

How to reduce travel demand amid Covid-19

Staggered work hours/days, fewer shopping trips, shifting educational and social interactions online will curb the spread of the virus

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The Covid-19 pandemic has thrown the world out of gear, and with the lockdowns, the future of the urban transportation system is set for an overhaul. In a study conducted by TERI, 35 per cent of the respondents stated that they are likely to change their mode of transport from bus and metro services to private vehicles and intermediate public transport such as taxis and auto rickshaws. In another study conducted in Wuhan, China, it was concluded that an infected person in a bus can infect 13 others even from a distance of 4.5 m, though people wearing face masks were safe. An earlier argument encouraging shared mobility as a means towards environmental sustainability (*With shared mobility, why own a car?*, December 29, 2019) has certainly gone for a toss now.

Travelling in public transport is fraught with the risk of getting infected with Covid-19 unless adequate distancing is maintained, which is not easy in view of the sheer number of travellers. In this scenario, suitable travel demand management (TDM) tools to reduce or redistribute travel

demand in space or time can help. The odd-even scheme adopted by Delhi to combat pollution is one of the finest examples of TDM.

Our ability to meet travel demand safely is governed by the capacity of the public transport. The capacity of a metro coach with six passengers per sq m and a seating capacity of around 45 passengers per coach is around 300. To meet social distancing norms, this capacity will have to be reduced 20 per cent to around 50-60 passengers per coach. Similarly, the capacity of a bus will be reduced 50 per cent from 40 passengers (with standing) to just 20. As a thumb rule, we should strive to bring down transport demand to 30 per cent of present level to maintain social distancing and keep traffic on the roads within reasonable limits. However, public transport must work at full capacity from 7 am to 9 pm to avoid overcrowding.

Travelling for work

In a typical urban centre, the main purpose of travel is work, followed by shopping, education and social needs. The distribution typically corresponds to 40-45 per cent trips for work, 15-20 per cent for shopping, 10-



Shared mobility Great risk of infection

15 per cent for education and 20-25 per cent for social and other purposes. The travel demand for work is the most inelastic. During the lockdown, work from home has been adopted by many organisations, especially in the software and services sector. However, manufacturing, restaurants, retail shopping, security services, infrastructure O&M, transport system etc will still require employees' presence in the workplace.

A four-day week of 10 hours per day can replace a five-day working week, as has been done in Sweden, Finland, and Japan. The working hours may also be staggered as 8 am-6 pm, 9 am-7 pm and 10am-8 pm, or as flexi-working hours. The days of working may also be staggered. The travel de-

mand will still remain high on Wednesday and Thursday, as these days are common in all three staggering options. So, markets may remain closed on these days. The travel demand for work in peak hours could be halved as a cumulative effect of these measures.

For short distances (say up to 3 km), cycling and on foot can be encouraged by creating dedicated paths and higher fares in buses/metros.

Shopping trips need to be curtailed to at most one per week from the average three at present, by clubbing requirements and opting for online shopping. Home delivery of goods may be restricted to 12 noon-4pm, except food and medicines. Retail markets in the commercial areas may be opened only on alternate days with options for online delivery. The markets shall be open from noon to 10 pm to curtail morning peak hour demand on account of office-goers.

Acceptance of the virtual

During the lockdown, the education sector has been completely closed and classes moved successfully to online platforms. Both teachers and stu-

dents have found online education not only workable but more convenient in terms of saving commuting time. The University of Cambridge has announced that there will be no face-to-face lectures for the next academic year. Similar models can be adopted by Indian higher educational institutes also, to the extent possible.

We will have to accept virtual platforms for social interactions for some more time, till we get an effective vaccine against Covid-19. Similarly, we will have to curtail our leisure visits to malls, parks, gyms, movie halls etc.

Although most freight movement in the cities takes place at night, light goods vehicles (LGVs) are allowed to ply on specified routes during the day. LGVs may also be restricted from 8 am-8 pm for further relief to traffic.

If we are able to take these measures, our estimate is that we may be able to curtail our travel demand by around 50 per cent. The remaining half can be met by a combination of public and private transport without overwhelming the already strained transport infrastructure.

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