



Public Health

Compliance to social distancing on Public Transport

INTRODUCTION

Regulations restricting freedom of movement and the closing of a wide range of businesses across the UK have been implemented in order to prevent/reduce the spread of coronavirus. One of the sectors that has been significantly affected by the pandemic is public transportation. Currently, this sector is trying to adapt its business processes to continue operations and offer services to customers in the safest way possible, by complying with the health and safety measures outlined in government guidelines (De Vos, J. 2020).

PURPOSE

This briefing provides a summary of the key barriers and enablers to social distancing on public transport in Hertfordshire, along with recommendations for interventions to tackle them. The recommendations have been developed using the Behaviour Change Wheel framework and the COM-B model of behaviour change (Michie et al. 2011), synthesising insights drawn from scientific research, expert recommendations and theory.

This paper will explore the best available information and evidence in relation to social distancing on public transport, with the aim to:

- Identify the most appropriate behavioural science insights, theories, tools and techniques that can be used to support compliance to social distancing on public transport;
- Provide evidence-based behavioural science recommendations to enable public transport operators to make decisions to support social distancing. The focus will be on practical measures that can be implemented with the least amount of disruption to services.

Due to the limited body of direct behavioural science evidence on social distancing on public transport in England, the authors have researched and reviewed interventions that were implemented in other countries.

THE OUTCOME AND TARGET BEHAVIOURS

Social distancing on public transport is required to prevent the transmission of COVID-19. Effective prevention of transmission is required to protect the health of individuals and prevent the need for further episodes of lockdown. Transmission of COVID-19 can be effectively prevented if people reliably adhere to government guidance including the following behaviours:

- Maintaining social distancing at all stages of using public transport (when buying tickets, while waiting for services and during their journey);
- Wearing a face covering when using public transport, as dictated by government regulations;
- Maintaining good hand and respiratory hygiene.

EXECUTIVE SUMMARY OF RECOMMENDATIONS

People are more likely to perform social distancing behaviours if:

- They have the **knowledge and skills** required to perform the behaviour (capability influences). Specifically, they know they are required to respect social distancing on public transport, and they understand what the social distancing guidelines look like in practice. Moreover, if they can remember to respect these guidelines, even in busy or new situations.

How can this be achieved?

Use signage, posters or social media posts that remind people of the behaviours that are required.

- **The physical and social environment around them provide support for the behaviour** (opportunity influences). Specifically:
 - They believe that most people in their community would think that maintaining social distancing on public transport is the right thing to do, and
 - They see other people complying with social distancing on public transport.

How can this be achieved?

Markers in the environment can be used to show people where to stand and where to sit (examples are floor markings telling people exactly where to stand and marking off seats that are not intended for use). Reminders need to be placed at regular intervals within the environment to increase their effectiveness.

- **The behaviour is consistent with the following five motivational influences:** a person's identity, values, their beliefs about their ability to perform the behaviour and its consequences, and the emotional and habitual processes that underpin it.

How can this be achieved?

Use signs, posters and social media messaging that draw attention to the positive impact of respecting social distancing. Communicate that the behaviour will:

- Reduce their risk of being exposed to COVID-19,
- Enable people to protect themselves and the people they care about,
- Prevent negative consequences, (e.g. the need for another period of lockdown).

It is advised to use messaging in signs, posters and social media with the aim to draw people's attention to the community benefits of maintaining a 2m distance. This could potentially lead people to feel positive emotions about enacting the behaviour.

For each of the above-mentioned three influences on behaviours (capability, opportunity and motivation), we will provide recommendations for interventions that can be used to support people to comply with social distancing.

RESTRICTIONS ON PUBLIC TRANSPORT – IMPACT ON OTHER FORMS OF TRAVEL

The pandemic has impacted several subsectors of public transport, namely: urban transport (e.g. buses or underground links in the city centre), suburban transport (e.g. buses, cycling or walking to a station to get to the city centre) and long distance travel (e.g. train to to travel across the country).

Urban transport

For urban transport there is a risk that people will return to preferred individual and motorised means of transport (personal car use, scooters etc.) over active modes of travel (i.e. walking or cycling). An analysis by Fusco (2020) reported that, in the weeks after lockdown, in the main cities in Italy, public transport use decreased by 90%. In this same time, private transport saw considerable reductions too, in the range of 50-80%, a much lower rate when compared to public transport. To curb the prevalence of private transport use in the post-lockdown phases, the literature indicates a few priority areas that would be useful to target, such as:

- petrol costs¹
- increased incentives for electric cars
- increased congestion charges
- how well public transport companies have managed to adapt their offer and their practices to comply with safety guidelines (frequency, capacity, disinfection, public-facing information).

