

“Post COVID-19 Lockdown – Safer Public Transport in Bengaluru”

Life in the post-COVID19 era is going to be vastly different from what we have known in very many ways. Mobility in public transport which was already a problem in many rapidly growing cities will be a big casualty in the near future. It is upto citizens and governments to work together to build back confidence in the safety of public mobility systems.

Even as the lockdown is gradually lifted, provision of safe public mobility services and sustained messaging to build back much eroded trust in the safety of our systems will be crucial in this war of livelihoods and life. In a city like Bengaluru many people stay far away from their work spaces and the choice is between walking /cycling shorter distances, using private transport for longer distances making mobility even more unsustainable than it already is or take public transport and risk getting infected.

Crowded buses, long queues, confined spaces with limited ventilation, no access control to identify potentially sick persons and many common surfaces to touch (ticket machines, handrails, etc) all make public transport a worrisome option to many. Currently only about 48% of the trips in Bengaluru is catered to by public transport. The overburdened public transportation systems already stretched with inadequate infrastructure faces further strain with the requirement of social distancing and many other precautionary measures such as limiting the number of people boarding a bus or a metro, not allowing crowds to build up at bus stations etc.

The city was already running short of 7000 buses and crying for at least 200 kms of metro. With the new norms in place, the infrastructure requirement immediately doubles with no potential to recover these costs. However, governments must take a serious look at this conundrum and make available subsidised ticketing for existing buses and provide viability gap funding for new infrastructure and ensure that the attractiveness of public transport does not further diminish. If these measures are not taken immediately, it will most definitely drive people to use their private vehicles leading to increased traffic congestion, increased air and noise pollution with high social costs to health and environment.

Lack of safe mobility options is already resulting in greater social inequity with many of the industry workers, construction workers, domestic help, street vendors and other unorganised sector workers rendered “at risk “without a personal mobility option. Most of these low-income groups do not have a personal vehicle and rely on public transport for their livelihood Therefore, it is even more critical that transit services in the city are made safe and affordable.

Before restoration of public transit, it would be useful to understand the shifts in commuter behaviour and align them with larger demographic and economic shifts in cities.

Most countries have been engaged in damage control and disease prevention, China was the first country, that has resumed transit operations in a post-Wuhan virus-infected world. From the experience of various Chinese cities that have dealt with a lockdown and subsequent resumption of operations, we can understand the following:

- Initial findings show a public transportation drop for obvious reasons, but it has not been uniform.
- Metro ridership dropped from a previous mode share of 26 percent of trips in the city, to 14 percent. Bus ridership went from a pre-virus mode share of 17% down to 10% percent.

- Many people reported switching from metro to bus because they disliked the idea of being underground in a trapped space and thought they would have more options for distancing on the bus (Intitutiion for Transportation and Development Policy, 2020).

In recent years, the BMTC has lamented over declining ridership due to increase in private/ shared transport. COVID 19 only exacerbates this crisis and public transit agencies need to put in place strict standard operating procedures for cleaning and sanitising their fleet and providing commuters with an overall positive experience at much lower price points.

To understand the commuter behaviour and precautionary measures to be undertaken by public transport operators (BMTC/BMRCL/KSRTC/SWR) to make citizens of Bengaluru consider public transport as a safe mobility option, Bangalore Political Action Committee conducted an online survey of 1072 respondents. The survey was conducted from 5th May to 14th May,2020. The survey was divided into segments –

1. Behaviour of Public Transport users Post COVID19 Lockdown and their priority COVID 19 preventive measures.
2. Non users of public transport and their priority COVID 19 preventive measures.

Respondents Profile

The demographic details of a total of 1072 respondents are summarized below:

