Infrastructure Investments and Public Transport Use – Evidence from Lahore, Pakistan

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This policy brief is based on a study conducted by Kate Vyborny [2]*, Hadia Majid* [3] *and Ammar Malik* [4]

Rates of urbanization have risen dramatically across many developing countries, but urban public transport infrastructure has struggled to keep up with this dramatic growth. In recent years, however this gap has catalyzed governments and aid agencies into building large-scale urban mass transit infrastructure projects across cities in the developing world.

Existing research highlights that high-speed and reliable transport is likely to reduce duration and variability of commute time for those who use public transport. On the other hand, economic estimates from developed countries suggest that the costs of mass transit may exceed the benefits, with limited positive externalities on congestion and pollution. This is largely because these transport services are used below full ridership capacity and primarily attract users who otherwise would have traveled by bus, not private vehicle.

A recent study has attempted to quantify the impact of a new urban mass transit line in Lahore, Pakistan on commuting and the use of public transport. For a more precise estimate, areas identified for potential routes that have not yet been built have been used as a comparison group for areas currently connected by the new Bus Rapid Transit Line (BRT) line. Data was collected in both these areas to study the impact of BRT. This brief draws on their research and highlights the effects BRT has on the commuters of Lahore city.

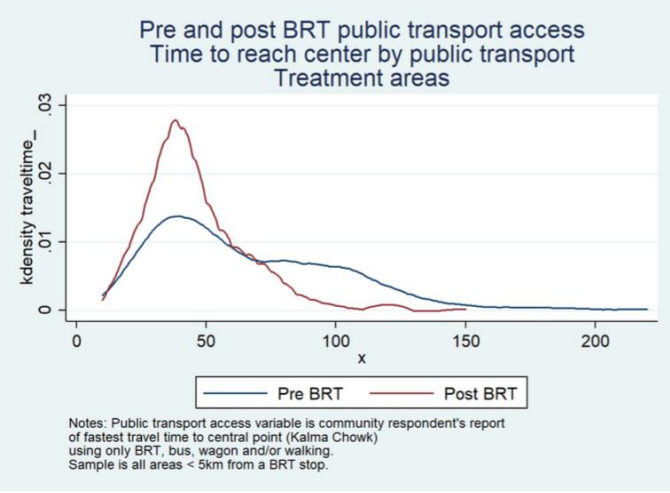
1. Mass transit substantially improved public transport accessibility

The study found that the mass transit line reduced the commute times as reported by the individuals who were surveyed, suggesting there was a reduction in congestion. This is evident in figure 1, shown below. In addition to time saving, BRT also allowed saving of travel costs for commuters (see figure 2 on the top of page 2).

In brief

- The concerned study aims to quantify the impact of a new urban mass transit in Lahore, on commuting and use of public transport.
- The study shows that the introduction of BMT has reduced travel times and increasing savings on travel costs. It encouraged commuters to use public transports and attracted commuters from a wider set of backgrounds.
- These positive effects indicate the potential of investments in mass public transport which can cause a shift towards more sustainable ways of urban commuting.

Figure 1 & Figure 2



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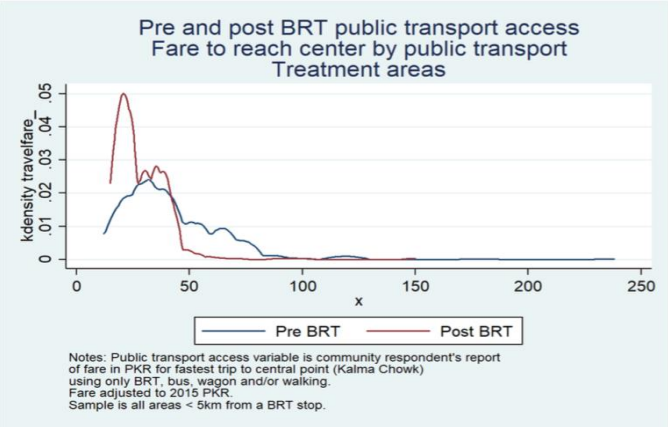