Suburban transport

For suburban transport, active travel alternatives are usually not that attractive to people because of increased distances to travel, paired with the lack of infrastructure (Fusco, 2020). To reduce the likelihood of people resorting to private car use; significant investment would need to be put in place to increase the public transport offer, its frequency and its integration with micro-mobility². In cities such as Paris and Milan, significant investment has been directed at improving existing active mobility infrastructure. New cycling and walking paths were created and incentives were put in place for those choosing more active ways of travel. In the case of Paris, the government has rolled out 650 kilometers of cycleways, including a number of pop-up “corona cycleways”, as well as low-cost temporary cycle lanes, widened pavements and pedestrian and cyclist priority streets. The city of Milan is planning to make 35 kilometres of city streets more accessible to pedestrians and cyclists as part of post-lockdown planning. The “Strade Aperte (Open Streets)” plan will reallocate street space from motorists to pedestrians and cyclists. The plan is to make these new cycleways available to the public by the end of 2020. However, a set date as for when the “Strade Aperte” project will be completed has not been provided yet.

Long distance travel

For people having to travel long distances, Fusco (2020) recommended rail transport over air transport. Trains present better environmental sustainability and more importantly, this mode of transport is better suited to be adapted to the most recent safety guidelines.

Due to social distancing requirements, buses and underground trains have seen their capacity reduced considerably. If people need to keep a distance of at least 1m (while wearing a face covering), the capacity of underground carriages would be reduced by six times and the capacity of buses would be reduced by eight times. The implications of reduced capacity include reduced passenger numbers, reduced income, mode shift as passengers walk or cycle as well as a significant number of people working from home and no longer travelling. Therefore, the demand for public transport has significantly reduced, but not enough to make the current capacity restrictions sufficient (Fusco, 2020).

According to the Office for National Statistics (ONS): “in April 2020, 46.6% of people in employment did some work at home” (ONS, 2020, p.2). This is a significant shift, but it is unclear what proportion of time people are working from home for and whether this behaviour will be sustained over time. As the country moves into recovery, and restrictions are relaxed, public transport providers will need to ensure that there are sufficient services available to mitigate against private car use. Demand management strategies such as smart working and flexible working hours should be considered. Strategies such as informing people of real time load factors and putting cameras in place to monitor capacity could be useful in shifting demand away from very busy times. Moreover, statistical analyses could be run to understand whether the demand has been successfully and equally spread along the day (De Vos, J. 2020).

²Petrol costs have dropped significantly during lockdown. As restrictions start to get eased, this could be an incentive for people to use their cars, as the price of petrol is now very enticing and much more convenient than what it was prior to lockdown.

COMPLIANCE WITH SOCIAL DISTANCING RESEARCH

Compliance with social distancing measures is key to reducing transmission of COVID-19. To understand how to improve compliance, the evidence around compliance with social distancing was reviewed. As there is limited evidence specifically related to social distancing in the context of public transport, broader research on compliance was considered and applied to this context.

A number of factors were found to increase/decrease compliance with social distancing:

- Reducing the perceived costs of performing a behaviour can boost compliance. This means helping people put things into perspective and breaking down behaviours into smaller and more achievable steps.
- Compliance to social distancing is likely to reduce over time, particularly where end dates for specific measures are uncertain (Williams et al., 2020).
- A survey of 1,200 people across 10 cities in the UK (Jackson et al., 2020) found that the “most important factor to self-reported lockdown compliance was the belief that ‘we are all in it together and we all need to come out of it together’”. Highlighting the importance of creating/communicating a shared identity, a common fate, and acting for the common/social good can support compliance. Interestingly, fear of the virus, police or law were not significant factors, neither was the legitimacy of the police or law.

