

Planning Today, for a Better World Tomorrow

Abhaya Sundar NSF Panacea Challenge 2020

Now more than ever, our world is riddled with uncertainty. The few things which are definitive are the worldwide changes due to the COVID-19 pandemic. The impact of COVID-19 on human health and the economy are self-evident, but the impact on the environment is less so. The pandemic has had both positive and negative impacts on our environment [B1]. What can we do to sustain the positives, and undo the negatives? To answer this question, I conducted a survey of 99 people [B2; Table T1], and researched many news sources. Here are my findings.

COVID-19 has had many adverse impacts on the environment. People have been forced to use many items, such as face masks, hand sanitizer, and wipes, in far greater quantities than ever before. In my survey, 37% of respondents said that they use two or more masks per week now. Public transport has also become less used around the world, out of fear of contagion [B3]. In addition, single-use plastic bags have replaced shopping bags in grocery stores [B4]. In many states, restaurants are completely restricted to only providing takeout, thus forcing them to use disposable utensils instead of silverware [B5].

However, not all of COVID-19's impacts have been negative [B6]. Many cities have woken up to views not seen in decades. In Jalandhar, Punjab, for the first time in 55 years,

people can see the snow-capped Himalayas more than 100 miles away [B7]. Now that India is

under lockdown, fewer cars clutter the streets, thus producing less pollution. In my survey, the percentage of people who drive more than 50 miles per week has plummeted from 68% to 14%.

This significant reduction in car traffic is also reducing congestion, and lowering the rate of accidents. The COVID-19 pandemic has also motivated more people to cook at home, reducing the amount of wastage from takeout. My survey shows that the percentage of people shopping more than two times per week has dropped from 84% to 53%. Yet, only 31% of the respondents said that they order more takeout now than before. Many people have started home vegetable

gardens, causing a decline in the consumption of over-packaged produce [B8]. The reduction in luxury goods shopping [B9] has also lowered our impact on the environment. Finally, COVID-19 has virtually shut down all air travel across the globe, both domestic and international [B10], thus eliminating a large source of greenhouse gas emissions.

Today, all of us are working hard to achieve a future in which COVID-19 is eradicated, or at least under control. For that future to be bright, we need to build on our current successes with the environment, and mitigate the adverse effects. Firstly, we should continue to keep car usage to a minimum, by biking or walking to close destinations, by avoiding unnecessary travel, and by using public transport for longer distances. Public transit systems are increasing their sanitization efforts, to permit daily commutes [B11]. Furthermore, we can continue our good

practices such as gardening, and cooking at home. These habits cut down on unnecessary plastic usage and fossil fuel consumption. Finally, we must sustain and grow a circular economy [B12], and we must repair and reuse things, instead of discarding them at first failure [B13].

Our economy will not come out of this global crisis unhurt, and nor will our environment. But we must do what we can now, so that our future is better than our past. This is the urgent task at hand for us today.

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Table T1: Results from "COVID-19 Environmental Survey" [B2]
(99 respondents: 92 USA; 6 India; 1 Canada)

<p>Category Choices</p> <p>Before</p> <p>self-quarantine (%)</p>	<p>Shopping habits</p> <p>1-2 times/week 16 47</p> <p>After</p> <p>self-quarantine (%)</p> <p>After</p> <p>self-quarantine (%)</p> <p>>4 times/week 36 19</p>
<p>Driving habits</p> <p>0-50 miles/week 32 86</p> <p>s/week 37 9</p> <p>>100 miles/week 31 5</p>	<p>Mask usage</p> <p>0-1 per week - 63</p> <p>>3 per week - 11</p>

takeout frequency

Change in

Less after quarantine - 46

More after quarantine - 31

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