Interventions to Increase Use of Shared Transit Post-COVID-19

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Introduction

The COVID-19 pandemic has rapidly shifted consumer attitudes and beliefs in many domains and will likely have sustained impact on consumer behavior going forward. One such domain is that of transportation – how consumers feel and think about different modes of transit. A major challenge following COVID-19, particularly in regions for which the infrastructure cannot rely solely on single-occupancy cars, will be (a) making certain changes to ensure mass-transit options are safe, and (b) communicating the changes in a manner that persuades consumers that these options are safe. This white paper focuses on the latter point, and consists of two parts:

First, we show that, compared to pre-COVID-19, people are less inclined to travel via public transit and shared ride options and are more likely to drive alone and bike. Second, we show that intuitive communication about the changes can help make people more comfortable with shared transit options.

Overall, our results show that the decision to use different transportation options in the post-COVID-19 era will be complex. This research helps shed light on the key beliefs behind these decisions as well as the targeted interventions that may help people overcome their transit-related fears.

Part 1: Changing Perceptions of the Safety of Shared Transit

We first investigated the extent to which people’s beliefs towards using different transit options have shifted. To this end, we recruited 251 participants from Amazon’s Mechanical Turk platform (168 female, mean age = 35.36). We then presented participants with several transportation options (see below).
Figure 1. Likelihood of using each transportation method compared to pre-COVID-19.

Compared to pre-COVID-19, how likely are you to use the following transportation options once stay-at-home orders are lifted?

Results (summarized in Figure 1)

Participants were significantly (all $p < .001$ when compared to 0) more likely to drive alone ($M = 1.03$) and bike ($M = .35$), and less likely to use the bus ($M = -.61$), subway ($M = -.58$), carpools ($M = -.38$), shared bike/scooter ($M = -.35$), and Uber/Lyft ($M = -.34$). This suggests that car driving will increase at the expense of other transit options but offers a silver lining suggesting that people may be more open to biking post COVID-19.

To supplement our analysis, we also asked respondents to describe how COVID-19 has impacted their feelings about the various transportation options. Describing their feelings about driving alone, respondents suggested that driving alone is a necessity, rather than a choice.
One respondent explained, “I feel this is the only mode of transportation I can completely trust and be comfortable using right now.” Another simply stated, “this is what I must do now.”

When describing their feelings toward biking, responses suggested that while bikes may be a relatively safe option, safety measures were still necessary. As one respondent described, “this is pretty safe as long as I wear a mask as I bike to protect myself and others as I am passing by.” Another respondent expressed concern about biking in crowded areas, explaining “I like riding a bike, but I don't feel comfortable being in public right now. People aren't taking this seriously where I live, and everyone is still out and about.”
Our analysis also revealed people have specific concerns about each transportation option. For example, when describing their feelings about the bus, several respondents cite the potential of the virus living on surfaces as a primary concern. As one respondent explained, “I have stopped using it [the bus] completely, as the virus could be left on the bus seat & surface for many hours.”

Image 3: Select survey responses on specific beliefs about taking the bus

“I have stopped using it completely, as the virus could be left on the bus seat & surface for many hours”

“I would be reluctant to travel by bus now. There would be too much exposure to people and the surfaces they touched”

“Bus is very unsafe to take. Too many objects on there that other people [have] touched”

When discussing carpooling, respondents appear more concerned with the others in the vehicle, suggesting that trusting other passengers may lead to trust in the option altogether. One respondent stated, “If I trust the people, I’m fine with it.”

Image 4: Select survey responses describing beliefs about carpooling

“If I trust the people, I’m fine with it”

“I will only do this if I know the people I’m riding with, especially now”

Following the above likelihood questions, we gave participants lists of possible interventions (e.g., “drivers wear masks”), and asked them whether they believed such interventions would influence their likelihood of using that transportation method (1 = “No Difference”, 5 = “Much More Likely”). Results indicated across both rideshare and bus transit options, that consumers
are generally more concerned about other passengers than the driver \( p < .001 \), see Figure 2). Interventions targeting the driver (e.g. requiring the drivers to wear masks, providing hand sanitizer) were significantly less effective than interventions that targeted other riders (e.g., riders required to wear masks, installing plastic dividers between seats).