RESPONDENTS

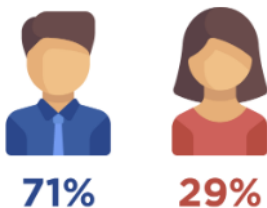


71% OF THE RESPONDENTS ARE USERS OF PUBLIC TRANSPORT

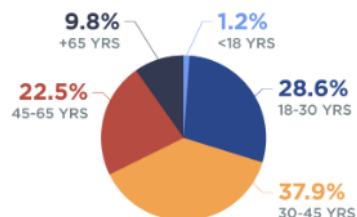


29% OF THE RESPONDENTS ARE NON USERS OF PUBLIC TRANSPORT

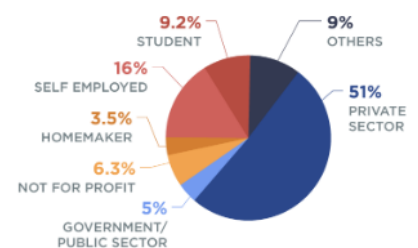
GENDER



AGE



PROFESSION

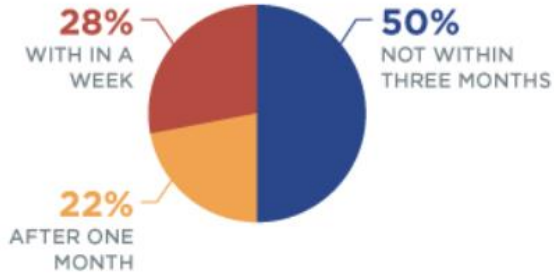


In the survey conducted, 71 % of the respondents were users of public transport and 29% of the respondents were non-public transport users. Below are key highlights from the survey.

Behaviour of Public Transport users Post COVID19 Lockdown

50% of the respondents who were using public transport prior to lockdown will not use public transport for at least three months once lockdown is relaxed. Of this 36% are not planning to shift to public transport any time soon.

USAGE OF PT



50% OF THE PT USERS IN BENGALURU WILL NOT USE PT **WITHIN THE NEXT 3 MONTHS**, OUT OF WHICH **36%** WILL NOT SHIFT TO PT **ANY TIME SOON**

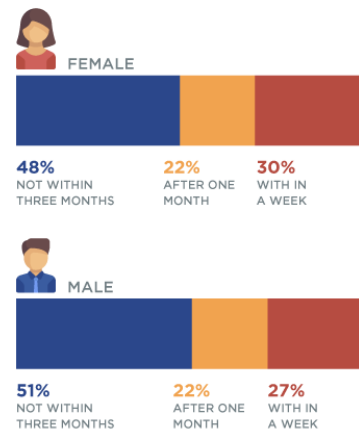
22% OF THE PT USERS IN BENGALURU WILL USE PT **AFTER ONE MONTH**

28% OF THE PT USERS IN BENGALURU WILL USE PT **WITHIN A WEEK**

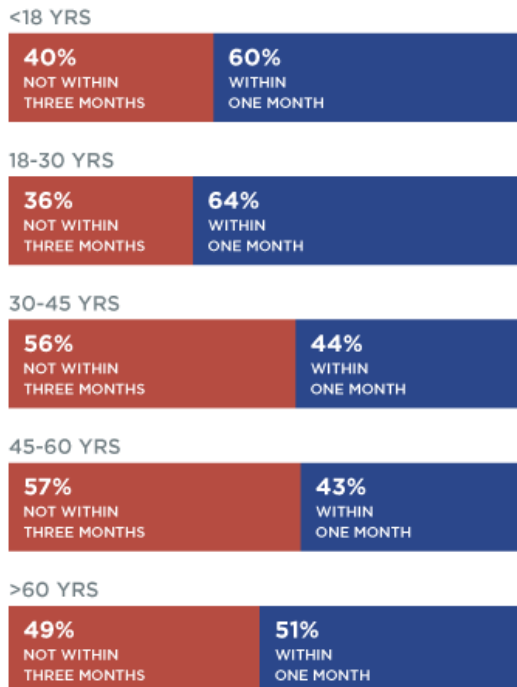
Gender: The public transport usage preferences post lifting of lockdown for males and females were largely similar in nature.

Age: 71% of the PT respondents were above 30 years of age and 55% of those above 30 years of age would not consider using PT for the next 3 months. Further of this, 40% would not consider using PT anytime soon. 29% PT respondents belonging to age group between 18-30 of which, 64% of respondents will shift to public transport during or at the end of one month.

