

Urban Transport Planning in Bengaluru

A Polycentric Governance System

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Transport planning in Bengaluru is characterised by institutional fragmentation, increasing private modes of transport, and questionable investment decisions in the transport sector. What are the possibilities of implementing a polycentric governance system in such a city? Answering this question requires exploring the characteristics of polycentric governance systems as part of the larger discourse in institutional economics and reflecting upon how far Bengaluru satisfies such characteristics and where changes may be required.

Urban transportation planning, as a formal planning discipline in India, is at a very nascent stage and is constantly evolving. Urban transport infrastructure planning, regulation, and implementation involve different ministries, departments, and agencies across central, state, and city levels which are tasked with various responsibilities. The need for urban transport planning was first felt in the early 2000s when cities saw rapid growth in the ownership of private vehicles and the resulting congestion, fuel emissions, and pollution.¹ Over the past decade (since 2006), there has been a growing realisation within the government that the ever-increasing motorisation of cities is unsustainable, and that there needs to be a shift towards sustainable transport systems. A number of initiatives have since been launched, including a national urban transport policy; shift towards mass transit projects to address the issues of congestion, local emissions, pollution, and energy security; and setting up of specialised agencies to bring all these initiatives together.

However, a number of concerns remain despite such positive steps. Chief among these is the choice of mass transit projects: issues regarding financial viability, inclusiveness, as well as larger issues of decision-making, all of which fall under the wider ambit of urban transport governance. Other governance issues include the behaviour of the actors (many of whom act in direct contravention to the stated goals of urban transport planning developed by the government), appropriate incentive/disincentive structures for the actors, and participation of interested stakeholders. Urban transport planning is about realising the desired outcomes and the processes involved through selection of appropriate transport projects.

Bengaluru is the fourth most populous city in India with a population of approximately 8 million² (Census of India 2011). It has a vehicular population of over 6 million, with over 5 million of those being private vehicles (Deepika 2016). Over the past five to six years, faced with an ever-increasing vehicular population and limited road space, the state and city governments have attempted to promote the idea of sustainable transport at the policy level through the National Urban Transport Policy (NUTP), Comprehensive Traffic and Transportation Plan (CTTP), Comprehensive Development Plan (CDP), etc. This is in line with the central government's call to move towards sustainable transport. At the implementation level, the steps taken include increasing the fleet size of buses and bus routes operated by the Bengaluru Metropolitan Transport Corporation (BMTCL)—a government bus service provider which is the backbone of

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public transport in Bengaluru—introducing a metro rail system, creating specialised agencies to deal with issues of urban transport planning, promoting the use of non-motorised transport modes, etc. These positive steps have, however, been accompanied by challenges, chief among them being: an apparent bias towards “big ticket;” absence of any kind of alternative analysis while deciding on major urban transport projects (which almost certainly would bring out multiple project options with respective cost implications); almost complete lack of stakeholder consultation/citizen-participation in the official decision-making process; and, finally, the lack of delegation of power to agencies which should ideally be in charge of urban transport planning for the city.

In the case of Bengaluru, as in the case of other Indian cities, the question regarding governance that is repeatedly raised is one of legitimacy and representativeness. These are issues which lead back to the fact that these are largely governance/institutional issues which need to be addressed. This paper explores whether institutional economics provide clues to answering some of the challenges posed in the case of Bengaluru. The paper specifically applies the work of Elinor Ostrom (winner of the Nobel Prize for economics in 2009) on management of common property resources to the case of Bengaluru with respect to urban transport planning.

Institutional Economics

Institutional economics incorporates the role of institutions to explain how transactions can be coordinated at a low cost. “New institutional economics,” which is considered complementary to neo-classical economics, addresses questions about institutions focusing on transactions and how governance structures can make them most efficient. Original institutional economics (OIE), on the other hand, focuses on the dynamics and evolution of institutions. Institutions are defined as “rules of the game;” they can be broadly classified as informal (involving values, ethics, etc) and formal rules (laws, regulation, etc). Institutional economics concerns itself with structuring these institutions and how they in turn affect human behaviour to produce a certain output.

