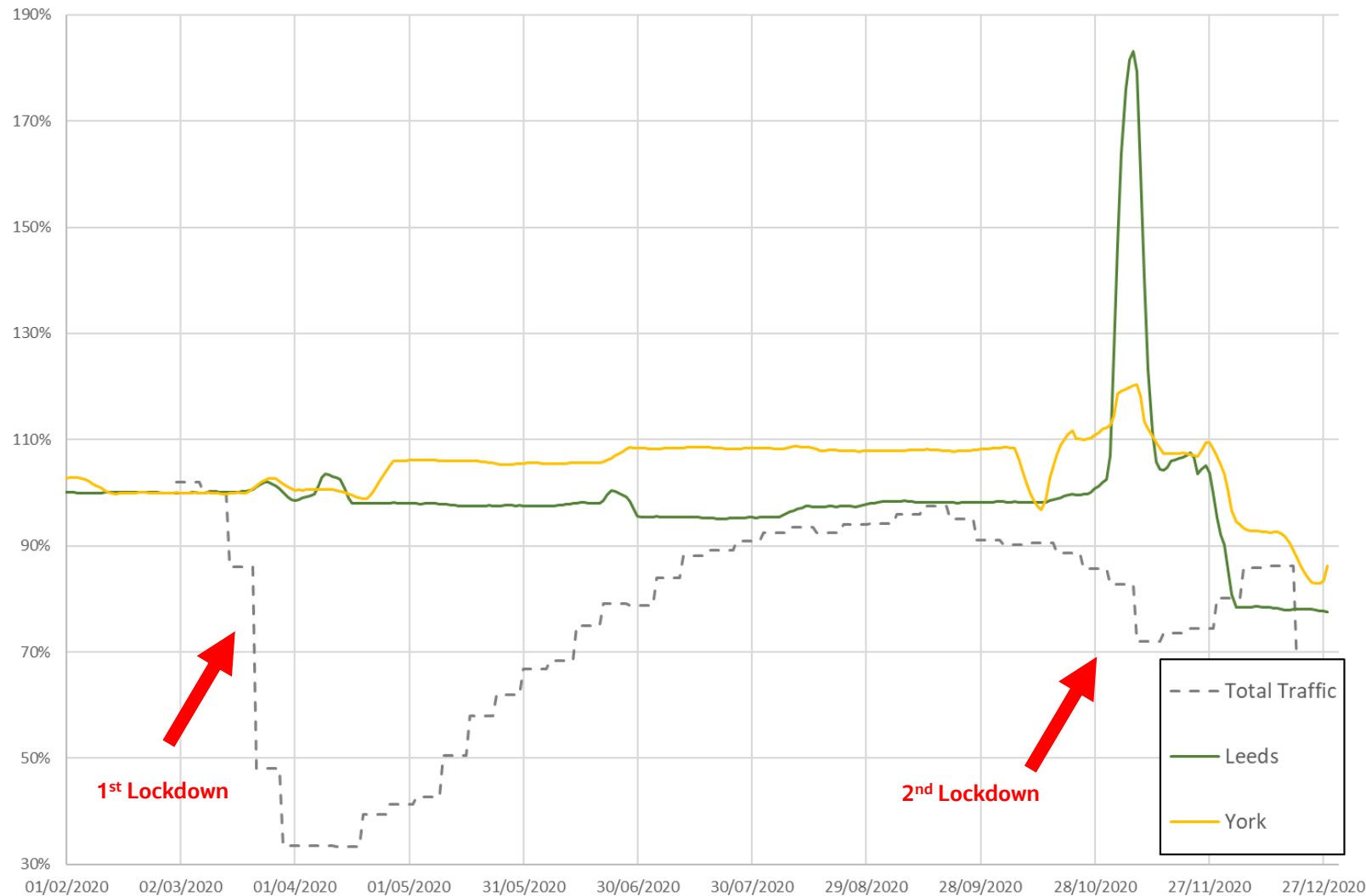
# What impact have changes in traffic had on nitrogen dioxide (NO<sub>2</sub>)?



'De-weathered' NO<sub>2</sub> concentration relative to February 2020

- Large reduction in NO<sub>2</sub> concentration during 1<sup>st</sup> lockdown
- Concentrations generally increased over time back to 'normal' by end of Sep (except for Leeds)
- Decreased once again after 2<sup>nd</sup> lockdown

# What impact have changes in traffic had on particulate matter (PM<sub>2.5</sub>)?



'De-weathered' PM<sub>2.5</sub> concentration relative to February 2020

- Little change in PM<sub>2.5</sub> concentration
- Spike in concentration for bonfire night
- Decrease in December 2020 potentially associated with winter storms

# What might happen to air quality as we return to 'normal'?

- Home working
  - Could reduce road traffic flows and emissions (particularly NO<sub>x</sub>)
  - Changes to when and how many people travel could also reduce congestion during peak hours and associated excess emissions
- Modal shift
  - Shift from private car to active travel modes (e.g. increased cycling) could reduce traffic flows and emissions
- Actions and awareness
  - Linkage between impacts of COVID-19 and poor air quality could raise awareness and encourage action to be taken

# What might happen to air quality as we return to 'normal'?

- Home working
  - Could result in more traffic in some areas e.g. for leisure or shopping
  - Likely increase in residential combustion and emissions
- Modal shift
  - Traffic flows could increase should people shift from public transport to private car
  - A shift from public transport to active travel modes will not reduce emissions
- Actions and awareness
  - Measures such as Clean Air Zones could be delayed due to economic concerns
  - Vehicle fleet (private / commercial / public) may not be upgraded as quickly as previously thought due to economic impacts of COVID-19
  - PM emissions unlikely to be substantially affected, even if traffic flows decrease





# Room to breath: Optimising social distancing seating on public transport

Dr Thomas Woolley

# ROOM TO BREATHE

Optimising social distancing seating on public transport



Dr Thomas E. Woolley  
woolleyt1@cardiff.ac.uk  
@ThomasEWoolley

# NERC HACKATHON



- What is the impact of COVID on the environment?
- NERC Environmental Data Service
- Digital solution for recovery



# OPTIMISE PUBLIC TRANSPORT

## OBSERVATION

- CO<sub>2</sub> production by trains is constant regardless of passenger numbers
- Fuller trains are more environmentally friendly (CO<sub>2</sub> per person)


## BUT

- Social distancing restricts passenger numbers

## SO?

- What is the optimal number of passengers that can fit on a train?

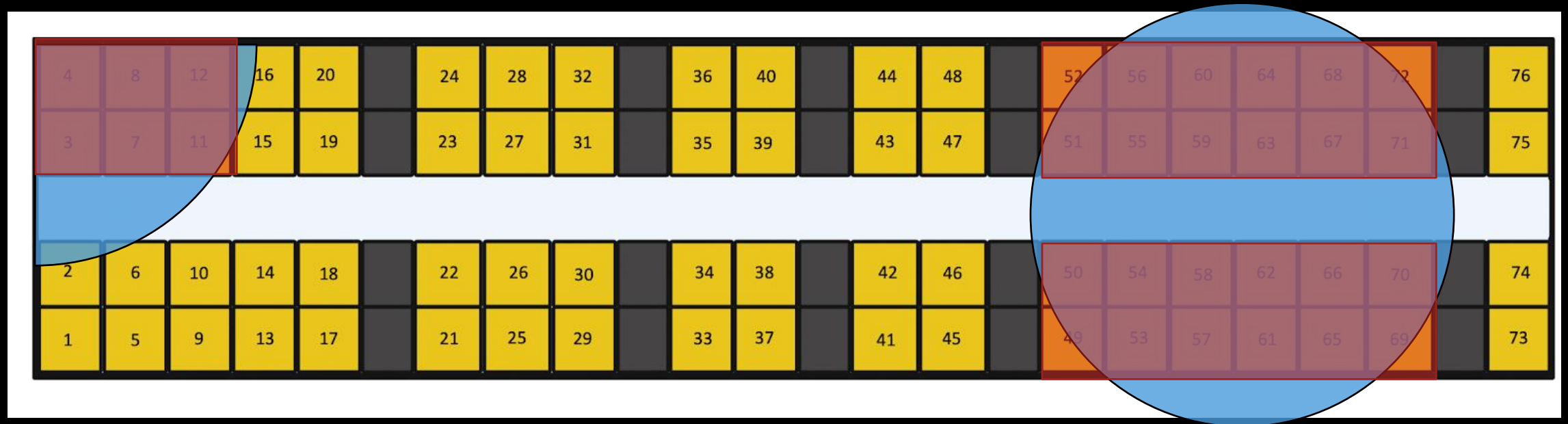
# PACKING PASSENGERS



|   |   |    |    |    |  |    |    |    |  |    |    |  |    |    |  |    |    |    |    |    |    |  |    |
|---|---|----|----|----|--|----|----|----|--|----|----|--|----|----|--|----|----|----|----|----|----|--|----|
| 4 | 8 | 12 | 16 | 20 |  | 24 | 28 | 32 |  | 36 | 40 |  | 44 | 48 |  | 52 | 56 | 60 | 64 | 68 | 72 |  | 76 |
| 3 | 7 | 11 | 15 | 19 |  | 23 | 27 | 31 |  | 35 | 39 |  | 43 | 47 |  | 51 | 55 | 59 | 63 | 67 | 71 |  | 75 |
|   |   |    |    |    |  |    |    |    |  |    |    |  |    |    |  |    |    |    |    |    |    |  |    |
| 2 | 6 | 10 | 14 | 18 |  | 22 | 26 | 30 |  | 34 | 38 |  | 42 | 46 |  | 50 | 54 | 58 | 62 | 66 | 70 |  | 74 |
| 1 | 5 | 9  | 13 | 17 |  | 21 | 25 | 29 |  | 33 | 37 |  | 41 | 45 |  | 49 | 53 | 57 | 61 | 65 | 69 |  | 73 |



# BOUND THE PROBLEM



$$N \leq 96/6 = 16$$

# GREED IS GOOD

## BASIC ALGORITHM

- STEP 1: Choose a seat at random
- STEP 2: Place a person in the next closest available seat
- STEP 3: Repeat STEP 2 until no more people can be seated