GENDER

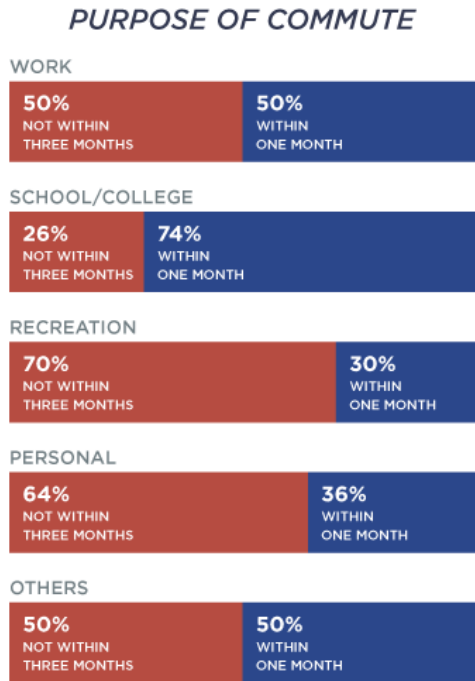


AGE



64% OF RESPONDENTS BELONGING TO AGE GROUP BETWEEN **18-30** WILL SHIFT TO PUBLIC TRANSPORT **WITHIN ONE MONTH**

Purpose of commute: 50% of the respondents who commute for work purpose said they will start using public transport during or at the end of one month as against 74% for those who use PT for school or college. 70% of the respondents commute for recreation and will not use public transport within the next three months.



50% OF THE RESPONDENTS WHO COMMUTE FOR WORK PURPOSE WILL SHIFT TO PUBLIC TRANSPORT WITHIN ONE MONTH.

74% OF THE RESPONDENTS WHO COMMUTE TO SCHOOL/COLLEGE WILL SHIFT TO PUBLIC TRANSPORT WITHIN ONE MONTH

70% OF THE RESPONDENTS COMMUTE FOR RECREATION WILL NOT SHIFT TO PUBLIC TRANSPORT WITHIN THREE MONTHS

Distance travelled: 58% of respondents who commute within 5km will consider using public transport as against only 49% for those who commute more than 5km.



58% OF RESPONDENTS WHO COMMUTE WITHIN 5KM WILL CONSIDER USING PUBLIC TRANSPORT AS AGAINST ONLY 49% FOR THOSE WHO COMMUTE MORE THAN 5KM.

Travel frequency: 41% of the PT respondents use PT daily to commute and 65% of these daily commuters said they would consider using public transport during or at the end of one month.

FREQUENCY

DAILY



FEW TIMES A WEEK



FEW TIMES A MONTH



65% RESPONDENTS WHO COMMUTE DAILY WOULD SHIFT TO PUBLIC TRANSPORT WITHIN ONE MONTH

Non Users of Public Transport

In addition to understanding the behaviour of public transport users post COVID 19 lockdown, the survey also collected responses from the nonusers regarding their alternate mode of travel to work/college and other destination. In the survey conducted, 29% of the respondents said that they do not use any modes of public transport in the city

Alternate modes of travel:

Majority of non-users of public transport use personal mobility (private two-wheeler/ four-wheeler) as one of their alternate mode of travel.

ALTERNATE MODES OF TRAVEL OF NPT USERS



12%

WALK OR BICYCLE



0.3%

RENTAL TWO WHEELER



10.8%

RENTAL FOUR WHEELER



47%

PRIVATE TWO WHEELER



4.5%

PRIVATE THREE WHEELER



46%

PRIVATE FOUR WHEELER



4.1%

SHARED TWO WHEELER



3.6%

SHARED THREE WHEELER



21.3%

SHARED FOUR WHEELER

Reasons for not using public transport:

The respondents cited first and last mile connectivity, accessibility, frequency, affordability and lack of convenience as reasons for not using public transport, with the Covid 19 pandemic, they mentioned adequacy of safety measures as another key point that would be added to their consideration set to shift to public transport.

REASONS FOR NOT USING PT

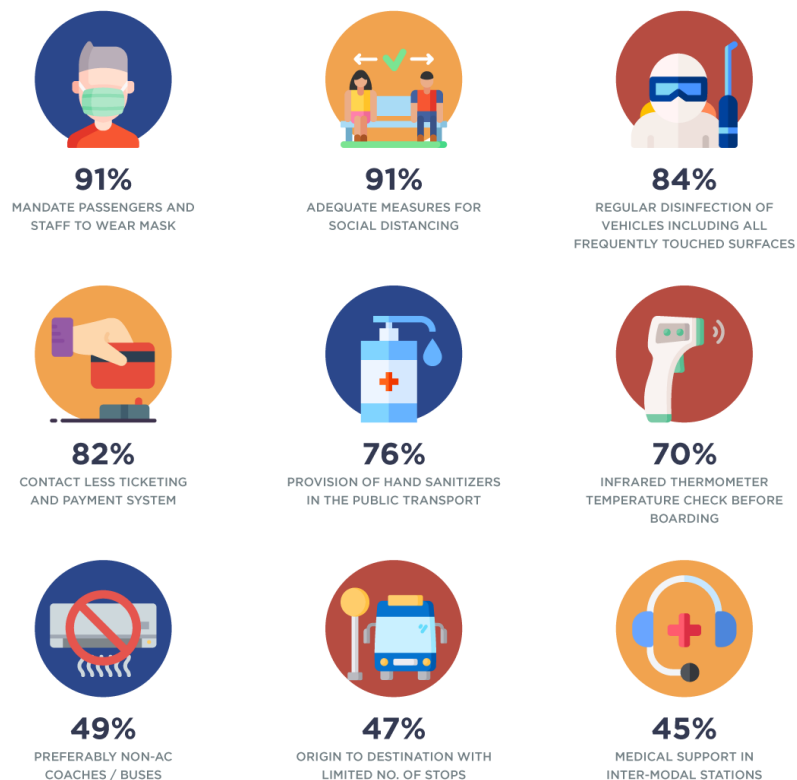
21%	FREQUENCY
28%	ACCESSIBILITY
50.3%	CONVENIENCE
10.8%	AFFORDABILITY
26.4%	SAFETY
36.3%	LACK OF FMLM