In addition to the points above, a recent review of interventions to increase adherence to social distancing was conducted by a group of leading researchers from University College London (UCL) who identified 10 options for improving compliance (Michie et al., 2020). The focus of the review was not specifically on compliance with social distancing on public transport, but consideration will be given to how the insights mentioned in the review could be extrapolated and inform interventions that are specifically addressing compliance on public transport. In the review, the researchers have selected the behaviour change intervention functions that were considered most relevant for the task (education, persuasion, incentivisation, coercion, and environmental restructuring)³. There were 10 options in the review, but only 9 were identified to be applicable to the context of public transport. The 9 options, grouped by intervention functions⁴, are:

²Micro-mobility refers to the ways in which we get around in the first and last mile of trips. An example of micro-mobility could be bike share programs adjacent to transit stations. https://www.arcadis.com/CustomCampaigns/4-Future-Mobility/downloads/Whitepaper_TPScooter.pdf

³In total there are 9 intervention functions used in this framework. Besides the ones that were included in the paper by Michie et al. (2020), the remaining intervention functions are: training, enablement, modelling and restriction.

⁴Intervention functions are “broad categories of means by which an intervention can change behaviour”. The reason why these practical strategies to change behaviour have been named “intervention functions”, instead of “types” or “categories”, is that an intervention can at the same time have multiple functions.

Education (increasing knowledge or understanding)

1. Provide clear, precise, credible guidance about specific behaviours.

Where guidance for recommended behaviours is ambiguous and lacking in clarity (e.g. 'as much as is practicable') there is an increased risk of non-compliance due to confusion and variances in interpretation. The public needs to understand exactly what they need to do, when they need to do it, how they should do it, and why they should do it, so any guidance must be behaviourally specific. Avoid phrases such as 'try to' and 'gatherings' and use 'do' and 'gathering outside' instead. The researchers also highlighted the importance of communicating through channels that 'provide personalised advice and account for individual circumstances including SMS messaging and an interactive website' (2020:6).

Persuasion (using communication to induce positive or negative feelings or stimulate action)

2. Use media to increase sense of personal threat.

The more people believe that there is a risk to themselves if they do not comply with social distancing the more likely they are to be compliant with those restrictions (Dowd et al., 2020). Increasing public understanding of personal risks is therefore key, particularly where people are complacent. One way in which to achieve this is by 'using hard-hitting emotional messaging based on accurate information about risk' but in order for it to be effective it must also 'empower people by making clear the actions they can take to reduce the threat' (2020:6-7).

3. Use media to increase sense of responsibility to others.

Complying with social distancing measures protects the individuals themselves, but also others around them including family, friends, and neighbours. As such, it is important to increase the public's 'understanding of, or feelings of responsibility about, people's role in transmitting the infection to others' (2020:7).

4. Use media to promote positive messaging around actions.

Compliance with social distancing and self-isolation increases if people 'see self-protective actions in positive terms and feel confident that they will be effective' (2020:7). Any communications should therefore frame requirements positively, emphasising the way in which they protect oneself and others, and in a way that builds confidence that they will be effective.

5. Tailor messaging.

A one-size-fits-all approach to messaging assumes that all people are persuaded to act by the same thing, therefore failing to acknowledge that the motivation for one person might be to self-protect and for another a sense of duty to protect those they love. To increase compliance messaging should be tailored to take account of 'the different motivational levers and circumstances of different people, informed by the findings from surveys and focus groups' (2020:7).

Incentivisation (creating an expectation of reward)

6. Use and promote social approval for desired behaviours.

A desire to fit in with society/our community and for others to view us positively can be a powerful motivator to comply with social distancing and self-isolation measures. Clearly articulating the desired behaviours and providing examples of good practice should be supported by 'strong social encouragement and approval in communications' within the community, including 'encouraging members of the community to provide it to each other' (2020:7). Care should be taken, however, to avoid unintended consequences such as social shaming and stigma.

Coercion (creating an expectation of punishment or cost)

7. Consider enacting legislation to compel required behaviours.

This could be useful for additional preventative measures to be followed when using public transport, which could support the overarching goal of reducing infection rates. For example, from June 15th it is now compulsory to wear a face covering when using public transport. However, this could be tried with social distancing as well, enacting legislation to compel people to maintain the required distance if the number of cases starts to rise again. Legislation could be an added tool to achieve behaviour change at the population level: as an example, think about the compulsory requirement to wear a seatbelt.

