



# **Perceptions of transmission and mitigation of SARS-CoV-2: public transport (Phase 2) Theme 3 WP1 Deep dives**

**Views of experts, organisational leaders, workers and passengers between  
December 2021 – February 2022**

Prepared for  
**The PROTECT COVID-19 National Core Study on  
transmission and environment**

**Public Transport Phase 2: Short report**

**PROTECT-02 (2022)  
National Core Study Report**

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**The PROTECT COVID-19 National Core Study on transmission and environment is a UK-wide research programme improving our understanding of how SARS-CoV-2 (the virus that causes COVID-19) is transmitted from person to person, and how this varies in different settings and environments. This improved understanding is enabling more effective measures to reduce transmission – saving lives and getting society back towards ‘normal’.**

Public transport is one of a number of occupational and industrial sectors being specifically examined as part of Theme 3 of the PROTECT study. This report describes qualitative research carried out between December 2021 and February 2022 on perceptions of the risk of transmission of SARS-CoV-2 and of the effectiveness of controls implemented on public transport in the UK. This is a follow-up to previous research (January – May 2021) to see if the perceptions detailed in the first report (Coleman et al., 2022) have changed following changes made to restrictions in the intervening time period, and increases in passenger numbers in the UK.

This report is based on thematic analysis of interviews with sector experts (public transport researchers, policymakers, industry and regulators), organisational leaders, workers and passengers. The authors make a number of scientific recommendations on the basis of their findings that may help inform future pandemic preparedness and recovery in the sector.

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The team would like to thank all our participants for generously giving up their time to speak to us candidly as part of the stakeholder engagement and / or participation in interviews.

# **Perceptions of transmission and mitigation of SARS-CoV-2: public transport**

**Theme 3 WP1 Deep dives**

**Public Transport Phase 2: Short report**

**Views of experts, organisational leaders, workers and passengers between**

**December 2021 – February 2022**

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## Introduction

The PROTECT ('Partnership for Research in Occupational, Transport and Environmental COVID Transmission') National Core Study (<https://sites.manchester.ac.uk/covid19-national-project/>) conducted a series of 'deep dives' into specific [industrial] sectors to gain understanding of the issues that promote or reduce transmission of 'SARS-CoV-2' (the virus that causes COVID-19) in selected occupational settings (Theme 3, work package 1).

This report presents a summary of the findings of Phase 2 of the 'deep dive' looking at **ground public transport** (rail, bus, tram and taxi) in the UK, conducted between December 2021 and February 2022. This was a follow up to the Phase 1 qualitative research carried out between January and May 2021 (Coleman et al., 2022, Gartland et al., 2022). The research provides a longitudinal picture of public transport through the course of the pandemic, and presents a qualitative assessment of the perceptions of a number of those working with, in and utilising the public transport sector.

## Methods

The Phase 2 study was designed to provide updated data on the views recorded in Phase 1, to deepen our understanding of how the perception of SARS-CoV-2 transmission risk and the effectiveness of mitigation measures introduced in the public transport sector in the UK have developed through the pandemic with changing circumstances/regulations. Semi-structured interviews were carried out with a sub-set comprising 17 of the original 47 Phase 1 participants between December 2021 and February 2022: experts (E; research, policy, industry, regulators; N=5) organisational representatives (OL; N=5), workers (W; N=2) and passengers (P; N=5). Ethics approval was granted from the University of Manchester Proportionate Review Committee (Ref: 2021-10535-17496).

The semi-structured interviews were carried out by two skilled qualitative researchers using videoconferencing platforms (Zoom / TEAMS), each lasting an average of 60 minutes. Interviews were professionally transcribed and analysed thematically to describe perceptions of risk and risk mitigation effectiveness, experience of changes to regulations within the public transport sector in relation to transmission of SARS-CoV-2, and considerations about how the sector will move forward in the future. Specifically we asked about:

- thoughts on the winter 2021/22 situation regarding COVID-19, including risk perceptions;
- changes since we last spoke to the respondents (between 7-12 months ago) focussing primarily on July 2021 onwards (when most regulations were reduced in England);
- perceptions since rules changed again in December 2021 (i.e. linked to Omicron variant, Plan B);
- the evolution of understanding, and the strategies undertaken to reduce the spread of COVID-19;
- thoughts around how COVID-19 will/can be managed going forward, as well as general issues for the recovery of the sector.

## Context

Public transport usage has increased following each of the 'lock down' periods in the UK, but has yet to return to pre-pandemic levels, across the various modes. Table 1 shows passenger usage compared to pre-pandemic usage ranging between 6% and 70% for national rail services and bus use, excluding London (Department for Transport, 2022).

