

Cleaning the Air and Enabling Commuter Movement What Needs To Be Done?

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This article suggests that the Delhi government needs to address deficiencies in the city's planning and design framework on which the public transport system rests before employing a policy like the odd–even scheme to achieve some degree of success in relieving congestion.

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The odd–even scheme is a system of road space rationing which mandates that on dates ending with an odd number, a car with a licence plate number ending with an odd digit is allowed to ply. Likewise, on dates ending with an even number, a licence plate number ending with an even digit is allowed to ply. Having previously been implemented in cities such as Milan, Bogota, Mexico City and Beijing (*Down to Earth* 2015), more recently, the scheme was introduced by the Delhi government on a trial-run basis between 1 and 15 January 2016. The objective was to combat air pollution levels in the city that had reached alarming proportions. In September 2015, the air pollution levels in the city were ten-times higher than the safety levels laid down

by the World Health Organization (Greenpeace 2015).

Air quality assessments made using samples taken during the course of the odd–even experiment, and after, have thrown up mixed results. However, it was observed that congestion had markedly reduced in the same period (Sethi 2016). Given that the odd–even scheme was successful in relieving congestion, one is tempted to argue that the policy should have been employed to target congestion instead—an issue which has also been a major concern amongst policymakers and experts for a long time. It is important to add, however, that the policy was perceived as being successful in relieving congestion solely owing to the supporters' emotional appeals (Bhatia 2016). When the odd–even scheme was implemented in Delhi, Chief Minister Arvind Kejriwal urged citizens to carpool and make use of the public transport system. Such appeals cannot be expected to have any long-term effect. Research by Kinnick, Krugman and Cameron (1996) has shown that when the public is exposed to a message on a regular basis, the message loses its impact: the normalisation of

the message leads to desensitising its audience, thereby reducing the message's impact.

People who use cars find ways to circumvent rules that prevent their usage because viable alternatives are not available. Beijing is a good example of this. When the odd-even scheme was tried out here to tackle air pollution levels prior to the 2008 Olympics, the policy failed to move people towards public transit due to the lack of last mile connectivity (Wang et al 2014). It is likely that Delhi followed suit due to the insufficient public transport system and the dearth of investment in it.

Aside from poor quality public transport systems, inadequate city planning and a flawed design framework further compound Delhi's congestion problem. This was highlighted in a report by The Energy and Resources Institute (TERI) which argues that Delhi's road layout is one that favours car usage over any other modes of transport. Creation of more road space for cars means more cars on the road (Ghate, Sunder 2014). Likewise, more cars mean more congestion (Rao and Rao 2012). When city planning is oriented towards car use, citizens cannot be blamed for shifting towards using them, for it is the most convenient option.

This article puts forth the view that the Delhi government needs to address the deficiencies in the city's planning and design framework on which the public transport system rests before employing a policy like the odd-even one to achieve some degree of success in relieving congestion.¹

To this end, the article first highlights how Delhi's cityscape cannot accommodate a multilevel transport system—a prerequisite for the success of the odd-even scheme. By giving examples from elsewhere in the world, the article talks about how well-designed cities enable the setting up of a strong public transport network. And then, to prove its thesis, the article uses the example of Bogota in Colombia, which implemented the odd-even scheme to alleviate congestion. Bogota and Delhi's share similarities in size, demography, standard of living, sociopolitical and economic

diversity. This makes Bogota a viable point of reference.

Dictated by Master Plan

Urban development in Delhi is currently dictated by the city's master plan. Developed by the Delhi Development Authority, the master plan is based on a Vision (2021) document, which essentially lays out how Delhi should look by then. Thus, one cannot say that Delhi is a wholly unplanned city. But due to the rapid rate of urbanisation, the city is expanding at an unprecedented pace leading to the formation of a haphazard cityscape. While the master plan does take into cognisance the projected growth in population, it does not do this accurately and realistically. For instance, when planners are deciding to lay a road, they look at projected growth figures in population to gauge the usage capacity; however, this projected figure is incongruent with the actual increase in population by the time the road materialises (Hazards Centre 2007).