8. Consider use of social disapproval for failure to comply.

'Social disapproval from one's community can play an important role in preventing anti-social behaviour or discouraging failure to enact pro-social behaviour (Lunn et al., 2020). However, this needs to be carefully managed to avoid victimisation, scapegoating, and misdirected criticism, and also to minimise erosion of social cohesion and collective efficacy, and minimise the visibility of nonadherence which may then undermine adherence. It needs to be accompanied by clear messaging and promotion of strong collective identity. Consideration should be given to the use of social disapproval but with a strong caveat around unwanted negative consequences.' (2020:8)

Environmental restructuring (changing the physical or social context)

9. Restructure the environment to influence how people move in the space to facilitate compliance to social distancing.

In Michie et al's review, the solutions based around environmental restructuring were mainly focused on the behaviour "staying at home". However, the principle of environmental restructuring is still relevant to compliance to social distancing on public transport. Public transport providers could consider restructuring waiting areas (shelters at bus stops, platforms etc.) and rearranging the flow of passengers inside the stations and on the way in and out of the buses/carriages, so that passengers can safely respect social distancing in every step of their journey. An example of this approach has been used in Italy where environmental restructuring interventions such as marked off seat and floor markings (with a footprint nudge) have been used in waiting areas and/or inside the carriages to show passengers exactly where to stand/sit. No data is currently available to determine whether this intervention alone was successful in increasing compliance to social distancing on public transport.

However, it was part of Italy's recovery strategy⁵ (Italian Ministry of Health, 2020), and data shows that overall, Italy's strategy for recovery has been effective, as positive rates have reduced considerably and this trend has been quite stable since Italy's announced their "Phase 2" of measures against the pandemic. (Italian Ministry of Health, 2020).

BEHAVIOURAL ANALYSIS

In the behavioural analysis below:

- The influences/barriers related to compliance to social distancing on public transport will be categorised according to the COM-B framework (Michie et al., 2011).
- Once all the capability, opportunity and motivational influences have been presented, then practical recommendations on how to support social distancing on public transport will be discussed.

For residents to comply with requirements to social distancing on public transport they need to have the capability, opportunity, and motivation to do so.

Capability Influences

People are more likely to perform social distancing behaviour if they have the knowledge and skills required to perform the behaviour (capability influences). Specifically:

- They know what is required of them to maintain the required social distance.
- They know the resources that are available to support them in performing the behaviour.
- They feel informed about the situation.
- They can remember to respect these guidelines even in busy or new situations.

Interventions that can be used to support people with the capability to maintain social distancing requirements include the following:

- **C1** – Make sure that any social distancing interventions are appropriate for people that have limited physical capabilities (disabilities or restricted mobility etc.).
- **C2** – Provide clear, precise guidance around the desired behaviours so that there is no ambiguity as to what is required. Inform people of what is a safe distance to maintain at each stage and how to correctly assess distance.
- **C3** – Let people know how the environment is being restructured, so that they can be aware of any changes that are being made to facilitate social distancing (e.g. floor markings etc.).
- **C4** – Use signs, posters or social media posts that remind people that they are required to comply with social distancing.
- **C5** – Use a pre-recorded message routinely played on public transport to remind people to maintain social distancing.

⁵http://www.salute.gov.it/portale/news/p3_2_1_1_1.jsp?lingua=italiano&menu=notizie&p=dalministero&id=4631

- **C6** – Use markers in the environment to show people where to stand and where to sit. For example:
 - **C6.1** – Footprint nudge; footprints are painted on the ground at bus shelters, waiting platforms and inside buses and underground carriages.
 - **C6.2** – Marking off seats that are not intended for use.
 - **C6.3** – Ensure interventions e.g. footprint nudges are placed at regular intervals within the environment.
- **C7** – Let people know how to (and to whom they can) reach out for help if they need it.
- **C8** – Ensure that residents are kept up to date with information on the severity of the situation and the anticipated end date of any measures.
- **C9** – Develop staff training specific to COVID-19, for example: how staff can protect themselves and how they can deal with the various situations they will face in the course of their work.

Opportunity Influences

People are more likely to comply with social distancing requirements if the physical and social environment around them provides support to perform the behaviour (opportunity influences). Specifically, if:

- There is enough space in the physical environment (e.g. at ticket offices, bus shelters, on platforms) for people to observe the required distance at every point of the journey (booking, waiting, travelling).
- There are reminders in the environment that act as cues for people to perform the social distancing behaviour.
- They believe that most people in their community would think that respecting social distancing on public transport is the right thing to do.
- They see more examples of other people complying with social distancing guidance than not.
- They are made aware of the degree to which other people are also complying with the social distancing requirements.