**Table 1: Selected usage of Rail and bus services (2020-22) in UK to illustrate changes over the year resulting from COVID-19 lockdowns** (Department for Transport, 2022).

Date (Mondays)	National rail	Bus (excluding London)
9 <sup>th</sup> March 2020 (pre-pandemic)	100%	101%*
20 <sup>th</sup> April 2020	6%	12%
11 <sup>th</sup> October 2021	69%	80%
7 <sup>th</sup> February 2022	58%	77%

\*Figures are percentages of an equivalent day or week (DfT 2022)

Table 2 shows key dates during the time period discussed with respondents for Phase 2 of this research. Data collection was conducted between December 2021 and February 2022, but respondents were asked to reflect on experiences since July 2021.

**Table 2: Key dates** (July 2021 – February 2022\*)

Date	Change to rules / regulations	Link
19 <sup>th</sup> July 2021	Relaxation of COVID rules	<a href="https://www.gov.uk/government/coronavirus/covid-19/covid-19-response-summer-2021">COVID-19 Response: Summer 2021 - GOV.UK (www.gov.uk)</a>
8 <sup>th</sup> December 2021	Introduction of Plan B rules regarding Omicron in England	<a href="https://www.gov.uk/government/news/prime-minister-confirms-move-to-plan-b-in-england">Prime Minister confirms move to Plan B in England - GOV.UK (www.gov.uk)</a>
19 <sup>th</sup> January 2022	Relaxation of Plan B rules / return to Plan A	<a href="https://www.gov.uk/government/news/england-returns-to-plan-a-as-regulations-on-face-coverings-and-covid-passes-change-today">England returns to Plan A as regulations on face coverings and COVID Passes change today - GOV.UK (www.gov.uk)</a>
24 <sup>th</sup> February 2022**	Relaxation of Plan A rules to Living with COVID rules	<a href="https://www.gov.uk/government/news/prime-minister-sets-out-plan-for-living-with-covid">Prime Minister sets out plan for living with COVID - GOV.UK (www.gov.uk)</a>

\*Time period under discussion with respondents (Phase 2), \*\*While regulations have changed again since this research was completed, it should be noted that organisations should continue to reduce the risk of COVID-19 transmission in line with [their risk assessments](#). The following workplace controls remain: [adequate ventilation](#); sufficient cleaning; and [good hand hygiene](#) (Cabinet Office 2022).

## Results

This section details key findings under the topic headings discussed with all respondents: context; current perceptions of transmission risks; continued management of COVID-19 mitigations; and short and long-term challenges for the future based on responses from all participants.

### Context

- ◇ Rapidly changing rules and regulations regarding COVID-19 generally and specifically for public transport since July 2021, including different rules and regulations for the devolved countries in the UK (England, Wales, Scotland and NI).
- ◇ Fluctuating passenger numbers using public transport, but still low compared to pre-pandemic passenger levels.
- ◇ For both experts and occupational leaders, significantly less time was now being occupied on issues related to COVID-19.

- ◇ Government management of risk is transitioning into self-management of risk, where people take decisions about their own behaviours and activities in relation to their personal perception of risk.
- ◇ Recent staff shortages due to drivers leaving the public transport sector, and to increased rates of Covid-19 related isolation and infection.
- ◇ Financial viability of public transport companies continues to be a substantial concern within the industry, of pressing importance to many participants.

*“I think people were making their own decision and they’ve got used to that. Unfortunately, I think their decision is based on their perception of the risk to themselves, rather than anything wider than that.” (OL4)*

*“Shortage of staff, to maintain a functioning service. And cash to do it. Because the subsidy runs out at the end of March, we don’t have enough passengers to carry on running anything like the service we’ve currently got. And if we don’t know that we’re going to get some subsidy, or passenger numbers are going to recover, then why would we aim to recruit more staff that will cost us more money?” (OL15)*

### Current Perceptions of Transmission Risks

- ◇ SARS-CoV-2 transmission risk on public transport was still perceived by all stakeholders to be generally low, and there appeared to be little change in this perception in response to the discovery of the Omicron variant. This was broadly attributed by respondents to the perceived effect of the vaccines, but was also related to perceptions of reduced ‘disease risk’ as the Omicron variant was reported to cause less severe disease than previous variants.
- ◇ Workers and passengers generally reported feeling safe/comfortable in public transport settings, but frequently linked this to the observation of mitigation measures.
- ◇ Most respondents agreed the main route of viral spread was airborne, and often discussed the contribution of coughs and sneezes to transmission.
- ◇ By Phase 2, there was a divide between people who felt the need to exert personal control and autonomy over transmission risk (and carry out personal protective behaviours such as the wearing of face coverings, hand sanitising, cleaning), and those that felt comfortable with the transmission risk reduction of more ‘invisible’ protections in the form of vaccines and ventilation.
- ◇ There was a general shift in attitude towards the virus, with discussions of it becoming endemic and more like the flu.