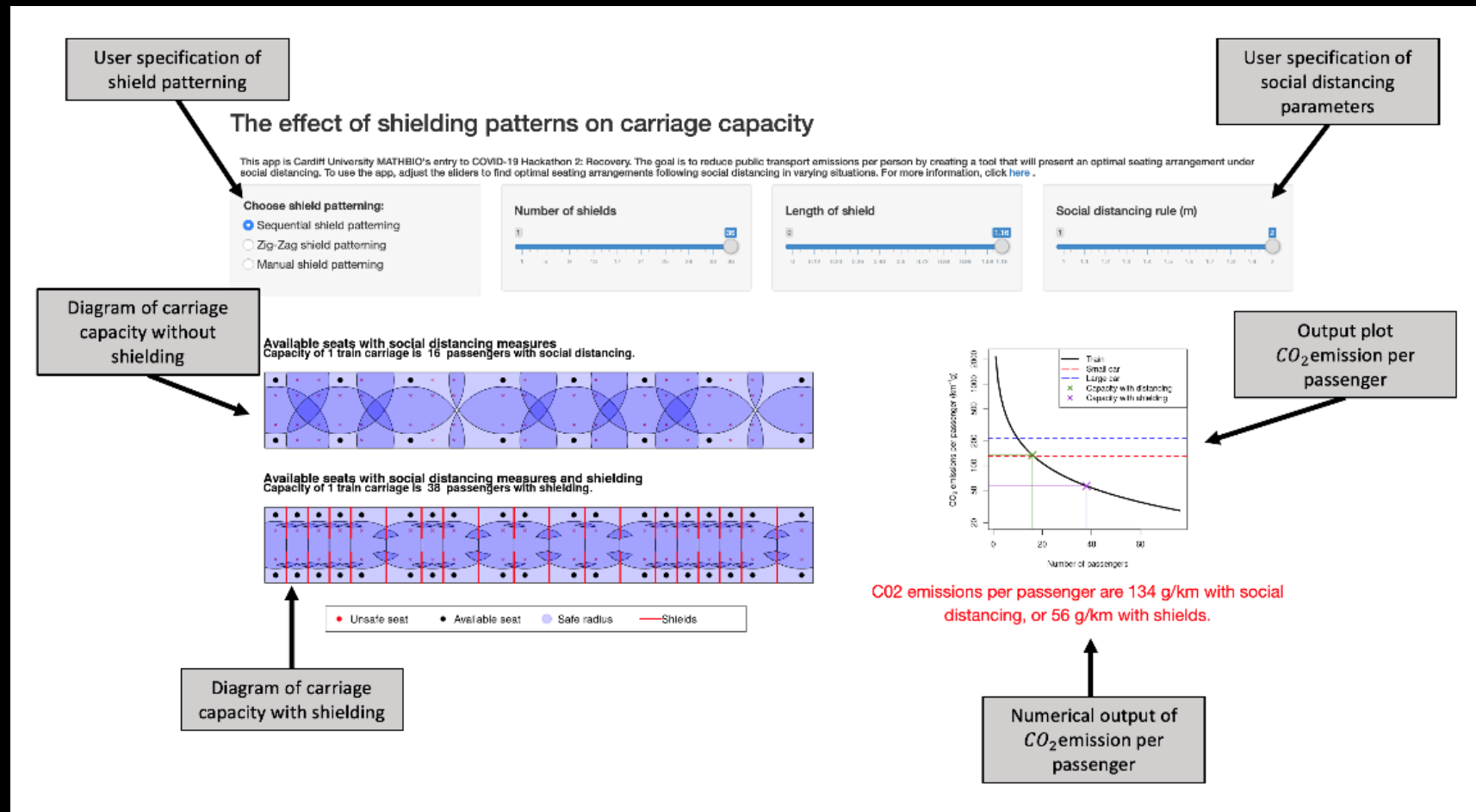
## EXTENSIONS

Seat shielding

Social distance



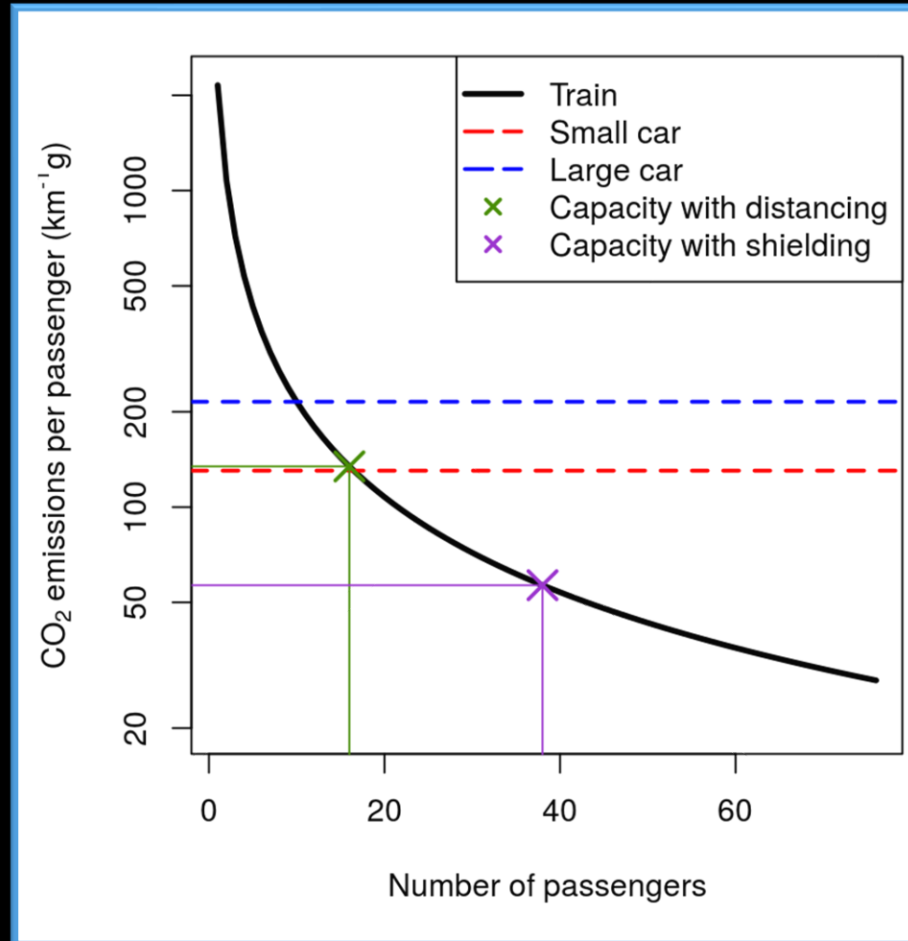
# GUI



<https://bit.ly/App-details>

<https://bit.ly/App-interface>

# THE PROBLEM



# NOT JUST TRAINS







# CONCLUSIONS

- Simple methods are quick and “good enough”.
- Class 150 diesel engine trains are worse environmentally than small cars.
- Techniques can be used widely.



# The return of public transport?

Catherine Folca



## Transport Focus

### The return to public transport?

22 April 2021

# About Transport Focus

Transport Focus is the independent transport user watchdog.

We represent the interests of:

- rail passengers in Great Britain
- all users of England's motorways and major 'A' roads (the Strategic Road Network)
- bus, coach and tram users across England outside London

We are:

- evidence based
- useful to transport operators
- consumer focused

# Current research



**Throughout the Covid-19 crisis Transport Focus has been publishing insight to ensure that transport users' voices are heard by transport providers and governments.**

**Regular reports have provided invaluable, independent evidence on transport users' views.**

**This ensures decision makers can understand the views of transport users – and often as importantly lapsed users – and respond to their needs.**

**Our key insight has included:**



**Travel during Covid-19 tracker survey** – with more than 60,000 responses across 33 weeks in 2020. This work has robustly tracked people's use of transport, their perceptions and concerns, their satisfaction with their journeys and how safe they have felt when travelling. All the results are available for further analysis on the Transport Focus [Data Hub](#).



**Transport User Community** – with 160 participants across rail, bus and road providing in-depth qualitative feedback on a diverse range of issues from cleanliness of public transport, vaccines and Christmas travel. This has allowed us to test complex ideas and provide timely and actionable feedback to transport providers.

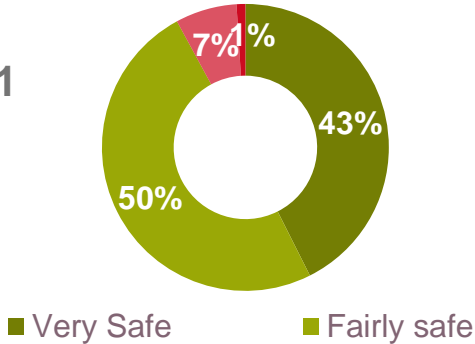
**Transport User Panel** – with thousands of transport users on our panel this allowed us to react quickly at the beginning of the pandemic and ensure transport users' voices were heard on ticket refunds. Further insight is due to be published on changes to working patterns and ticket needs.



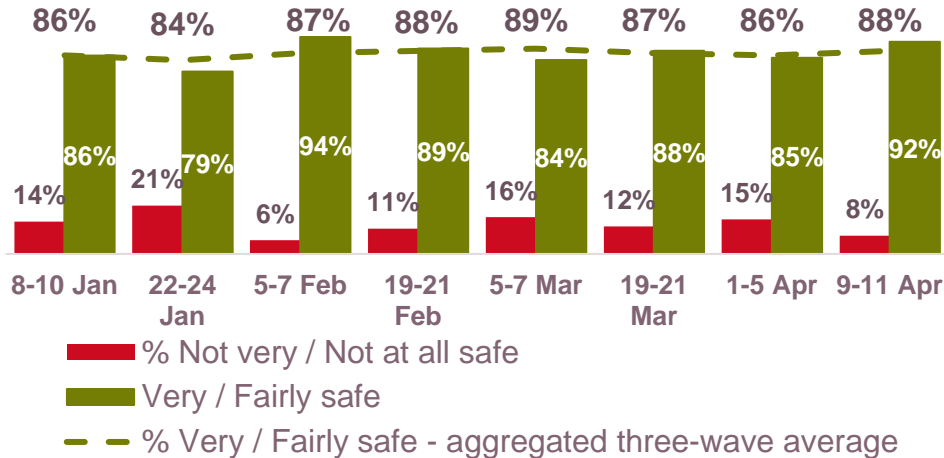
**Around nine in ten of those making train journeys in the last seven days felt safe doing so**

Specifically in relation to coronavirus, how safe do you feel at the moment when using trains?  
Base: All making journeys by train, W41 – 90