Interventions to support people with the opportunity to comply with social distancing requirements include the following:

- **O1** – For each space where you are going to encourage socially distant behaviour, conduct an environmental analysis to identify the following:
 - Is there sufficient space in the environment to allow people to respect the required distance?
 - Are there points in a journey in which it will not be possible to maintain a safe distance (ticket offices, waiting areas, on-board)?
 - Spaces where there is a high risk of people failing to maintain a safe distance even when they are able to do so (e.g. getting on and off buses/carriages, design of bus shelters may cause people to alter their path)?

This could be achieved by observing how people currently use the space to find alternative solutions. If the results of the environmental analysis reveal that a space is not suitable for people to respect social distancing, consider the following interventions:

- **01.1** – If there is no ability to physically restrict people from using the space, use signs or other cues to remind people to take other precautions to protect themselves (e.g. wearing a face covering)

For environments where encouraging social distancing may create unwanted time demands on residents (e.g. increased times for access to services):

- **01.2** – Work with local service providers to consider altering business practices to reduce bottlenecks.
- **02** – Create a sense of ‘we are in this together’ and that complying is acting for the common good and individuals have a responsibility to do so. ‘This is who we are’ messages which draw on social norms to reflect and affirm group culture and behaviour (‘this is what we are doing’).
- **03** – Use social media to promote positive messaging.
- **04** – Use and promote social approval for desired behaviours.
- **05** – Consider use of social disapproval for failure to comply with social distancing requirements. Beware that this strategy needs careful consideration and, when not applied correctly, could potentially increase stigmas and victimisation towards certain groups.
- **06** – Ensure that communications come from the most appropriate ‘messenger’ and are tailored to any differing needs identified across groups within the population. Make sure you use voices/messengers who are trusted by the community.
- **07** – Promote greetings/farewells that do not include handshakes, kisses, etc.
- **08** – Use touch-free devices whenever possible (e.g. contactless payments and touch-free thermometers to scan people before boarding).
- **09** – Promote electronic ticket checks or, where this is not possible, wearing single-use gloves for ticket controlling.

Motivational Influences

People are more likely to perform social distancing behaviour if:

- The behaviour is consistent with a person's identity, values, their beliefs about their ability to perform the behaviour and its consequences, and the emotional and habitual processes that underpin it (motivational influences). Specifically, if:
 - They believe that they are personally at risk of contracting the virus and the impact of being infected will be serious for themselves or other people.
 - They believe that respecting social distancing will:
 - o Reduce their risk of being exposed to COVID-19,
 - o Protect themselves and the people they care about,
 - o Prevent other negative consequences, such as the need for another period of lockdown.
 - They believe that it is possible for them to safely distance in that situation.
 - The overall emotional state when performing the behaviour is positive, (i.e. the emotion generated by knowing that social distancing protects yourself and others), and these perceived positives outweigh the negatives (e.g. the irritation at things taking longer because of the need to comply).
 - There are frequent prompts to remind them to safely keep their distance.
 - People known to them, with whom they share a common identity, are also choosing to comply with the requirements.
 - They are encouraged to develop new routines and habits about how to behave in the environment that will become the 'new normal' in how they use that space.

Interventions that can be used to support people with the motivation to observe social distancing on public transport include the following:

- **M1** – Communicate the benefits of social distancing for the individual, and for the community.
- **M2** – Provide case studies and testimonials of people who are complying with requirements in the local area.
- **M3** – Ensure that high-profile people in the community (e. g. community leaders) are seen to be complying with the requirements.
- **M4** – Use social media to increase awareness of risks associated with failed compliance.
- **M5** – Help residents to activate reflective decision-making by getting them to anticipate possible barriers and enablers to social distancing, and to plan how they might address these.

COMMUNICATION MEASURES TO REASSURE THE PUBLIC

Several studies on risk and crisis communication have shown how sharing information about how people are responding to the crisis can reduce anxiety among the public (International Union of Railways, 2020). Communicate to your customers the exact steps that you are taking to mitigate the crisis. Specifically:

- Reassure users of the various measures taken to reduce the risk of infection.
- Provide information on practical steps people can take to protect themselves during their trip.
- Tell people exactly what they need to do if symptoms appear during their trip.
- Tell people who they can contact for professional medical assistance.

In terms of how to deliver these messages to customers, visual communication should be used. Infographics and videos are easier to understand compared to written text. Also, these means of communication can help avoid language and other functional needs barriers. Messages should be adapted for people with special needs.

It is also recommended to use simple and concise language, while staying away from technical terms to ensure the message is easily understood to increase the likelihood of people complying with the required behaviours (International Union of Railways, 2020).

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