The work on polycentric governance systems by Elinor and Vincent Ostrom, with emphasis on “rules” and “self-governance,” can be considered to be at the intersection of institutional economics and political science. It is being studied by academics for compatibilities with traditional institutional economic theories.

Polycentricity and the Ostroms

The work of the Ostroms with polycentricity began at a time in the 1960s and 1970s when the existence of multiple political units was considered a pathological (negative) phenomenon. It was a time of metropolitan governance reform, the aim of which was to replace multiple small political units in a metropolitan area with larger political units that governed larger urban areas. Their contention was that the one-size-fits-all policy was ineffective and that “some services are produced more efficiently on a large scale while other services may be produced

more efficiently on a small scale.” They further argued that the multiplicity of agencies was not necessarily a pathological phenomenon and, in fact, indicated healthy competition (something that was encouraged in a market economy as well).

The Ostroms worked on real world issues to show that polycentricity actually worked. Their seminal studies on the appropriate size of police units demonstrated that smaller police units were more efficient than larger ones. Their work showed how the size of the governmental units affected output and efficiency of service provision. They also demonstrated that preferences within neighbourhoods tend to be homogeneous than preferences across an entire metropolitan area. Citizens living in these neighbourhoods are not merely consumers but producers of commodities and services and are capable of being part of the governance mechanisms (self-governance).

A polycentric political system was one that had multiple centres of power, fragmented authority, and overlapping jurisdictions “within a set of ordered rules” (Ostrom 2009). The “rule of law” principle is central to any polycentric system; thus, polycentric systems are “rule of law systems.” A political system with multiple decision-making centres would not be called polycentric if those centres are not governed by a common set of rules. Importantly, a polycentric governance system is one where no agency has monopoly. This is because these agencies operate under the rule of law.

The concept of “citizens as co-producers” is central to a polycentric system. Citizens of a community are well aware of the issues in different domains and are in a position to contribute constructively towards co-producing those goods and services, thereby becoming producer-consumers. Co-production is a function of technology, economics, and institutions. It is possible (in fact encouraged) if a change in input, where citizens replace part of the traditional production function performed by existing producers, leads to a marginal increase in output. It also depends on the institutional arrangements, which is to say that the existing institutional arrangements must first allow the functioning of a co-production function and also incentivise it.

Yet another concept central to the notion of polycentric governance systems is that of federalism. According to Vincent Ostrom, federalism is one way to capture and operationalise a polycentric system. A federal structure with dispersion of decision-making capabilities “allows for substantial discretion to individuals for effective constraints on the action of governments,” and that is an essential part of democratic societies.

For polycentric governance systems to be effective, they need to have a built-in self-correction mechanism. That is to say that if the possibility of any kind of opportunistic behaviour arises, a polycentric system with multiple power centres at differing scales would provide citizens the opportunity to intervene and correct its flaws. Thus, polycentric governance systems have the ability to provide incentives that will lead to self-organised and self-correcting institutional change.

Since polycentric systems depend upon values and cultures of the individuals shaping and creating them, these become

important to the operation of that system. In essence, therefore, a polycentric system involves discussion on “rules, constitutions, fundamental political values, and cultural adaptability in maintaining them.”

Other Theorists of Polycentricity

The next phase of theorising polycentric governance systems was proposed by Paul Aligica and Vlad Tarko.³

In addition to the original polycentric concepts propounded by the Ostroms, Aligica and Tarko add the additional concept of “positive anarchy.” Positive anarchy studies overlap with some studies on polycentricity in relation to that of multiple power centres. While some positive anarchy studies talk about the ill-effects of polycentricity (caused by the existence of multiple power centres), polycentricity itself talks about the existence of multiple power centres within a given set of rules. According to Aligica and Tarko, only peaceful instances of anarchy constitute polycentricity (because of the functioning and enforcement of rules).