Other than this, since the early 1990s the urban development policies followed in Delhi have been exclusionary rather than inclusive (Dupont 2008). Instead of a city plan and design that is based on socio-economic factors and needs, most policies have been skewed in their implementation, in that they cater to the needs of only a particular section of society. For instance, the master plan takes into account the projections of the growth of only cars in the city and accordingly lays out the plan. This in itself goes to show that the city planners prioritise cars over other modes. Given the increased importance being placed on freeing up road space for cars, public transport has taken a back seat (Ghate and Sundar 2014).

If roads are more favourable for car usage over, say, bicycles, more people would naturally gravitate towards buying cars. Likewise, if the city is pedestrian-friendly, people would have an incentive to use footpaths (Tiwari 2002). Given how urban infrastructure is seen as influencing and moulding choices, it is important to plan and design cities in a democratic fashion. Much of urban planning in Delhi though is car-focused,

highlighting the inequality in the urban environment.

This creates a certain idea of mobility, both physical and social. In developing countries, social mobility is interlinked with physical mobility. Being able to shift from public transport to a two-wheeler vehicle and from a two-wheeler to a car is a sign of economic and social progress (Litman 2009). And there is a clear hierarchy, which is being pushed forward through various policies, such as the widening of roads, the building of more flyovers, the ease of getting a car loan, and the growing market for affordable cars (Ghate and Sundar 2014). When city planning itself is oriented towards car use, citizens cannot be blamed for shifting towards using cars, as it is the most convenient option.

In order to build a more sustainable city, it is necessary to make this option inconvenient and provide viable alternatives. Unfortunately, the last time a drastic structural shift was attempted in Delhi, the Delhi Bus Rapid Transit (BRT), it was met with heavy criticism while ignoring its benefits (Mahadevia et al 2013). The unequal access to the road discouraged the attempt to reorient the division of space amongst road users. The intention was along the same lines as the odd-even scheme: inconvenience car users to get them into public transport while easing the journey of bus users. However, owing to a lack of government support, the intended benefits of the BRT could never really be realised in Delhi, though it has been successful in other cities in India such as Ahmedabad (Mahadevia et al 2013) and globally, such as Curitiba in Brazil (Reed 2015).

Lessons for Delhi

There are several examples of cities that can be counted as successes in urban planning from whom Delhi can learn. While most of these are in Europe and the developed world and are cities that are small in size with a relatively homogeneous population, such as Amsterdam and Camden Town in London (LG 2010), it is important to add that a small area, low density and a uniform population are not an imperative for effective urban planning and design to take place. There

are others, such as cities in Latin America, which are fairly large and comparable in size to Delhi, such as Bogota (Montezuma 2005) and Medellin (Brodzinsky 2014), that are also leading the way.

Aside from the fact that they are well-planned and designed, the common link that joins these small well-planned European cities and the larger Latin American ones is that urban planners across these cities have stressed on diversity—in terms of land usage and the nature of buildings in the area. This has been achieved by creating mixed-use areas—where both formal and informal activities take place within the same vicinity. Such cities allow a diverse range of activities to take place, thereby providing opportunities for interested citizens to partake in them. Such planning creates multiple democratic, vibrant spaces and minimises the chances of conflict stemming from isolation between various strata of society (Jacobs 1961). In this context, it is important to note that Delhi was different in the past. Rich and poor neighbourhoods did coexist. However, over the last 10 to 15 years, this model has given way to single-use construction, that is, the residential areas are clearly separated from commercial spaces.

Mixed Use and Transport

The success of mixed-use neighborhoods is closely tied to the efficacy of a public transport system that has been established within it. Mixed-use² cities have actively worked towards creating pedestrian and public transport infrastructure to reduce the dependence on private vehicles. By investing in high-capacity bus systems and bicycle-lanes, and by implementing restrictive driving policies, these cities have incentivised the use of public transport. And by promoting public transport and non-motorised modes of travel, these mixed-use areas are able to facilitate ease of access and build a dynamic street culture (Jacobs 1961). This creates a positive feedback loop.