Wave 41

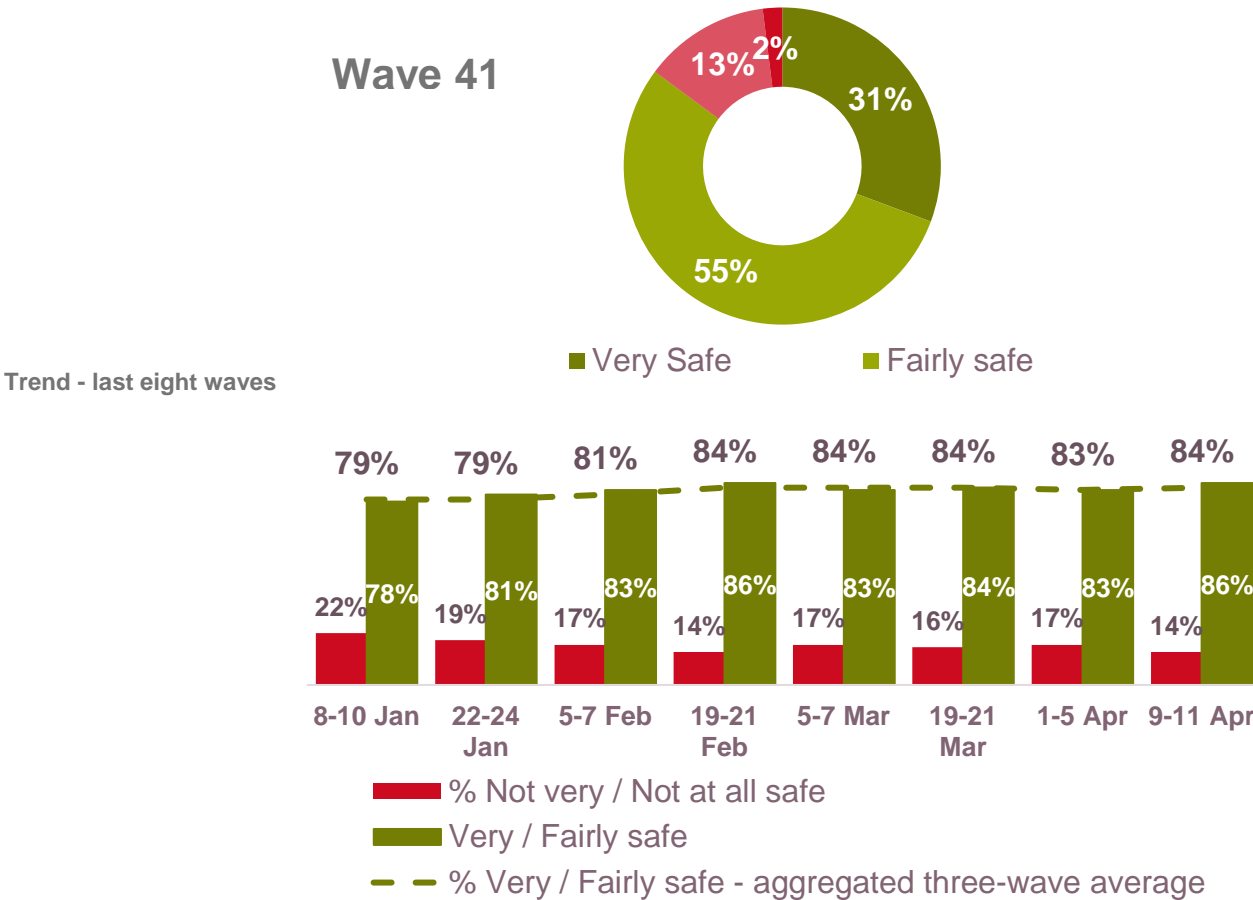


Trend - last eight waves



# More than four in five of those making bus journeys in the last seven days felt safe doing so

Specifically in relation to coronavirus, how safe do you feel at the moment when using buses?  
Base: All making journeys by bus, W41 – 205

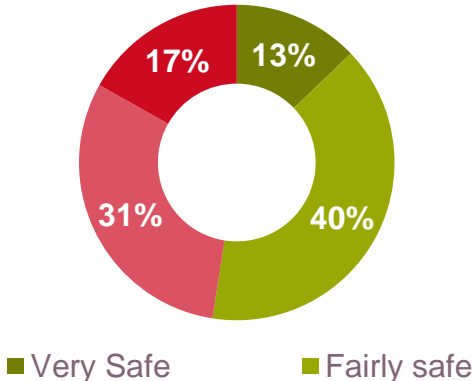


# The proportion of those who have not used a train in the last seven days saying that they would feel safe doing so continues to increase

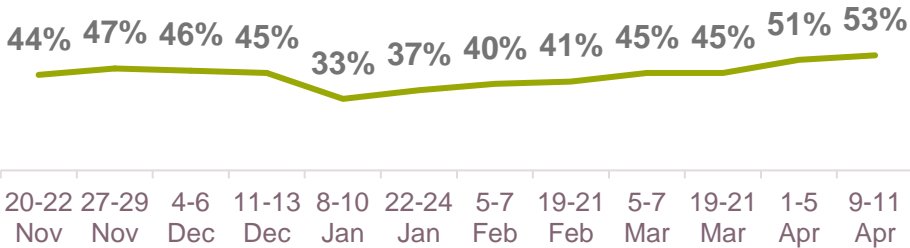
Specifically in relation to coronavirus^, if you had to make a journey at the moment, how safe would you feel making a journey by train?

Base: All *excluding* those making journeys by train, W41 – 1,909

Wave 41



Trend - % safe – last twelve waves

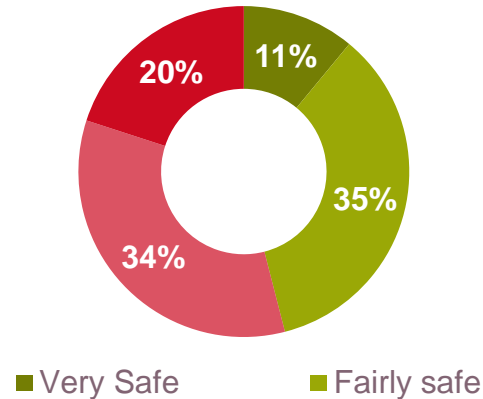


## Similarly the proportion of those who have not used a bus in the last seven days saying they would feel safe doing so continues to increase

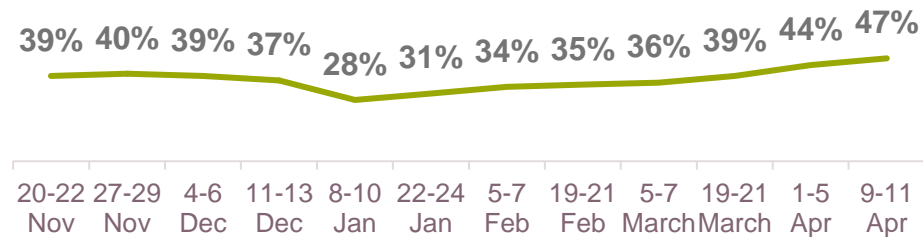
Specifically in relation to coronavirus, if you had to make a journey at the moment, how safe would you feel making a journey by bus?

Base: All *excluding* those making journeys by bus, W41 – 1,794

Wave 41



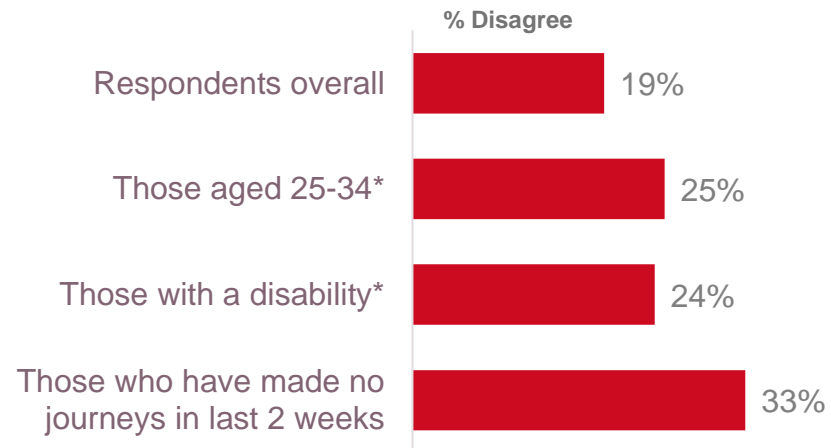
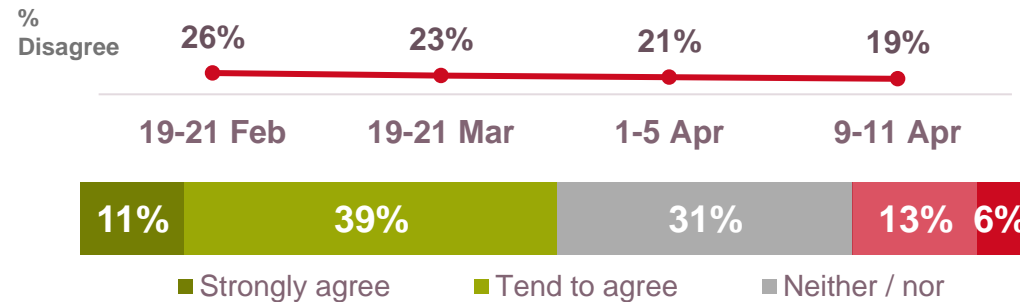
Trend - % safe – last twelve waves



## A half think that enough is being done to ensure coronavirus safety on public transport. A fifth disagree.

Enough is being done to ensure coronavirus safety on public transport

Base: W41 1,565

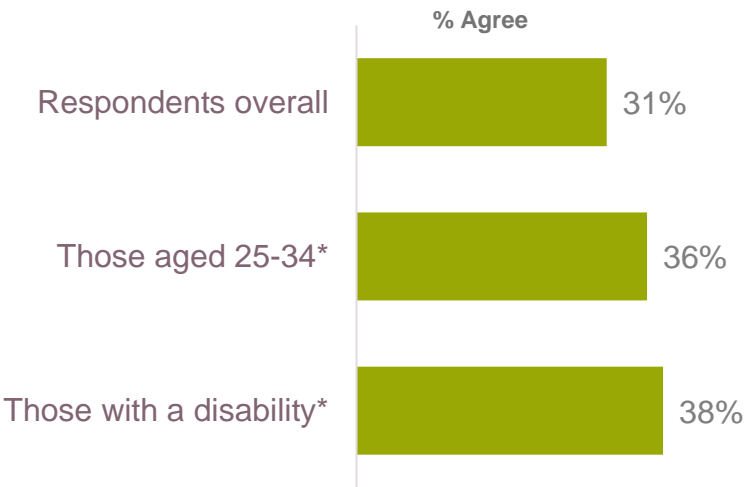
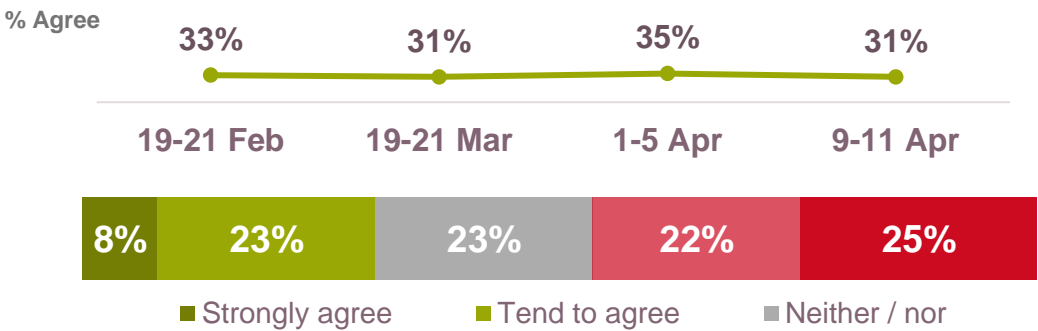