Through their research, Aligica and Tarko (2012) came up with a new definition of polycentricity:

Polycentricity emerges as a non-hierarchical, institutional, and cultural framework that makes possible the coexistence of multiple centers of decision making with different objectives and values, and that sets up the stage for an evolutionary competition between the complementary ideas and methods of those different decision centres...Based on the above overview, we are now in a position to restate an important point. Implied in the effort to untangle and elaborate the concept of polycentricity is the crucial assumption and expectation that it provides a unified conceptual framework for analysing and comparing different “spontaneous order” phenomena, that is, for understanding different forms of social self-organization as special cases of a more general unique evolutionary phenomenon.

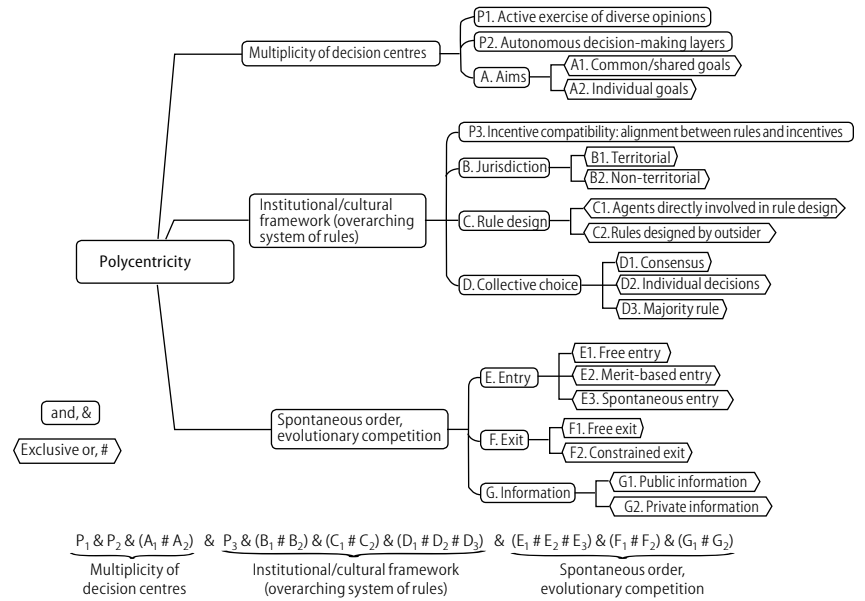
The key contribution of these theorists lies in making the three conditions of polycentric governance systems sharper. They set out to identify and list the necessary conditions for a polycentric system, and also identify those attributes within those necessary conditions that lead to different kinds of polycentric systems.

They retain the three key conditions (multiple decision centres, an overarching set of rules, and spontaneous order) essential for any polycentric system, and develop attributes for each of those three characteristics. These theorists have come up with their own representation of essential attributes of the three conditions (already established by the Ostroms) that make up the 288 different kinds of polycentric governance systems.

The theorists list out three necessary attributes for a polycentric order to exist and function (Figure 1). These are:

(i) Active exercise of diverse opinions and preferences: This means that the opinions expressed by different members are

Figure 1: Structure of a Polycentric System



Source: Aligica and Tarko (2012).

put into practice. It does not simply mean that one individual imposes his/her own rule.

(ii) Autonomous decision-making centres: This is yet another necessary condition for polycentricity to exist. The theorists distinguish between different levels of decision-making and conclude that, for polycentricity to be effective, the different overlapping decision centres at the operational level should function autonomously from the decision centres at the higher level.

(iii) Incentives compatibility: This is the final necessary condition. Taking forward the work developed by the Ostroms, there has to be an alignment between the rules and incentives. The rules will only work if the actors have an incentive to make them work. Absence of such alignment will lead to chaos and breakdown of the polycentric system.

In addition to the three necessary attributes mentioned above, there are other attributes that are required for a polycentric structure. These include:

- (i) Aims: A1—common/shared goals; A2—individual goals.
- (ii) Jurisdiction: B1—territorial jurisdiction; B2—non-territorial jurisdiction.
- (iii) Rule design: C1—agents directly involved in rule design; C2—rules designed by outsider.
- (iv) Collective choice: D1—Consensus, D2—Individual decisions, D3 – Majority Rule
- (v) Entry: E1—free entry; E2—merit-based entry; E3—spontaneous entry.
- (vi) Exit: F1—free exit; F2—constrained exit.
- (vii) Information: G1—public information; G2—private information.