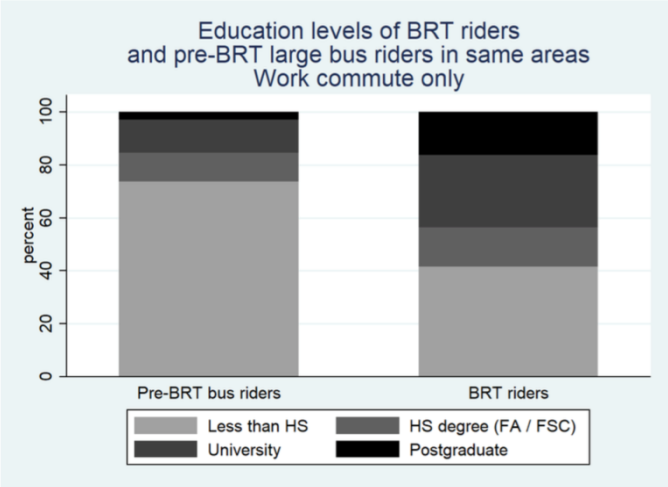
2. Mass transit caused commuters to switch to public transport

Mass transit has encouraged commuters to switch from private mode of transport to public transport. The most common modes they reported switching from were rickshaws and motorbikes, followed by cars. It was estimated that there was a 24% increase in use of public transport among the nearby commuters after the introduction of BRT, with roughly 35,000 commuters switching to public transit citywide.

3. Mass transit attracted higher status, more educated riders than previous public transport

The baseline survey revealed more educated households were more likely to take private modes of transport. On the contrary, figure 3 depicts that the introduction of BRT has attracted a significant proportion of commuters with higher education levels than previous public transport modes. The results suggest that higher speed, reliability and quality of BRT has effectively drawn commuters from a wider set of backgrounds, including the more educated as well as those who could afford the more convenient and comfortable public transport

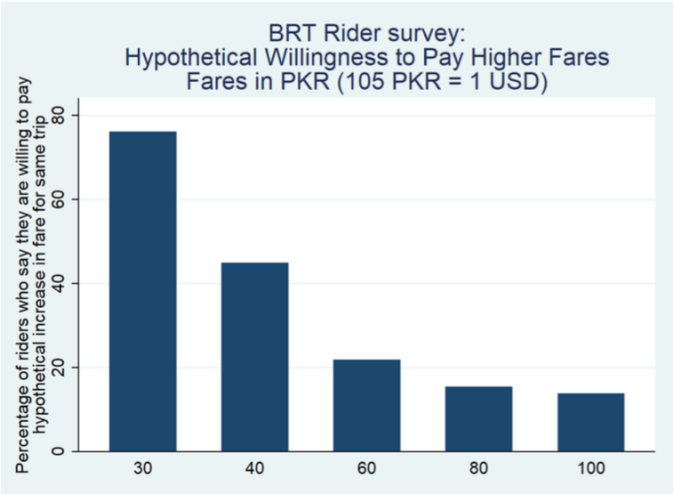
Figure 3



4. Cost effectiveness and subsidy

The capital cost of the transit line was substantial, and its fare is subsidized. However, given its high quality at a cheaper fare, majority of the commuters were willing to pay a higher fare for the same trip (see figure 4 below). This suggests that reducing or better targeting the subsidy could boost the revenue with little loss of ridership and cover the operating and perhaps even capital costs, making the transport system more financially viable. One way to achieve this could be through peak pricing at rush hours. This would reduce congestion as well as targeting the lowest fares at blue-collar workers who typically work longer shifts and thus commute at earlier and later times.

Figure 4



Conclusion

The above-explained positive effects of the newly introduced mass transit line in Lahore indicate towards the potential of mass transit investments to create a substantial shift to more sustainable urban commuting in the developing world.

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