Base excludes don't know/not applicable answers

\* Denotes statistically significant difference from respondents overall

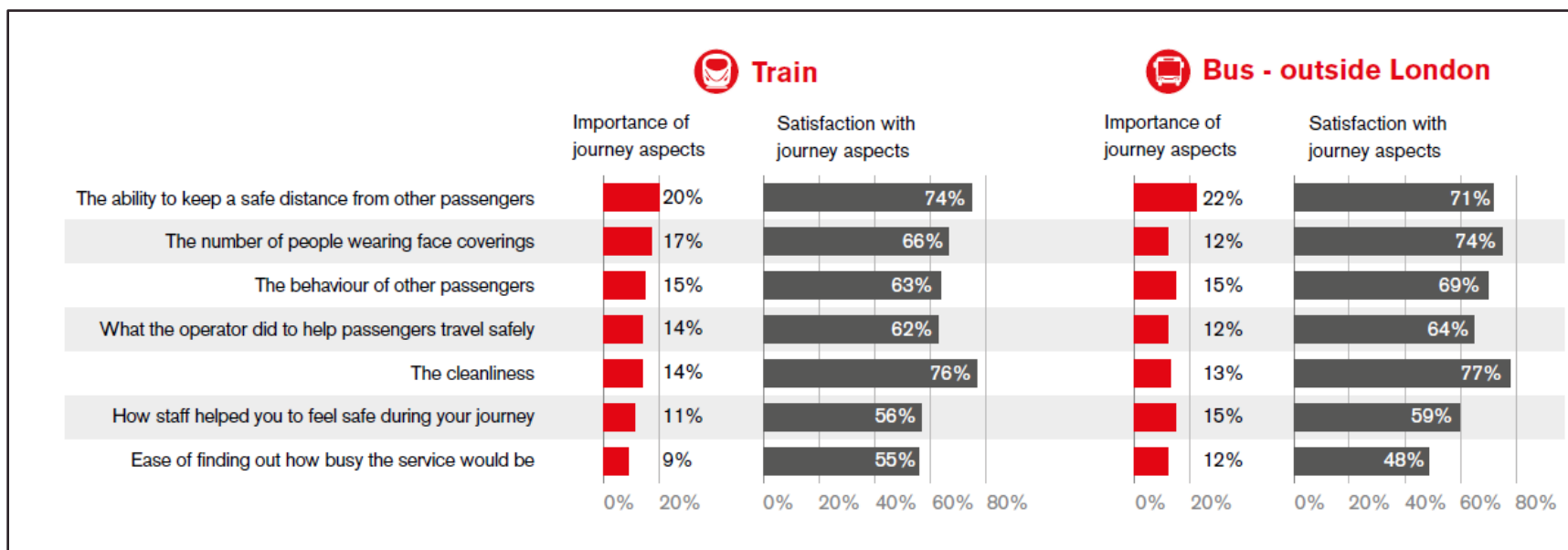
# Three in ten say that they will never again feel completely comfortable on public transport

I will never again feel completely comfortable on public transport  
Base: W41 1,832



Base excludes don't know/not applicable answers  
\* Denotes statistically significant difference from respondents overall

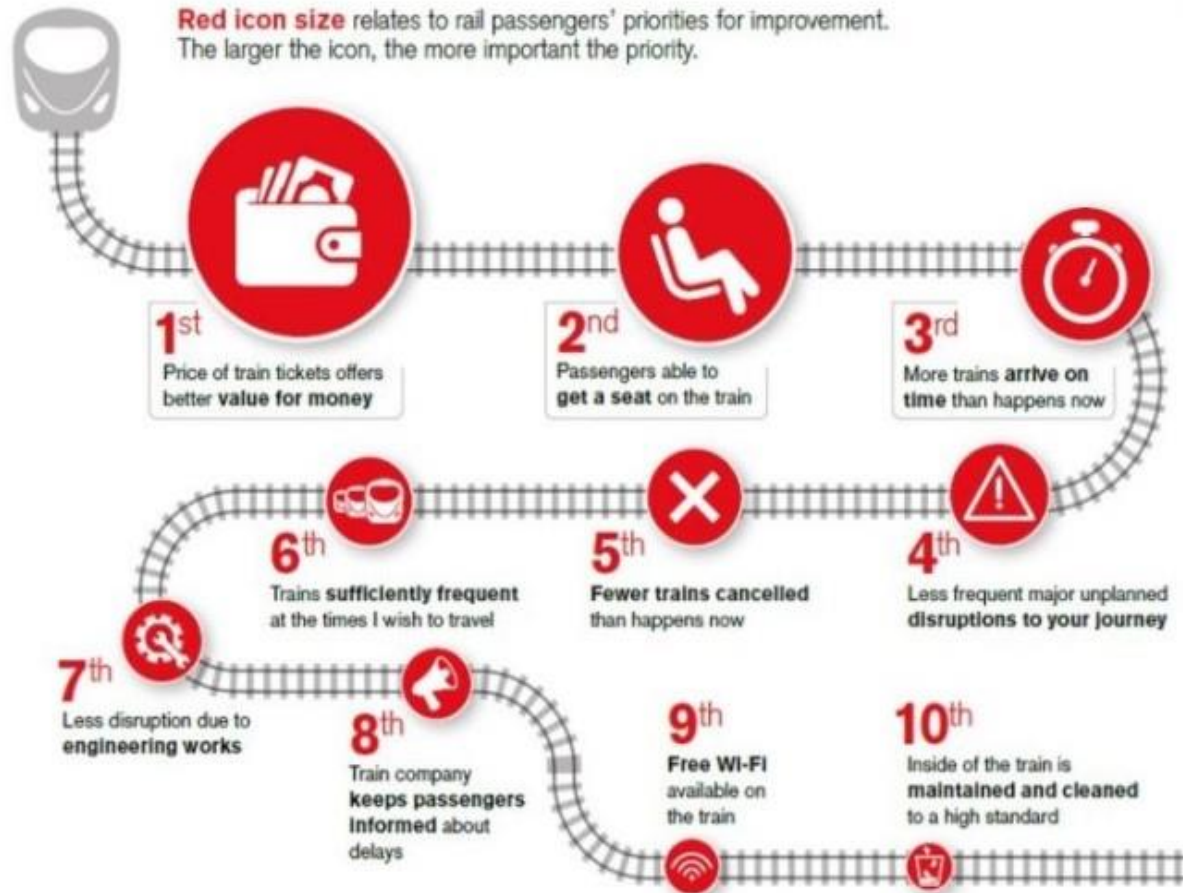
# Key driver analysis



<https://www.transportfocus.org.uk/publication/perceptions-of-safety-on-public-transport-key-drivers-analysis/>



## Rail passengers' priorities for improvement 2017



Sample size **12,804**

### How customers prioritise further areas for improvement

- 11<sup>th</sup> Journey time is reduced
- 12<sup>th</sup> Accurate and timely information available at stations
- 13<sup>th</sup> Well-maintained, clean toilet facilities on every train
- 14<sup>th</sup> Accurate and timely information provided on trains
- 15<sup>th</sup> Improved personal security on the train
- 16<sup>th</sup> Connections with other train services are always good
- 17<sup>th</sup> Good connections with other public transport at stations
- 18<sup>th</sup> Easier to buy the right ticket
- 19<sup>th</sup> Improved personal security at the station
- 20<sup>th</sup> Seating area on train is more comfortable
- 21<sup>st</sup> Stations maintained and cleaned to a high standard
- 22<sup>nd</sup> More room to stand comfortably on busy trains
- 23<sup>rd</sup> Train staff have a positive, helpful attitude
- 24<sup>th</sup> Station staff have a positive, helpful attitude
- 25<sup>th</sup> Free Wi-Fi available at the station
- 26<sup>th</sup> Sufficient space on train for passengers' luggage
- 27<sup>th</sup> More staff available at stations to help passengers
- 28<sup>th</sup> More staff available on trains to help passengers
- 29<sup>th</sup> Access from station entrance to boarding train is step-free
- 30<sup>th</sup> Easier to claim compensation when delayed
- 31<sup>st</sup> Better mobile phone signal on trains

# Key lessons



Our insight points to five key areas where transport operators should focus their efforts.

**Ensuring  
passengers  
can make  
essential  
journeys with  
confidence  
now**

Provide capacity and improve information to support social distancing onboard

Maintain improved cleanliness and communicate this effectively

Drive up compliance with the rules, especially face coverings (if not exempt)