*“Airborne, so I am guessing, I would say, I don’t think it’s the cleanliness issue, I think it’s more about people not wearing masks, breathing, coughing and going on trains potentially with it, have they tested, you don’t know, and it’s that, it’s making sure that you’re looking out for other people by wearing your mask.” (P12)*

*“I honestly think now people are...they just want to get on with life. Yeah, their attitude now is that there’s more of an understanding with COVID now, the way that we explained it to a lot of people, it is like the flu, it will mutate and it will mutate every year until they can find a cure.” (W6)*

## Continued Management of COVID-19 Mitigations

- ◇ Organisational leaders reported being able to react much more quickly to changes in regulations now, and described having a 'toolbox' from which they could easily implement and remove mitigations as required.
- ◇ Most of the organisational leaders stated that they went to information sources they implicitly trusted and were generally backed by science, public health or research professionals.
- ◇ Some organisations had chosen to maintain mitigations (e.g. enhanced cleaning regimes, encouraging workers and passengers to social distance and wear face coverings) after the removal of Governmental regulations, with evidence of a mixture of approaches, but there was a general move away from restrictions on social distancing.
- ◇ There was some reticence to return to additional mitigations within the workforce but compliance by the public was reported to be high (during the Plan B phase).
- ◇ Perceptions of safety depended on human behaviour, with continued issues with enforcement/responsibility for compliance with mitigations.
- ◇ Behaviour and discipline fatigue were considered as reasons why compliance with mitigation measures occasionally slipped for both workers and passengers. Alongside the added influence of risk habituation, and the increasing numbers of people who are vaccinated / boosted and / or who have had and recovered from COVID-19.
- ◇ Communication of messages was key, with some suggesting that to increase footfall, clearer messages around safety on public transport would be required.
- ◇ Engagement with staff in relation to COVID-19 decision-making has been mixed. Respondents highlighted issues that occurred when decisions had to be made without the backdrop of government regulations (e.g. some staff unhappy with removal of mitigations).
- ◇ Workers and passengers talked about managing their own risk. For passengers, this included choosing not to make certain journeys if mitigations were removed.

*"We have not changed, we still kept social distancing within the depot. We still insisted, encouraged would be a better word, people to continue to wear masks when in the depots. Some drivers were always wearing masks whilst driving, others weren't. [...] We still go around doing wipe downs on surfaces, handles. So we've continued with that all the way through. I think the only thing that we've lapsed on, if anything, is the one-way system." (W6)*

*"I do worry that it is potentially damaging in the long term... I think continuing to damage public transport or actually damage it in a way that means that customers or new users may associate it with somewhere that's unsafe. That's the link, isn't it?" (EX1)*

## Short and Long-Term Challenges for the Future

- ◇ Many respondents were still concerned about potential new variants and future pandemics.
- ◇ Staffing in the sector was becoming a big concern; many workers have left the sector with reported reasons for this relating to both BREXIT and the pandemic. This was exacerbated at the time of interviews with COVID-19 waves ('pingdemic' (isolation), omicron (illness)).
- ◇ Concern around predicting future travel patterns and when public transport services would be required (commuting, leisure, off peak).

- ◇ Government funded transport providers heavily during the pandemic. These subsidies were due to end and many felt forced to consider scaling down services, delaying recruitment of new staff etc.
- ◇ Organisational leaders explained there was a lot to catch up on and improve after COVID-19. This included policies to help workers come back sensibly after sickness and enhance their wellbeing, and large scale investment projects put on hold but now necessary for building back capacity on public transport (e.g. infrastructure, new transport stock, training new workers, etc.).
- ◇ Need to ensure that lessons learned are developed into a 'Guidebook' for the future. This would enable learning that has been captured to direct tried and tested interventions to be brought in quickly when future public health crises arise.

*"The other big challenge is another variant that's more contagious or more deadly, and then we don't know what the mitigations will be in that situation." (OL15)*

*"The view is now that really we want a playbook of just things we can pull out and we want to know what the deal is without having to go through a huge fuff and a huge bit of confusion and last minute policymaking. That's what people want now." (EX3)*

## Discussion

### Main issues for the industry

**Pandemic response more routine:** Those working in the public transport sector suggested that less of their time was being consumed with responding directly to the pandemic. This was due to a combination of being better able to respond quickly to change having gained knowledge and understanding of responses required ('toolkit'); systems, partnerships and fora being operational to aid a sector response; and a perceived lower risk of disease transmission. The main uncertainty continued to be the possibility of a new variant of COVID-19.