**Figure 2. Likelihood of using the bus given the implementation of different interventions.**

For each of the following, please indicate the extent to which these steps would make you more likely to ride the bus once COVID-19 stay-at-home orders are lifted:

![Bar chart showing impact on use likelihood for different interventions](image)

**Part 2: Interventions to Increase Transit Use**

In our second study, we presented participants \( N = 1508 \) Mechanical Turk workers, 592 female, mean age = 38.7), with images corresponding to a single intervention and asked them how likely they were to use that transit method. This allows us to quantify which interventions have the biggest impact. We tested several interventions to increase the likelihood of riding various options and further tested communication strategies that transit-providers can use to increase feelings of safety and likelihood of riding.

**Bus ridership:** Our first tests investigated whether communication about hygiene would assuage fears about riding the bus. Participants saw either a control image (“Enjoy your ride!”) or an image communicating a hygiene feature (“Please wipe down seats,” “Please sit 6ft apart..."
from fellow riders,” “Please wear a mask while riding,” and “Please sanitize hands before sitting down”, see Figure 3) and asked participants how likely they would be to ride that bus.

**Figure 3. Percentages of participants saying they were “likely” or “very likely” to ride this bus.**

<table>
<thead>
<tr>
<th>Enjoy your ride!</th>
<th>Please wipe down seats and surfaces</th>
<th>Please sit 6ft. apart from fellow riders.</th>
<th>Please wear a mask while riding</th>
<th>Please sanitize hands before sitting down</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Bus Icon" /></td>
<td><img src="image" alt="Tissue" /></td>
<td><img src="image" alt="Social Distance" /></td>
<td><img src="image" alt="Mask" /></td>
<td><img src="image" alt="Hand Sanitizer" /></td>
</tr>
<tr>
<td>15%</td>
<td>29%</td>
<td>31%</td>
<td>34%</td>
<td>46%</td>
</tr>
</tbody>
</table>

In the control condition, few people indicated being likely to ride the bus, with only 15% indicating that they were “somewhat likely” or “very likely” to ride the bus. This amount more than doubled in our intervention conditions (see Figure 3), a significant increase relative to control.

Next, we investigated how messaging around bus cleaning schedules would impact likelihood to ride the bus once stay-at-home orders were lifted. Participants were asked to imagine that they were considering using the bus and presented with various signage that would be seen upon boarding (see Figure 4).

**Figure 4. Percentages of participants saying they were “likely” or “very likely” to ride this bus.**
Results suggest that people are marginally more likely to ride when using the word “cleaned” (48%) compared to “sanitized” or “disinfected” (40%). Results may suggest that people have negative associations with words like “sanitized” and “disinfected”, while language around “cleaned” is interpreted more positively.

Bikeshare: We also investigated how highlighting sanitizing bikes after use and providing sanitizing wipes might impact likelihood to use a bike share once COVID-19 stay at home orders are lifted. We asked participants to imagine that once the COVID stay-at-home order lift, their employer is encouraging people to use a bikeshare program to commute to work instead of driving themselves or taking public transit. We then showed participants a hypothetical bike share station (see Figure 5). Results indicate that 51% of respondents were somewhat or very likely to use the bikeshare when shown the signage compared to 40% when shown the bikeshare with no signage.

Figure 5. Percentages of participants saying they were “likely” or “very likely” to use the bikeshare
Finally, we were interested in whether including “taglines” that highlight a focus on rider safety helped people feel more comfortable riding employer-provided shuttles. To test this, we asked participants to imagine that their employer provided a free shuttle to work, and that they were considering whether to take this shuttle post COVID-19 stay-at-home orders being lifted. We then provided participants with an image of the shuttle website (see Figure 6), and asked participants how likely they would be to take the shuttle to work (1 = Very unlikely, 5 = Very likely).

Figure 6. Percentages of participants saying they were “somewhat likely” or “very likely” to ride the shuttle.

For the control message, relatively few people said they were likely to ride the shuttle (27%). Including the tagline + image significantly increased participants’ likelihood to ride the shuttle.
Notably, however, there were no significant differences in the individual messages used, suggesting that simply having a message is important.