More flexible fares for less frequent commuters

Offers and promotions to encourage lapsed users to return

**Attracting  
passengers  
back when the  
time is right**

# Two key themes emerge

## Build Passenger Confidence

*Most people become non-transport users during the pandemic*

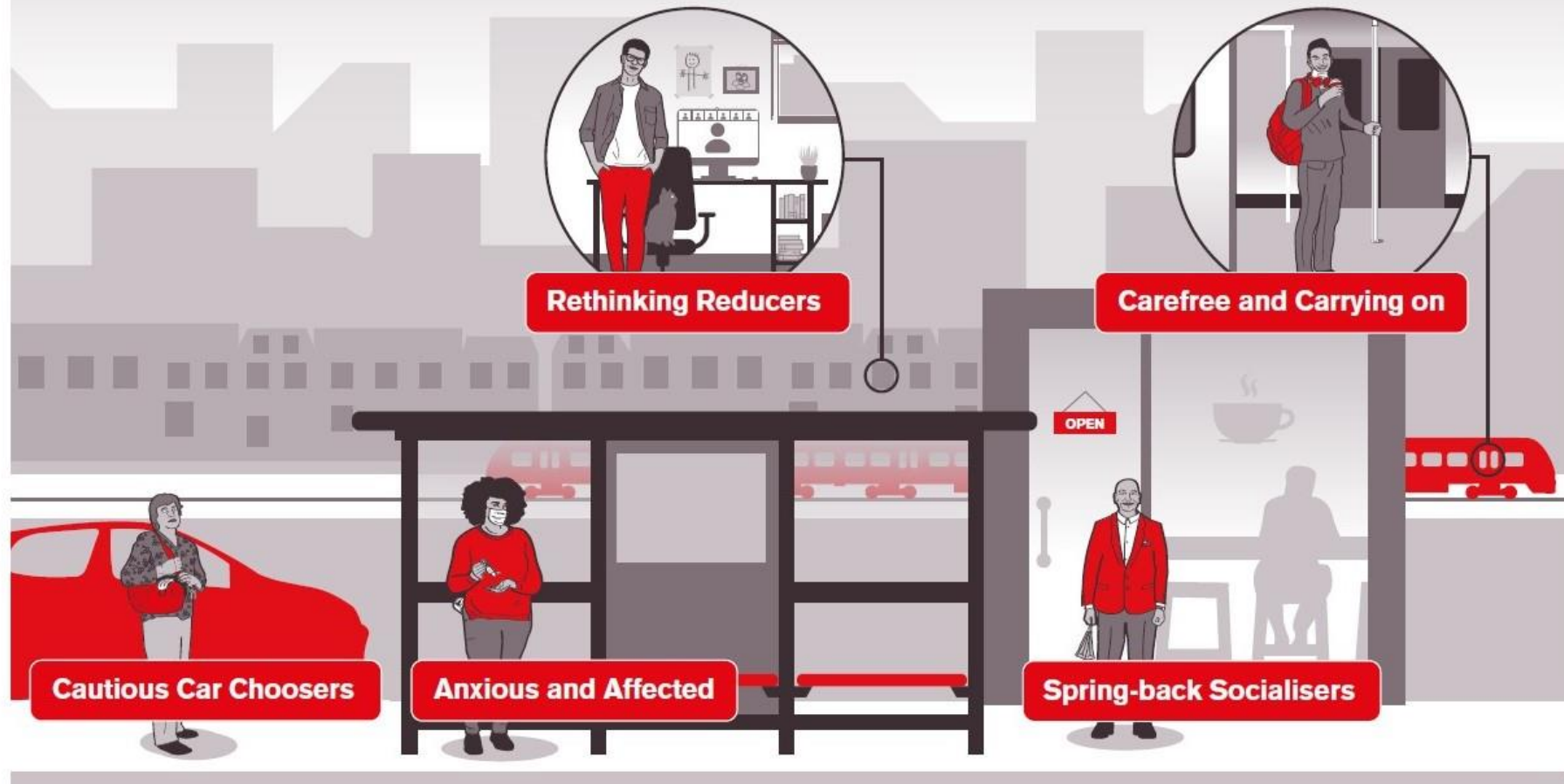
- Services are visibly clean with adequate capacity and face covering enforcement
- Messaging to publicise these measures
- Crowding information
- Disruption management
- Passenger feedback

## Be flexible to respond to new emerging demand

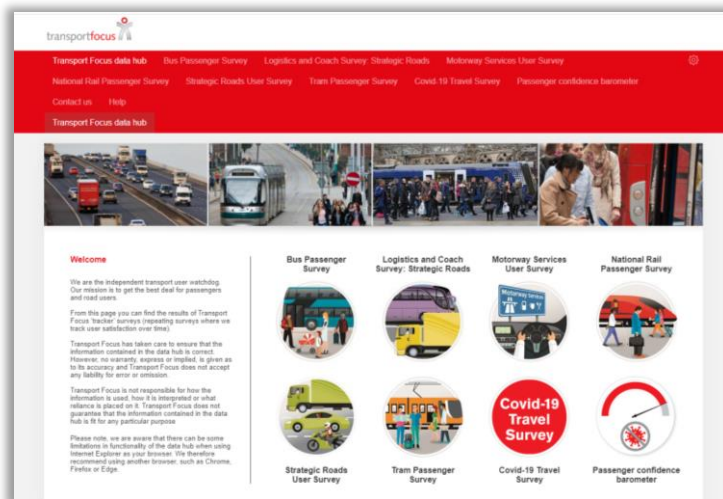
*Continued uncertainty regarding new strains of the virus, working from home and the vaccination programme*

- Changing travel patterns
- Traditional passenger categories – still fit for purpose?
- Longer booking window for long distance travel with greater flexibility
- New products
- Flexible season tickets

# Meet our segments



# Transport Focus Data Hub



All the results of our Covid Tracker research is available for your own analysis on the Transport Focus Data Hub.

The data is available for anyone to view at:

[www.transportfocus.org.uk/data-hub](http://www.transportfocus.org.uk/data-hub)

## Please note:

Data from new waves of the survey is uploaded and made available on each Friday morning. The survey may be unavailable on the hub on Thursday afternoon while the upload of new data takes place.

**Catherine Folca**  
**Stakeholder manager**  
**Transport Focus**  
Mob: 07718 570009  
[catherine.folca@transportfocus.org.uk](mailto:catherine.folca@transportfocus.org.uk)



# Bus operator perspective

Martin Hirst



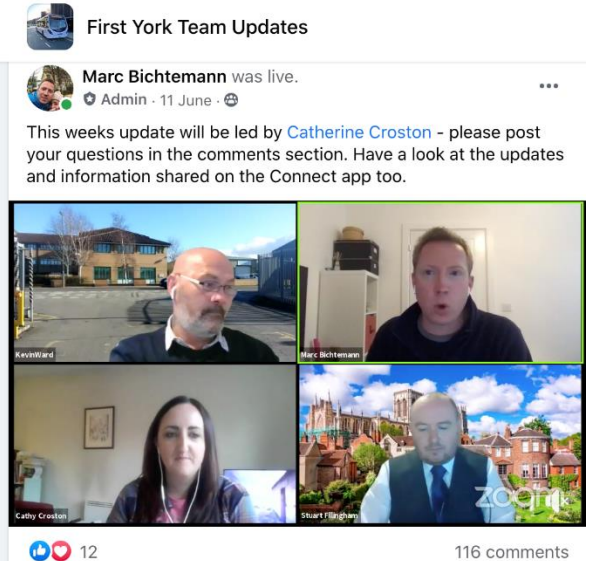
# Bus Operator Perspective

## First West Yorkshire & West Yorkshire Bus Alliance

Martin Hirst  
Commercial Director  
First West Yorkshire

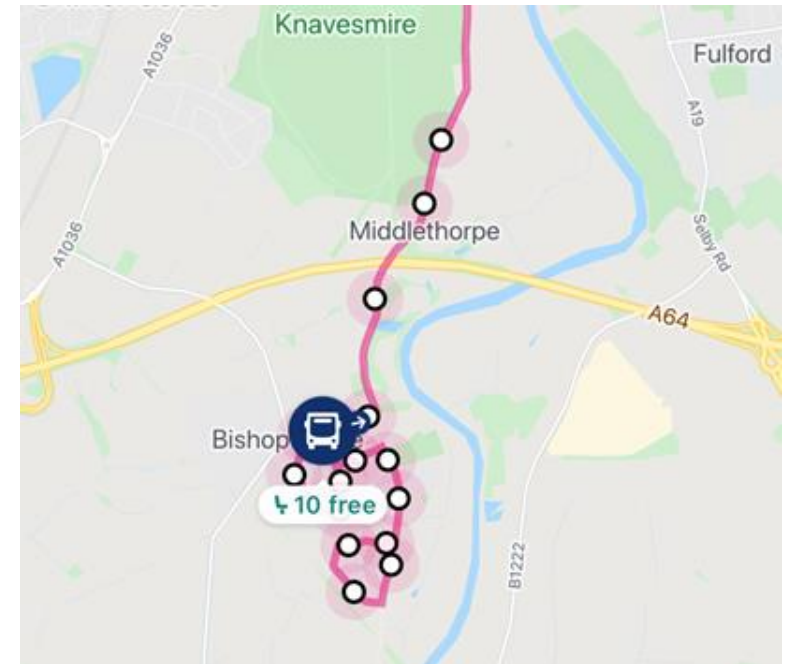
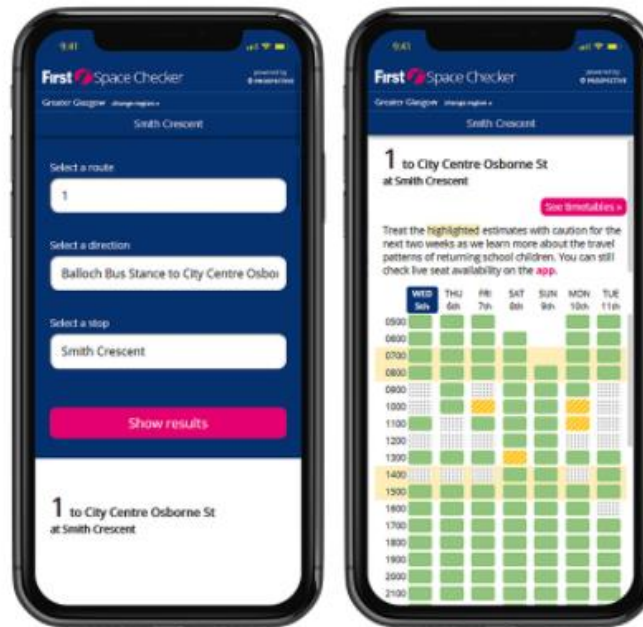
# Covid Impact

- Massive passenger volume impact
- 3 years worth of timetable changes in 10 weeks
- Role in discouraging travel!
- Funding to support essential journeys
- Impact on drivers
- Role in enforcement of rules
- Change in travel patterns
- Quieter roads
- Capacity constraints break the commercial model



# Covid Response

- Agile delivery of timetables and capacity
- Acceleration in innovation
- Enhanced cleaning regime
- Flexible fares
- Improving customer safety and information processes
- Staff engagement and support
- Resilience and business continuity
- Partnership working through the Bus Alliance





# Post Covid – Bus Back Better



- Reassurance – need to repair the damage from ‘avoid travel messaging’
- Help people make the first step confidently
- More flexible fares
- National Campaign
- Local partnership working
- Infrastructure schemes to drive a more reliable service and create virtuous circle
- National Bus Strategy
- Network Navigation
- Young Persons Fare Deal



# Six phases of activity

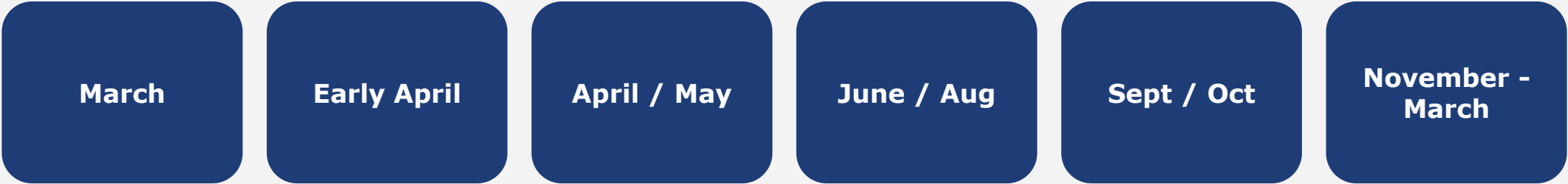
**Lockdown**  
What we can do

- Open  
29 Mar**
- Outdoor gatherings
  - Outdoor sports facilities

- Open  
12 Apr**
- Non-essential retail
  - Pubs, restaurants, libraries and outdoor attractions
  - Domestic holidays