*"The new variant, it's another new variant, we've just dealt with it like we have every other one, to be honest. I've tried to redirect the forces of what we do away from just being COVID, which is what it was at one point, to going back to regulating the health and safety operation of the railway." (EX18)*

*"I suppose the other big challenge is another variant that's more contagious or more deadly, and then we don't know what the mitigations will be in that situation." (OL15)*

**Staffing:** A number of people within the industry had left, with reasons being multifaceted, but it appeared that the risk posed by COVID-19 has played a role in this shift. Continued validation of the risks felt by those working in public transport is key, and protections must be considered to promote their health and wellbeing in the workplace.

*"Some of it is down to the government's immigration policy and the choice of EU citizens to return and we've lost people to the haulage sector, we have lost a few EU nationals. [...] I think it was interesting that there was a correlation between those who were on furlough and those who left. So it's more likely more of those who have left were on furlough at some point. And a lot of those on furlough were on furlough because they were scared, because they often had some sort of underlying health condition. So we prioritised those people for furlough in the first year of the pandemic. And then when the opportunity to work somewhere else presented itself they have done." (OL15)*



**Quality and reliability of service:** This appears to be the most important factor to passengers now, compared to the previous focus on the management of COVID risk on services. Reliable, frequent services were a big factor in returning to public transport for a greater proportion of travel needs. However, organisational leaders reported that this was not possible without increased footfall. Therefore, matching service provision and demand is likely to be difficult going forward.

*“Having a reliable public transport service would be fantastic. I mean, years of commuting, of train cancellations, delays, sub-par standards in terms of how you’re expected to stand. All of those things would improve my confidence in using public transport, because it would just make it a much better experience.” (P17)*

**Messaging:** Linked to increasing footfall, many experts, organisational leaders and passengers felt there needed to be some messaging to encourage passengers back onto public transport. Many also felt there was little evidence for any greater risk for COVID-19 spread than comparable environments and thought this important to be part of the message going forward.

*“There’s not a huge amount of studies that compare models in transport and other settings. But what there is, there’s not a great deal of evidence to say that it’s hugely more risky in any way. To be honest offices, transport are all just different shaped boxes with people in them, with different ventilation systems. How long do you spend there? How close to people are you? And how much are they getting air blown through? [...] But in a lot of cases, you don’t need to focus on one setting, you need to focus on... The risk factors.” (EX3)*

**Business funding and stability:** Many of the organisational leaders and experts were concerned about the uncertainty of revenue to fund a safe sustainable service in the near future. Several organisations within the public transport sector had been taken back into public ownership and others were very worried about the future. This suggests a need to consider a whole public transport strategy (across modes and locations) alongside economic recovery following the pandemic.

*“Our business case when we originally borrowed the money said, we would keep growing by ten percent, so we have lost a couple of years of growth. So COVID has had a compounding effect on where we need to be revenue wise financially. That is why we are in conversation with the government. [...] Really it is uncertain next year, so we are now looking at what options we might have if we were to get no funding.” (OL17)*

## Recommendations

We suggest that evidence and knowledge gained during this research should be used to guide the public transport sector in the new phase of the pandemic: Living with COVID-19; to develop clear and effective strategies to allow for the immediate recovery phase as well as a coherent and rapid response to any future public health crises. Recommendations include:

### Recovery Phase from the COVID-19 pandemic

- Consideration should be given proactively to developing messages and communications that are clear and help encourage footfall rates to increase / fall on public transport as circumstances necessitate.
- Consideration should be given to continued observable COVID-19 risk mitigations such as cleaning and face coverings, as these are important for operators, workers and passengers as a point of visible reassurance; however, communications should also appropriately promote reliance on less visible mitigations.
- As responsibility moves from Government to self-management of risk, care should be taken to ensure that vulnerable individuals are not left unable to adequately manage their own risk due to the behaviour of others.
- When planning new policies / guidelines / communications consideration should be given to overcoming discipline fatigue and risk habituation in the context of the increasing numbers of people who are vaccinated / boosted and / or who have had and recovered from COVID-19.
- Maintaining worker wellbeing initiatives established during the pandemic should be a priority as they are valuable to individuals and their employers.

### In preparation for the next public health crisis

- Encourage the development of a 'guidebook' of lessons that can be used should it be necessary for future waves of COVID-19 or for other public health emergencies.
- Ensure access to good quality knowledge and data via industry networks is maintained, alongside a focus on encouraging partnership working across the sector.
- The removal of regulations meant that for some companies it was not feasible to keep rules in place that would have made workers feel more comfortable; as far as is feasible, the industry should be consulted regarding decision-making about regulations in the future.

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