The work by the theorists allows a “method for drawing non-ad hoc analogies between different forms of self-organising complex social systems as well as means to challenge and bolster one’s institutional imagination.” They conclude that if their approach is correct, then one can identify multifaceted forms of polycentricity, and that the aim of their study is to

improve the efficiency and functioning of different polycentric systems by comparing one to the other, which the framework (as represented in Figure 1) should allow.

Multiple Decision Centres in Bengaluru

Implementation and monitoring of urban transportation involves multiple agencies. These agencies can be grouped into three categories: first, agencies responsible for urban transport that decide the nature of investments in transport projects such as the urban development department (UDD), transport department, and directorate of urban land transport (DULT)/Bengaluru Metropolitan Land Transport Authority (BMLTA); second, urban local bodies (ULBs) that are responsible for land-use planning and construction, and maintenance of city road infrastructure, that is Bruhat Bengaluru Mahanagara Palike (BBMP) and Bengaluru Development Authority (BDA), and mass transit operators like BMTCL and Bengaluru Metro Rail Corporation Limited (BMRCL); third, agencies that are tangentially or indirectly part of the decision-making process, which includes the infrastructure development department (IDD), Karnataka Urban Infrastructure Development Finance Corporation (KUIDFC), Bengaluru International Airport Planning Authority (BIAPA), National Highways Authority of India (NHAI), and consultants.

Bengaluru and the Autonomy Condition

One of the main conditions of polycentricity is that the agencies involved must operate autonomously, without a central controlling authority. In the case of Bengaluru, each of the agencies mentioned above operates relatively autonomously within its own sphere of authority. For example, although UDD and the transport department are in charge of urban transport planning, ULBs also contribute independently to urban planning function and road infrastructure. Similarly, mass transit operators like BMTCL and BMRCL also operate autonomously, though they have levers of administrative control at state and central government levels respectively. It is interesting to note that an agency such as BMTCL actively seeks the approval of its board for decisions with major financial implications, even though it is not strictly required to do so. Similarly, decisions on extending or creating new metro routes by the BMRCL need state and central government approvals, since BMRCL is a 50:50 Special Purpose Vehicle (SPV)⁴ between these governments.⁵

The transport department of Karnataka is yet another agency which is in charge of urban transport through agencies such as the BMTCL, and the Regional Transport Authority (RTA). The RTA is responsible for motor vehicle taxation, issuing vehicular permits, changes in fare for cabs and autorickshaw services. However, it is interesting to note that the transport department has little or no part in the several new mass transit projects being planned for the city.

The issue of autonomy also comes into focus with the state government–city agency relations. The state government being the final sanctioning authority⁶ for different urban transport projects, there are instances where they have been

known to “guide” city agencies and their managers to implement projects that may or may not be required for the city. This definitely impedes the autonomy of these agencies. In terms of active exercise of opinion, different agencies have different ways of voicing their opinions through access to different levers of power; these could be through plans, reports, and stories to media houses (Planning Commission 2011).

Overarching Rules in Bengaluru

The second and, perhaps, most important condition for polycentricity is the existence of an overarching set of rules that govern the functioning of the multiple agencies. In the case of urban transport in India or, for that matter, in Karnataka or Bengaluru, there is no one central rule or act that governs urban transport. Instead, urban transport, which has been termed a constitutional orphan by the Planning Commission of India (Planning Commission 2011), has different agencies looking after different aspects. For instance, the Motor Vehicles Act of 1988 governs the issuance of vehicle registrations, issue of licences, emission norms, vehicle specifications, inspection of vehicles, fixing of motor vehicle tax rates, etc, while the responsibility of administering these functions falls on the state transport department and its allied agencies (Regional Transport Authority, Traffic Police, State Pollution Control Board, etc). Thus, the Motor Vehicles Act of 1988 can be considered as the single act that deals with the issues mentioned above. However, this act does not particularly deal with urban transport planning per se.