- Open  
17 May**
- Rule of 6 indoors
  - Indoor hospitality

- Open  
21 June**
- Remaining hospitality
  - Nightclubs
  - Large events



Essential travel

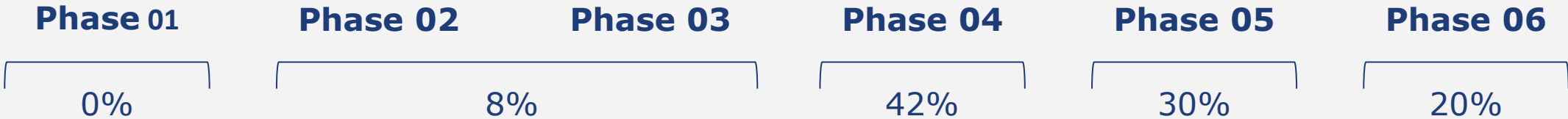
Desirable travel

First taste of freedom

Inspire travel

Specific people's journeys

People's goals & ambitions



Recovery budget spend

# Opportunity 1 – “First” taste of Freedom



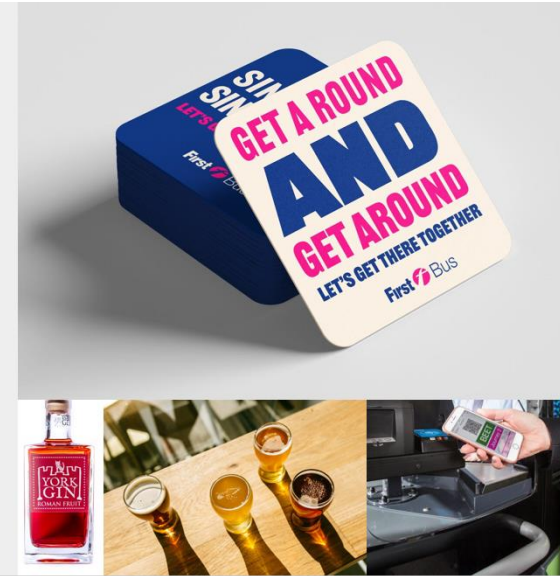
- **What:** Once non-essential retail returns and pub/restaurants are allowed al-fresco events, life will return to some normality. We need to be able to take advantage of these potential trips on a weekend and evening.
- **How:** Tying in with local partners such as retail, craft beer/gin companies we can facilitate the return to shopping/eating/drinking – First taste of Freedom (FTOF)
- **Measure:** Create a bespoke (FTOF) ticket on the App. Joint marketing collaboration with partner to push ticket/competition/event.
- **Mechanic 1:** £1k giveaway with retail outlet to encourage taking the bus to the shops. You would have to buy FTOF ticket to be in with a chance of winning. Weekly competition.

## First Taste of Freedom

We'll offer our services so that locals can get their 'First taste of Freedom' at local cinemas, cafes, food markets, activities, theatres, pubs, bars, and shopping centres etc. Giving everyone a taste of what they've been missing.

E.g. £1000 Giveaway with Trinity Leeds Shopping Centre. Buy your First Taste of Freedom ticket with the First Bus App and you're automatically entered into FREE prize draw.

Our partner film could be used to galvanize as many partners as possible, rallying our community to get in on the movement.



- **Mechanic 2:** Joint 'al-fresco event with drink and food partner i.e. York Gin. First to pay for (FTOF) (gin), York gin and other partners to provide event space. Event to be branded (FTOF)



# Opportunity 2 – Support local community recovery



- **What:** Community recovery fund giveaway
- **How:** Self-nomination/application by local business – decide 6 x £2.5k awards = £15k. People's nomination and vote for top 3 - extra = £1k/£1.5k/£2.5k = £5k
- Online application with 250 words helps engage local indies in process and provide business case/evidence to support why we gave the money.
- People's nomination/vote element on website is manageable and adds another dimension plus local engagement.

## Feel grand again!

First are going to give 10 local independent businesses £1,000 each, £10,000 in total, to help them get back on their feet and get them moving confidently and positively again.

We could get our buses to deliver the money, film the journey, and create great PR around how First Bus are making sure we get towards the future we all want, together.





# OOH / Visual style

Our visual style is modern, uplifting and powerful.

Our photography has people looking forward and upward to a brighter future.

The blurred background adds to a feeling of us all moving forward as a community and society again.



"I'm going  
for a frothy coffee  
at Brew & Brownie"

Live local, spend local, travel local.  
Let's get there together.

**First**  **Bus**

[Firstbus.co.uk/out&about](https://www.firstbus.co.uk/out&about)



# Bus Advertising

Bus sides are the perfect media space to inspire the local community to hop on the bus and get across town.

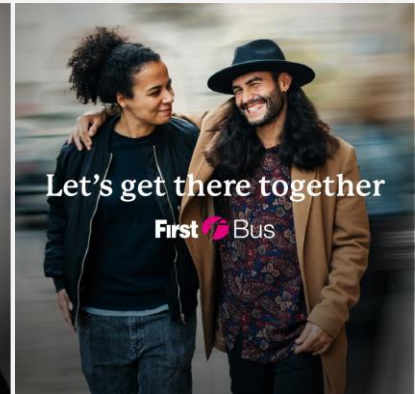
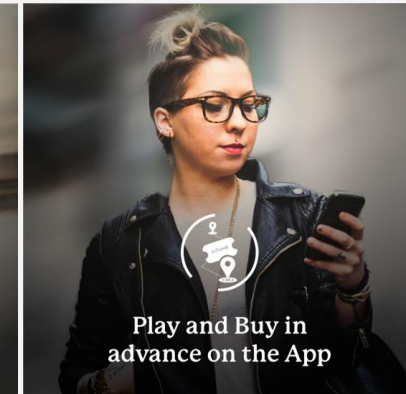
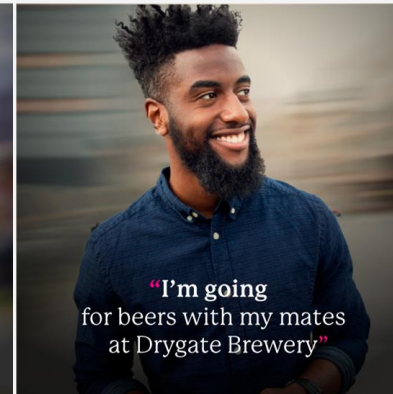
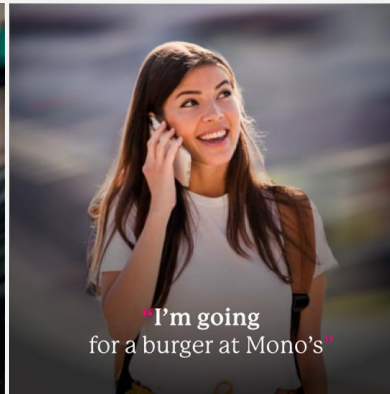
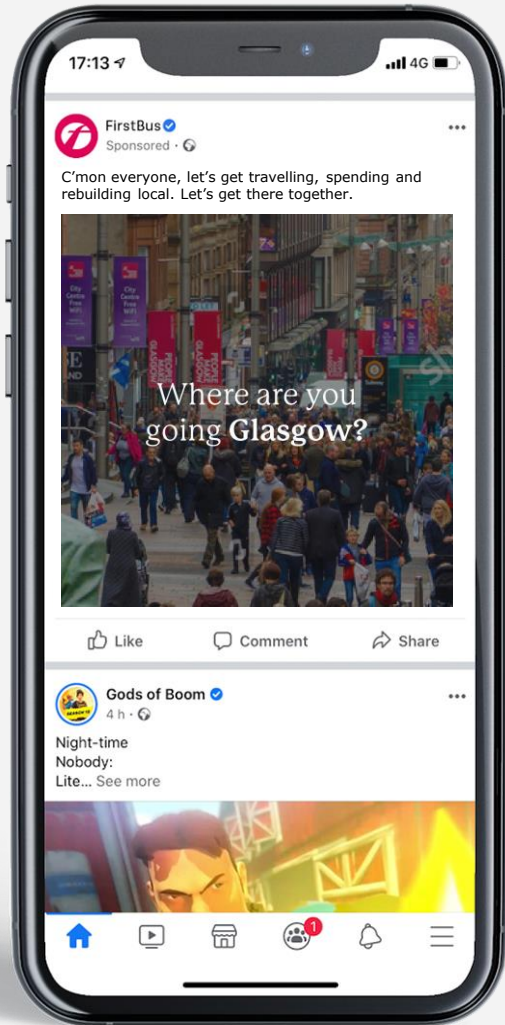
The elegant type and photography is bold, confident and inspiring. And we particularly love how this approach can hero real people from the local area moving on with their lives once again.

Our messaging can be hyper-local and highlight great places to go and see nearby





# Digital and Social



# National Bus Strategy



- **National bus strategy, Bus Back Better, was published on Monday 15 March.**
- It sets out a key role for the bus, outlines the future of bus funding and the commitments needed from Local Transport Authorities and bus operators. The strategy can be accessed here: Bus back better - GOV.UK ([www.gov.uk](http://www.gov.uk)).
- The strategy signals a strong commitment to bus and is very specific in outcomes sought from LTAs and operators in return for the headline figure of £3bn funding. These outcomes are well aligned with the WY Bus strategy adopted in 2017.
- It acknowledges the failures of deregulation and looks to strengthen the role of LTAs through devolution of funding.
- There is a strong expectation to prioritise buses over road users which will feed into future scheme development and roll out.
- Bus Centre of Excellence to be set up enabling delivery and long term support to the industry, no details on location

# National Bus Strategy



**Buses** – more frequent, reliable, cheaper, greener, comprehensive coverage of network, easier to use/understand, better to ride in, better integrated (with other modes and each other), innovative, greener, accessible and inclusive, and safe.

**Bus Services** – importance of bus priority, strengthening of Key Route Network, redefining of socially necessary services, funding tied to Enhanced Partnerships or franchising, potential of devolved BSOG funding for MCAs, reforming outdated BSOG.

**Delivering for passengers** – low, flat fares as standard, contactless as focus of payments, daily capping, integrated ticketing, multi-modal and multi-operator.