Supported by an efficient public transport system and allied infrastructure, mixed-use spaces become more socially and economically vibrant because they are easily accessible. Bogota's TransMilenio system, the city's BRT, coupled with

pedestrian zones and bicycle lanes have not only made commuting easier but they have also played a major role in addressing the city's socio-economic problems. Improved access to the centre of the city, facilitated by the introduction of the BRT system, led to an increase in employment in the heart of the city and also resulted in creation of several employment opportunities in surrounding areas (Bocarejo and Tafur 2013). Such job creation has gone on to improve the city's standard of living.

In Bogota, the odd-even scheme was employed to tackle the growing number of gridlocks forming across the city. Here, prior to the implementation of the odd-even scheme, the city's public transport network, on the back of strong urban infrastructure, was expanded and strengthened to deal with the spillover effect. This approach played a significant role in easing commuting in the city in the long run (Preston 2014).

To reiterate: Beijing's failure, like Delhi's, at tackling air pollution through the application of the odd-even scheme shows us that it is an ill-suited solution for this problem. However, given that the scheme helped in reducing the number of cars on roads leading to reduced congestion, as in the case of Bogota, we believe that the scheme should have been used to retrieve road space from cars for public transport vehicles instead. There is clear momentum in Delhi at the moment for drastic traffic-oriented policies. While the government was able to use this to push through a short-term solution, serious systemic changes continue to be missing. Given the dramatic difference felt on Delhi's roads during the scheme's implementation, it is clear that many have felt the value of getting cars off the road. While the odd-even scheme is not a sustainable model to continue this trend, it is a good time for the Delhi government to continue with car restrictive policies and create an incentive to shift to public transport. The ultimate success of any of these will depend on the investment on public transport. In order to make people leave their cars, they must be provided an efficient and practical alternative. An increase in the Delhi Transport Corporation (DTC) fleet size,

building a more comprehensive last-mile connectivity network and the construction of proper bus stops is the minimum that needs to be taken up.

The promotion of public transport is not just based on larger investment on buses and metro but also building the supporting infrastructure and tangibly reducing the space available for car drivers. The task of making Delhi a public transit-oriented city requires an increase in the space given to public transport and non-motorised vehicles in the planning process itself. Currently the majority of non-car users exist out of compulsion, not choice (Ghate and Sundar 2014). The aim of developing a sustainable city should be to reverse this trend. This may be done through simple measures such as claiming back road space for footpaths and having working streetlights. Contentious measures such as taking away parking space and implementing the BRT system properly too offer a possibility.

Thus, to create a more pedestrian-friendly, non-motorised transport and public transport-friendly city it is not enough to appeal to people to leave their cars. They must know that there are alternatives to these that are convenient and safe.

NOTES

- 1 And such a move, by extension, may result in lessening vehicular air pollution. A Harvard School of Public Health study posits that pollution and congestion are positively correlated (Levy et al 2010).
- 2 Mixed-use cities are those where residential and commercial properties co-exist, this leads to creating opportunities for livelihood and recreation within pockets.

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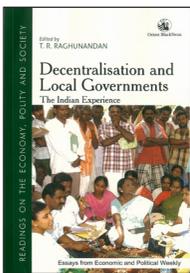
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Decentralisation and Local Governments

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The idea of devolving power to local governments was part of the larger political debate during the Indian national movement. With strong advocates for it, like Gandhi, it resulted in constitutional changes and policy decisions in the decades following Independence, to make governance more accountable to and accessible for the common man.

The introduction discusses the milestones in the evolution of local governments post-Independence, while providing an overview of the panchayat system, its evolution and its powers under the British, and the stand of various leaders of the Indian national movement on decentralisation.

This volume discusses the constitutional amendments that gave autonomy to institutions of local governance, both rural and urban, along with the various facets of establishing and strengthening these local self-governments.

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