Table 1. Banner Messages Summary Results

<table>
<thead>
<tr>
<th>Banner Message</th>
<th>% saying they were “somewhat likely” or “very likely” to ride the shuttle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>26%</td>
</tr>
<tr>
<td>“The safety of our community is our first priority”</td>
<td>53%</td>
</tr>
<tr>
<td>“The protection of our community is our first priority”</td>
<td>49%</td>
</tr>
<tr>
<td>“We are all in this together”</td>
<td>51%</td>
</tr>
<tr>
<td>“Safety above all else”</td>
<td>46%</td>
</tr>
<tr>
<td>“Let’s get back to our lives safely”</td>
<td>51%</td>
</tr>
<tr>
<td>“United we persevere”</td>
<td>48%</td>
</tr>
<tr>
<td>“From your home to our office, enabling a safer ride for all”</td>
<td>53%</td>
</tr>
</tbody>
</table>

Conclusions and key takeaways

Across two sets of tests, we find evidence that individuals' transportation behavior will change following the relaxation of stay-at-home orders, such that **people will be driving themselves more and taking shared transit options less**. People may, however, be **more open to biking at this time**, and it appears there are interventions that can make people more likely to use shared transportation. With these results in mind, it is important to also consider strategies for effectively framing safety measures that promote the use of shared transportation. In what follows, we first review current academic literature on messaging surrounding COVID, then review COVID communication strategies.

Behavioral scientists have worked quickly to identify COVID messages that shift individuals’ behavior. While this research is obviously still nascent, a few key themes have emerged. First, consistent with many years of research, messages are received better when they come from a trustworthy source\(^1\). Further, messages that emphasized pro-social (e.g.,

\(^1\) Abu-Akel, Spitz, & West, [https://psyarxiv.com/bmzve](https://psyarxiv.com/bmzve)
“stop the spread”) motives were more effective at shifting behavior than those that emphasized selfish (“don’t catch the disease”) motives. Finally, messages that emphasize one’s responsibility to others, or the possible consequences, can be particularly effective. Our review of COVID related communications strategies suggests that three guiding principles can help focus messaging during complex times.

First, organizations should find ways to reinforce government or CDC guidelines for health and safety. Research shows that 85% of US consumers want brands to play the role of educator by offering instructional information about the virus and how to protect themselves from it. As the COVID-19 situation continues to evolve, this will mean staying up to date on new recommendations and regulations and identifying ways to communicate them effectively to employees and other stakeholders. For providers of shared transportation, this may mean reminding people to keep a social distance of 6 feet or to wear masks when riding.

Next, it is important to clearly communicate that your organization’s key focus is to keep the community safe. While many organizations have multiple goals and interests during these times, their customers or employees want to know where their priorities lie. For those promoting shared transit, this may mean being clear that community health is a priority above increasing ridership at any cost and that rider safety is the most important measure of success.

Finally, organizations should show that they are willing to go the extra mile to keep people safe, even if those measures come at a significant cost to their business. This may mean restricting the number of riders and increasing ride frequency to avoid overcrowding or providing free sanitizing products at the cost of the organization. These measures show people that there is a clear and measurable commitment to safety, possibly instilling a heightened sense of shared interests.

Key to these interventions for shared transportation are:

1. Addressing concerns people have regarding getting sick from other riders (i.e., not focusing solely on the transit driver)
2. Acknowledging the importance of safety, and that hygiene is considered and acted upon
3. Giving riders the ability to maintain hygiene (e.g., providing sanitizer, wipes, and masks)
4. Including a prominent “tagline” emphasizing riders’ safety

It will likely be impossible to return to pre-COVID-19 levels of mass transit in the near future, but some of the above interventions may help mitigate the number of people opting to drive alone.

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2 Jordan, Yoeli, & Rand, https://psyarxiv.com/yuq7x
3 Everett, Colombatto, Chituc, Brady, & Crockett, https://psyarxiv.com/9yqs8/
4 Luttrell & Petty, under review
5 Lunn, Timmons, Belton, Barjaková, Julienne & Lavin, in prep
6 Edelman 2020 Trust Barometer Special Report: Brands and the Coronavirus