**Green revolution** – zero emission first approach, place-based, financial support.



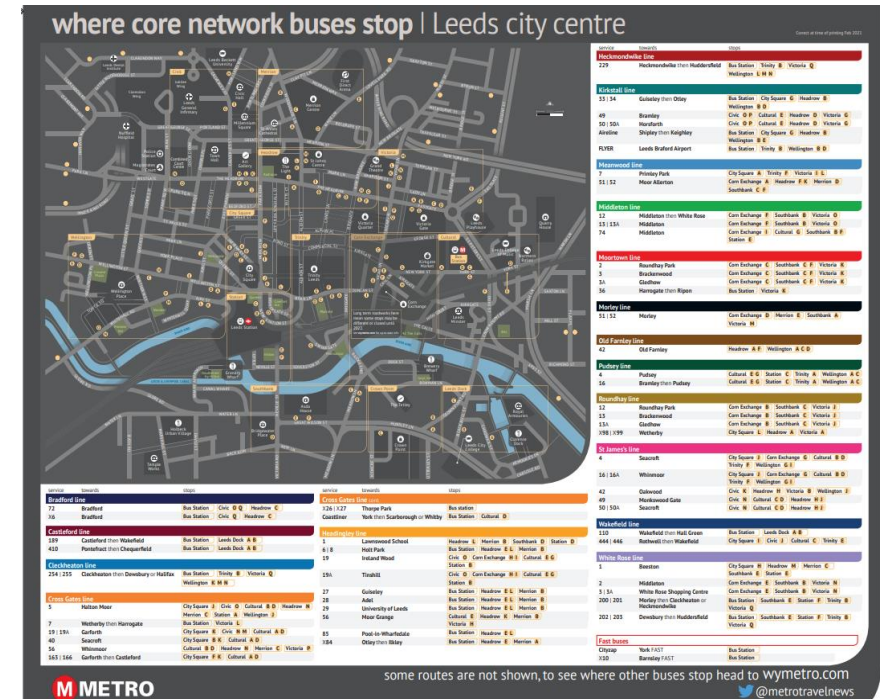
# Network Navigation

- Network Navigation is better signposting of the core bus network by using colour on bus stops, shelters which coordinate with a series of new maps.
- The Core Bus Network is made up of the services that operate as 4 buses or more per hour. The stops that serve one of these buses are classed as on the core bus network.
- Each corridor also has a name which is used by the bus operators on the buses
- This will be delivered throughout the core bus network across West Yorkshire, building on the roll out currently in progress in Leeds.



# Network Navigation: The Maps

- The infrastructure is linked to a series of new maps using coloured coordinated corridors. Each corridor has its own map.
- In addition, Bradford City Centre, Huddersfield Town Centre, Halifax Town Centre and Wakefield City Centre will receive a new detailed stopping location map. Other centre maps could be created if deemed suitable



# Network Navigation: Real Time

- Network Navigation will also deliver approximately 500 new real time screens across West Yorkshire.
- These are likely to be a mix of the new LED screens and battery powered screens where power and communications are not available.
- A prioritisation process will take place to ensure the real time screens are located where they can really add value to the customer information offer.
- These real time screens are over and above any new screens that will come forward where new bus shelters are being delivered





# Getting back on board

David Hurdle



# BEHIND THE COVID MASK:

Exploring the impacts of lockdown on the environment,  
attitudes towards public transport, and its key role in  
unlocking a sustainable future

IEMA Webinar 22 April 2021

## GETTING BACK ON BOARD

David Hurdle  
Transport Planning Consultant



# Content

- **Context and Prompts**
- **National Bus Strategy**
- **Transport Decarbonisation Plan**
- **Bus Priorities**
- **Partnerships, Partnerships,  
Partnerships**
- **Travel Plans**
- **Key Points and Way Forward**

# Context

- **Climate Change Emergency**
- **COVID-19 Emergency**
- **Illegal Air Pollution**



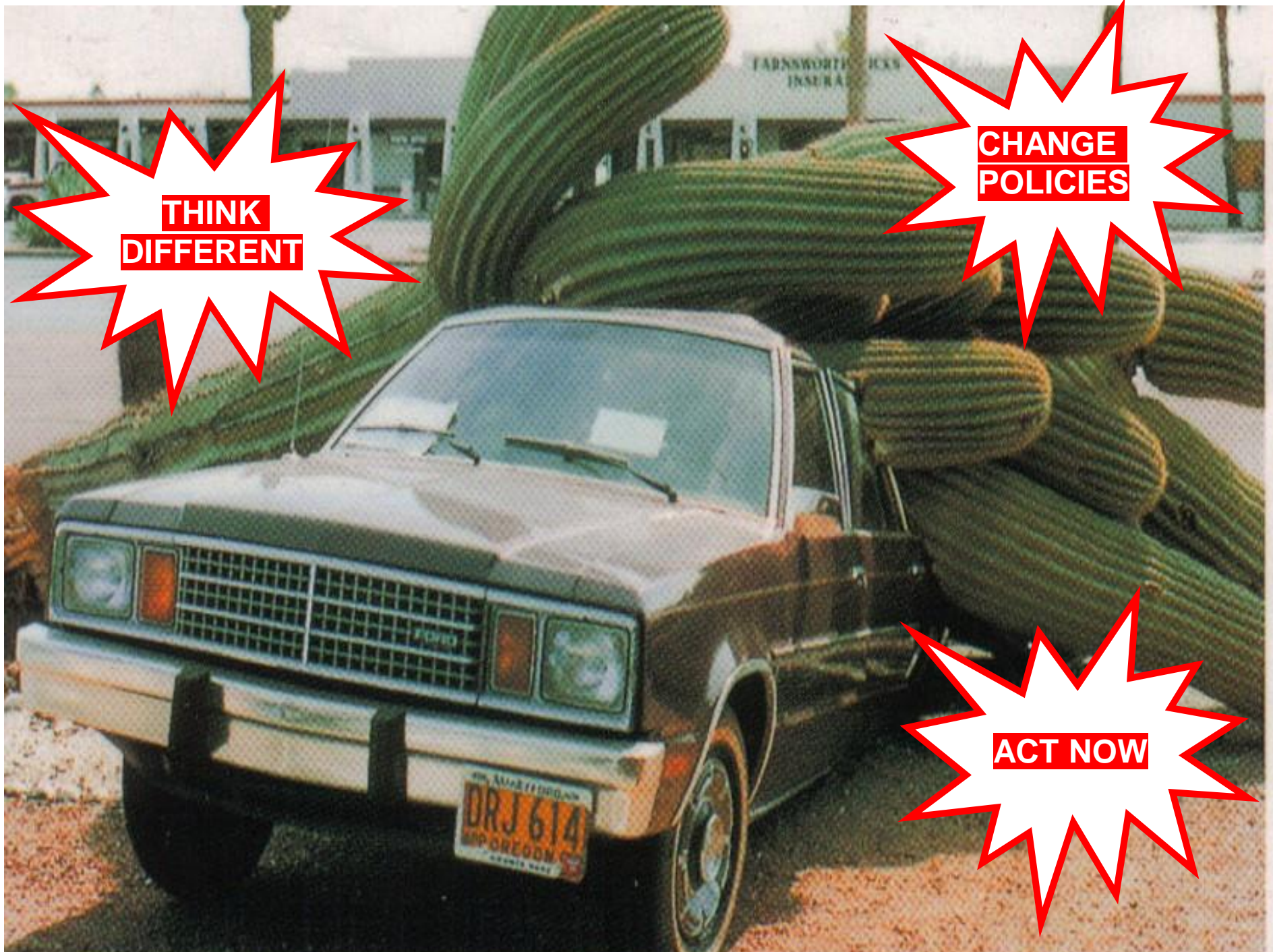


Oxford Dictionary definition of 'Emergency':

*“A serious, unexpected, and often dangerous situation requiring immediate action”*







**THINK  
DIFFERENT**

**CHANGE  
POLICIES**

**ACT NOW**

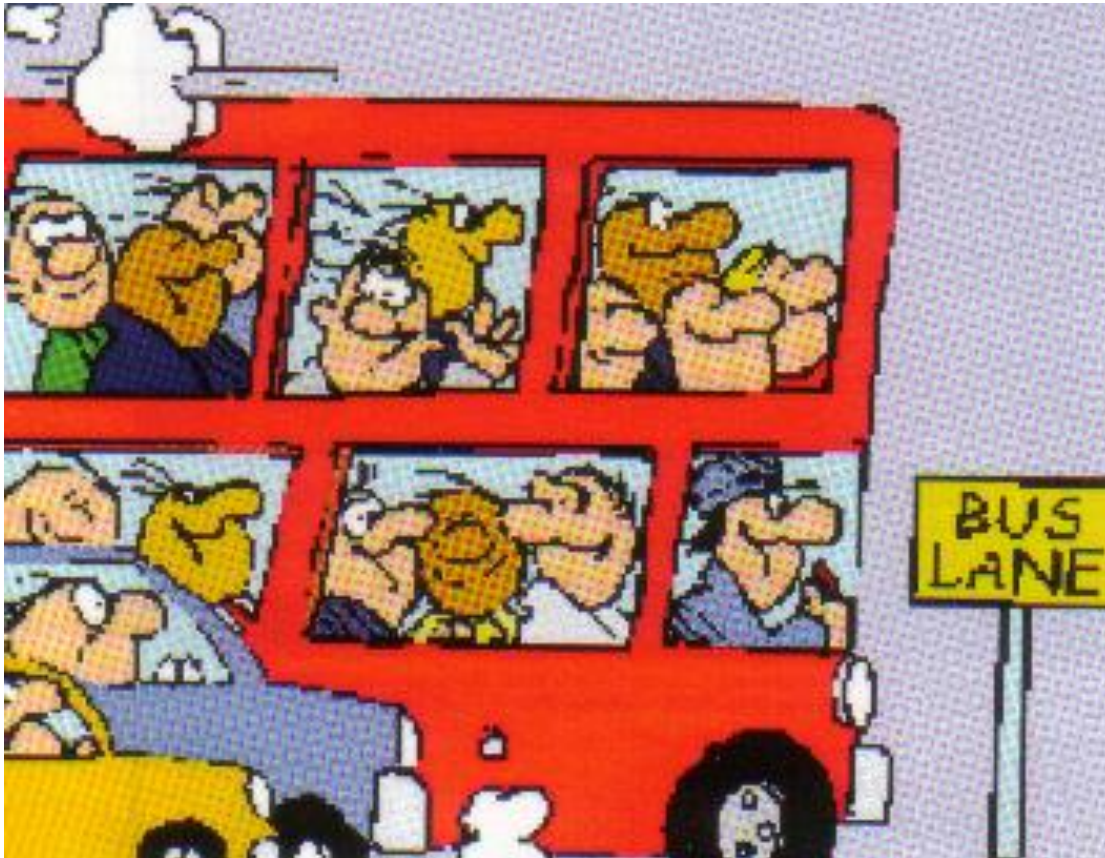
The extra carbon dioxide by the end of the century *“may be sufficient to produce measurable and perhaps marked changes in climate, .... and could be deleterious from the point of view of human beings”*

Environmental Pollution Panel of the USA  
President's Science Advisory Committee

The year? 1965!!