50.3% OF RESPONDENTS SAID THAT **CONVENIENCE** IS THE REASON FOR USING PRIVATE MODE OF TRANSPORT

36.3% OF RESPONDENTS SAID THAT **LACK OF FIRST MILE AND LAST MILE (FMLM)** IS THE REASON FOR USING PRIVATE MODE OF TRANSPORT

COVID 19 preventive measures in Public Transport

As it is evident that the travel behaviour of citizens will directly depend upon the kind of precautionary measure taken by mass public transport providers (BMTC, BMRCL, SWS). The top safety priorities for 1072 respondents were compulsory wearing of mask, adequate measures for social distancing, regular disinfection of vehicles including all frequently touched surfaces.



91% of the total 1072 respondents prioritised adequate measures for social distancing, hence some of the measures that can be followed to maintain social distancing in public transport are:

- Maintain desirable social distancing between the passengers inside buses, at bus shelters/terminals and interchanges
- Safety for on-board crew i.e. driver and conductor as well as at Depot & terminals
- Physical distancing should be made mandatory for passengers through advertisements and floor markings at all bus shelters
- Buses should stop at a minimum distance of 5 meters from each other at marked locations, to avoid crowding of passengers
- For a standard size 12m bus maximum allowable total passenger capacity should be 18-20 while for minibuses, it should be 12-14
- Allow rear door for boarding and front door for alighting of passengers to avoid physical contact between them
- On-board CCTV cameras should be used to monitor the social distancing inside the buses and in case of any non-adherence, on-board crew should be communicated and notified
- To minimise physical contact between driver and passengers, driver area can be separated by using a transparent screen/curtain

84% of the respondents demanded for regular disinfection of vehicles including all frequently touched surfaces. The bus fleet needs to be sanitised after each trip. Particular attention to seats, armrests and handles. At depots and interchanges, this should be done often as every two hours.

82% of the respondents said that contactless ticketing will be their one of the prioritised safety measures to commute in public transport. To the extent possible, conductor should not be entrusted with issuing tickets/cash exchange.

- Role of conductor should be of a “crowd manager” inside the bus and at halt locations
- Further, to minimise cash exchange, authority can decide to have a flat fare for all passenger trip lengths (Rs 5 or Rs 10) and provide a cash drop box near the conductor
- Simultaneously, authority may issue monthly/ three monthly passes (paper as well as digital) against a lumpsum amount
- Authority should encourage digital ticketing by using smart card or mobile phones. In the absence of any such digital facility with the authority, they can utilise the service of various start-ups providing similar services, (paytm, chalo etc.)

70% of the respondents recommended for infrared thermometer temperature check before boarding. This can be done at before entering stations but kind of difficult to ensure at intermediate stops. In China health control checkpoints are being used at train and metro stations (as well as in many public and private buildings). This enables temperature checks and the tracing of the movement of people, in case of contact with a suspected COVID-19 carrier. In many taxis, buses and metro carriages, passengers are encouraged to scan a health QR code (valid for 24hours) to register their name and contact number, to help with contact tracing. Similar health QR code can be created in all the major BMRCL and BMTC stations further which can be used in before boarding from intermediate bus stops.

Alternate Transport Opportunities

Even if the COVID-19 has led to reduced travel activities and temporary decline greenhouse gas and global carbon emission, they tend to bounce back shortly once the global disturbances ends. As mentioned earlier 50% of the respondents who were using public transport prior to lockdown will not use public transport for at least three months once lockdown is relaxed. Of this 36% are not planning to shift to public transport any time soon. Already the the share of private transport in Bengaluru exceeds the share of public transport by 3 % (Private share: 51 %, Public transport share: 48%) further addition to this will choke the city even more.

For the city to avoid the gridlock we need to strengthen the mass public transport system along with encouraging alternate transport opportunities such as walking, cycling and micro mobility options powered by electric 2-wheelers which exercises social distancing and is a more efficient, low cost rider friendly option, cleaner travel mode.

With the movement of people being staggered out, shared micro mobility can help drive down the prices through economies of scale and pass on the benefits to end consumers. With the right enablers, one bike can help 10-12 users to reach their destinations every day in comparison to one/two users for a private bike/car (Urban Mobility in the face of a pandemic, 2020).

It is therefore of great opportunity for us to reset our mobility options and adopt cleaner travel modes such as walking, cycling and electric vehicles. Many cities all over the world have started looking as an opportunity to shift towards cleaner modes of travel like,

- Milan, one of Europe's most polluted cities and hardest hit by the coronavirus pandemic, recently announced plans to permanently convert 35 kilometres of streets to cycling and walking as parts of efforts to reset its economy and encourage commerce over the summer.
- Bogota, the capital of Colombia, has converted 100 km of city streets into cycle lanes to reduce the load on its bus systems.
- Mexico City is planning to quadruple its cycle network to reduce the pressure on its metro.
- Budapest, Hungary's capital, is creating cycle lanes as a safe alternative for the commute as the city has seen a 90% drop in public transport use.
- New York City has seen a major rise in cycling, in part because there are fewer cars on the street.
- France has introduced \$20 million scheme to get more people cycling - to cut pollution and keep people safe. The \$22 million scheme involves allowing people to have repairs at registered bike shops of up to \$55, as well as paying for training and temporary parking spaces.
- Cycling, already popular in Chinese cities, has surged in China as it has elsewhere. ITDP surveyed commuters in Guangzhou and found that many have switched their mode from transit to cycling. In Beijing alone, bike share systems saw user increases by roughly 150%. Additionally, bike share companies showed that trips averaged more than three kilometres, which had been uncommon prior to COVID-19, when longer trips were typically taken by car or transit.

Safety measures that needs be undertaken by shared micro mobility service providers post lockdown to assure users safety are as follows:

- Proper instructions should be provided to the users of public bike sharing (PBS) which should be used after sanitizing the hands. PBS stations should also have provision of hand sanitizers
- Antimicrobial shield coating on all the bikes: Effective for 3 months. Certified for droplet viruses by Health Canada, being implemented by selected mobility/public transport players worldwide (Bounce , 2020).

- Regular disinfection of bikes including all frequently touched surfaces and show the “last sanitized” the timestamp on the app to users
- Employee Safety:
- Training of all the employees on maintaining social distance, follow precautionary measures and process of surface disinfection.
 - Providing PPEs like gloves, masks to all employees for executing field tasks on the vehicles.

It might be the right time, when authorities create/improve and promote sidewalks, bike lanes and attract a latent population which has remained under lockdown for a long time. It is also important to assure safe sidewalks and bike lines by following the standard operating procedures provided by Giz organization are as follows

- Identify major junctions, streets and public spaces which may experience frequent crowding
- Since people would prefer to use individual modes like cycles and walking, lanes on both sides should be temporarily reserved to create walkways and cycle lanes by reclaiming streets.
- Evaluate the possibility of reducing road width temporarily by bollards, traffic cones or paints. Accordingly, increase the width of footpath by minimum 2.5 m on both sides

Beyond the infection fears of taking crowded public transit, it is also likely that the massive decrease in car traffic during quarantine made walking, cycling and micro mobility options more appealing, and much safer.

Above all, we should not allow our PT usage to drop below 48% as it is already one of the lowest in the country. Our study points to this imminent danger and it is upto all of us collectively to push for safe and sustainable transportation options.

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Intitutiion for Transportation and Development Policy. (2020, March 26). Retrieved from <https://www.itdp.org/2020/03/26/post-pandemic-chinese-cities-gradually-reopen-transport-networks/>

About B.MOBILE: *B.MOBILE is B.PAC's mobility initiative that works on research, policy advocacy, stakeholder awareness in the areas of sustainable mobility, shared/pooled mobility, nonmotorised transit, para transit including related planning and infrastructure needs for providing seamless and integrated first, middle and last mile connectivity to citizens of Bengaluru. Our goal is to push for sustainable mobility for all by encouraging the use of public transport and disincentivizing the private vehicles usage.*