# Two Good Prompts



## National Bus Strategy

- 16 March 2021
- First ever!

## Transport Decarbonisation Plan

- Final version soon

# National Bus Strategy



- £3 billion over 5 years
- 4,000 new, zero emission buses
- Bus priority measures, demand responsive services, cheaper, capped fares, more evening and Sunday buses
- County-wide Enhanced P'ships with operators by **July 2021**
- Local Bus Service Improvement Plan published by **November 2021**
- Enhanced P'ships implemented by **April 2022**



# National Bus Strategy

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## **BUT, NO MENTION OF**

- **Car restraint, e.g. congestion charge, workplace parking levy**
- **Effective enforcement**
- **Cost of parking**
- **Complementary land use planning measures**
- **Ending freeze on fuel duty for motorists**



# Transport Decarbonisation Plan



- Minister's foreword –  
*“Climate change is the most pressing environmental challenge of our time”.*
- *“Public transport and active travel will be the natural first choice for our daily activities. We will use our cars less and be able to rely on a convenient, cost-effective and coherent public transport network”.*
- Transport contributes 28% of all UK domestic greenhouse gas emissions.
- Only 3% lower than in 1990.

# Why bus priority?

- Trains have their own right of way
- Buses **HAVE** to share roads with other 'things', **AND** roads are owned by local authorities
- Inconsistences – huge variations in bus use, some authorities assist bus operation much more than others





# Partnerships

**Different types of local authority but ALL can assist bus operation:**

- **County councils – highway & traffic engineers, transport planners**
- **District councils – town planners, environmental health officers**
- **Town/Parish council – seating, shelters, signage**



# Types of bus priority

- **Lanes**
- **Gates**
- **Exempt turns**
- **Actuated traffic signals**
- **Guided busway**
- **Advance area**
- **Attractive bus stops**

**The keys are –**

**Whole Route/Corridor  
Treatments, with**

**Local planning authorities**

**Local transport  
authorities**

**Public transport operators**

**all working together**



# Bus stops – the operator's shop window



# Bus Lanes/Gates

## Brighton & Hove Bus Partnership

- 16% increase in bus journey times
- Bus use up 8% 2011 – 2017
- Passengers on main bus lane route up 63%

## West of England Partnership

- 54% increase in bus use in Bristol 2012/13 – 2018/19

## West Midlands Bus Alliance

- Up to 8 minutes saved on peak hour bus journeys

## Belfast Glider

- 25% reduction in journey times
- Bus use up 30% 2018 - 2020

## Dublin

- Bus use up 176% 1997 – 2007, & 43% reduction in car use
- Peak hour bus speeds 30% faster than car speeds

- **With and contra flow**
- **Maybe include taxis and bikes**
- **Will they be enforced?**





# Priority signals

- **Approaching bus actuates signal to change to green or stay on green**
- **Some technology can sense when a bus is late to give it extra priority**

## Examples

- London
- Swansea
- Liverpool City Region Bus Alliance
- West Midlands Bus Alliance
- West of England Bus Partnership



# Guided busway



Bus-only route along purpose-built track. Bus driver just controls speed

## Examples

- Leigh, Salford, Manchester
- Cambridge – longest in world
- Luton
- Bristol
- Kent's Fastrack

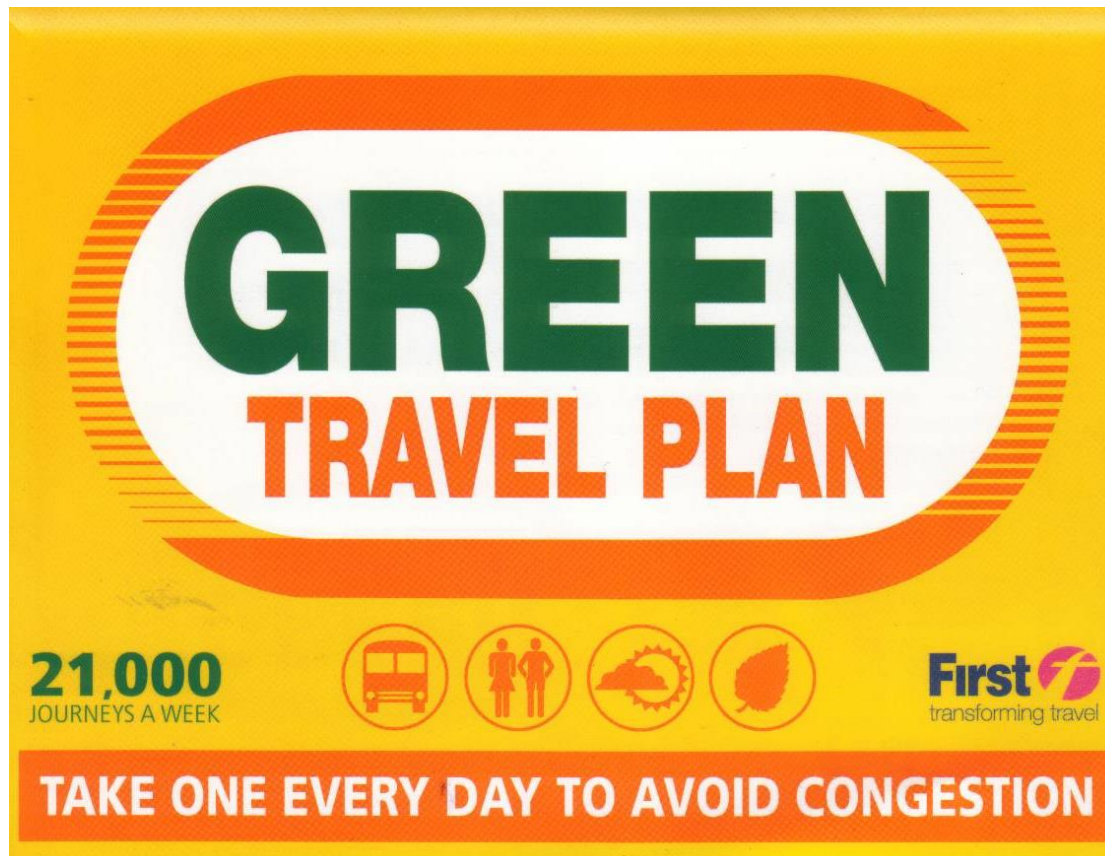
# Advance area



- Enabling buses to get to the head of a traffic queue at a signal junction, then depart first
- Often located at end of a bus lane
- This example, Gravesend, Kent



# Travel Plans



Planning authorities  
can secure when  
granting planning  
permission

Employers to  
minimise car use and  
encourage  
sustainable travel

Addenbrookes  
Hospital, Cambridge

Staff arriving by bus,  
1993 4%, 2013 27%

Bristol University  
Students by bus,  
2008 4%, 2015 16%



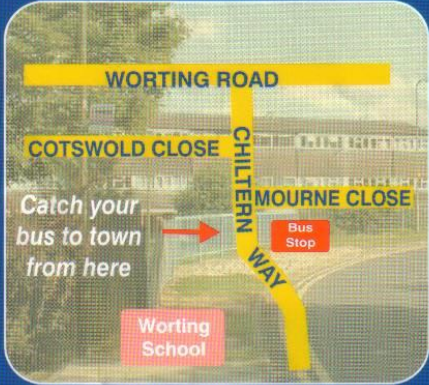
# Travel Plans

**Your 3 step guide to buses in Buckskin**

## Line 5

**1** From your house it is only a short walk to your bus stop to get into town.

**Your nearest stop is**  
Chiltern Way opp Worting School




**2** Buses leave the **Chiltern Way** bus stop at :

| Mondays to Fridays   | Saturdays  | Sundays   |
|--|--|---|
| 0630 0650 0735 0800<br>then <b>every 30 minutes</b> at                             | 0735 0800 0830<br>then <b>every 30 minutes</b> at                          | 0925 1129 1251<br>then <b>every 60 minutes</b> at |
| <b>30 &amp; 00</b>   | <b>00 &amp; 30</b>   | <b>51</b>   |
| minutes past each hour until<br>1730 1755 1825 1855<br>1924 2003 2051 2151<br>2251 | minutes past each hour until<br>1730 1755 1825 1921<br>1951 2051 2151 2251 | minutes past each hour until<br>2251              |

On evenings & Sundays Buckskin is served by Line 8.

**3** Fares to town are easy too

| single       | dayrider     | off-peak dayrider                                | megarider    |
|--------------|--------------|--|--------------|
| <b>£1.25</b> | <b>£2.50</b> | <b>£2</b><br><small>available after 10am</small> | <b>£8.50</b> |

 **Stagecoach**

For further info call 0845 121 0180  
[www.stagecoachbus.com](http://www.stagecoachbus.com)





# Travel Plans





# METROBUS

A Go-Ahead Company



£4

## Travel Choice Initiative

Book No:

0250

50p

10

Travel Choice  
Initiative

50p

9

Travel Choice  
Initiative

50p

8

Travel Choice  
Initiative

50p

7

Travel Choice  
Initiative

50p

6

Travel Choice  
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5

Travel Choice  
Initiative

50p

4

Travel Choice  
Initiative

50p

3

Travel Choice  
Initiative

50p

2

Travel Choice  
Initiative

50p

1

Travel Choice  
Initiative







METROBUS

## Buses From Hospital West Entrance

Powered by  
**VIX**



Current Time

07:23

### Bus Stop H1

|     |                    |        |
|-----|--------------------|--------|
| 100 | Redhill & Park 25  | Due    |
| 435 | Redhill & Merstham | Due    |
| 460 | Redhill & Epsom    | Due    |
| 100 | Redhill & Park 25  | 15 min |

### Bus Stop H2

|     |                     |        |
|-----|---------------------|--------|
| 430 | Woodhatch & Reigate | 4 min  |
| 100 | Crawley & M'bower   | 6 min  |
| 100 | Crawley & M'bower   | 25 min |
| 460 | Crawley             | 07:53  |

SAMSUNG

# Key points



Whole  
route/corridor  
treatment

Bus operators  
need assistance

So Partnerships/  
Alliances  
between  
operators and  
all levels of local  
authority



# The Way Forward

- ✓ **Eliminate congestion AND slow bus speed**
- ✓ **Do bus network audits to identify bus priority measures**
- ✓ **Then combine with environmental and regeneration improvements**



- ✓ **New development in right place, right density and bus-friendly**
- ✓ **Involve bus operators at earliest stage of new development**

# The Way Forward

- ✓ **Secure Travel Plans**
- ✓ **Bus/train connections and through ticketing**



- ✓ **Eliminate illegal levels of air pollution**
- ✓ **Decarbonise transport**
- ✓ **Share good practice**
- ✓ **Review car parking policies and charges**
- ✓ **Involve lower tier local authorities for bus stop facilities**



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# Questions and Discussion



Thank you!

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