Rules governing urban transport planning are often myriad. It is a subject that the state government is entrusted with. This means that there is no one set of uniform rules that can be applied across the board. NUTP of 2006 is the only policy concerned with urban transport planning. NUTP focuses on planned urban transport, integrated land-use, and transport planning, as well as mass transit, non-motorised transit, and financing mechanisms to fund urban transport. Thus, NUTP can be considered as a single set of overarching rules that, in a sense, governs urban transport planning.

However, a policy is at best a guideline and cannot be applied on all states and cities. For Bengaluru, an analysis of the urban transport plans prepared by different city agencies reveals that while some agencies are working towards achieving the goals set by NUTP, others may not be totally on board. There are, however, some positive aspects with respect to the state government and ULBs following NUTP. This includes setting up of Urban Metropolitan Transport Authority (UMTA) for Bengaluru, pushing for mass transit projects, looking to build capacities in the area of urban transport planning, increasing road space for pedestrians and non-motorised transport, and other such measures.

With respect to Karnataka and Bengaluru, the Karnataka government has established DULT and BMLTA; however, these agencies do not have much authority to fulfil their mandates, rendering them powerless to accomplish their tasks. The focus on creating transport infrastructure seems to have a bias towards big-ticket projects such as flyovers and under-passes

that primarily favour private motorised users. Even in the domain of public transport, big-ticket projects such as metro rail systems have got a buy-in. On the other hand, low-cost projects like a dedicated bus rapid transit system, suburban rail networks, etc, which could have been completed faster and would have had a deeper impact, are yet to get off the planning block; such outcomes occur because the decision-making processes regarding choice of mass transit projects are not transparent. An alternative analysis to assess the choice of mass transit projects before arriving at a specific mode seems to be currently absent.

There are multiple instances where the spirit of NUTP has not been enacted. These include the resistance to implement a parking policy that would have allowed paid parking and the introduction of tolled roads without necessarily providing non-tolled options.

The key to understanding the actions of some of the agencies is to understand the “compatibility between rules and incentives.” As mentioned earlier, NUTP is at best a policy that needs appropriate legal and financial backing. There has, in fact, been some progress to bridge the gap between rules and incentives. This has been done through the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) that provided funding for investment in urban transport, purchase of public transit buses, and linking funding to urban-sector reforms, including deepening democracy by transferring city planning functions to ULBs. In the case of Karnataka and Bengaluru, the state government did provide assurances regarding urban reforms, but very little actually changed on the ground. In certain instances, promoting mass transit became a vehicle to promoting big-ticket projects (air-conditioned buses, Bengaluru Metro Rail), the real impact of which is yet to be seen. In summary, an effective overarching set of rules seems to be absent in the case of Bengaluru. The newer Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme attempts to implement the spirit of NUTP through focus on sustainable mass transit projects (MUD 2015).

Spontaneity in Bengaluru

The third condition to achieve polycentricity is a spontaneous order (freedom of entry and exit, availability of information). In the case of Bengaluru, these three sub-parameters are extremely restricted (partly on account of legislation). As mentioned earlier, urban transport is largely a state subject and the state government usually has a significant say in the nature of urban transport projects and the planning process as well. The urban transport planning process is such that three to four major agencies are usually in charge of decision-making. The formal rules leave very little scope for non-state players to be formally part of the decision-making process.

However, different groups, with their own interests, use informal means to communicate with the powers that be. In the formal scheme of things, the state government can authorise an entity or individual to be part of the planning process. Over the past decade, Bengaluru has seen two groups—largely led by new-age business heads—coming together to form coalitions

to “make the city better.” These groups managed to get a buy-in to the formal planning process by persuading the then state government (2011–12) to appoint them formally. These groups/individuals are usually relevant till the political leadership finds them useful or till the next election cycle, after which other such groups find favour with the new political administration. The point is that these arrangements of entry and exit are highly informal and the groups/individuals are usually political appointees. Without this, it is often extremely difficult for non-state entities to be formally part of the decision-making process. The Town and Country Planning Act of 1961 states that public consultations (by way of suggestions and objections) are to be conducted before any development project is undertaken. In reality, this seldom happens and even when groups/individuals provide suggestions, the agency in charge of the project does not have any legal obligation to consider these or even respond to these groups/individuals. Issues of public consultations, public approvals, etc, were discussed in detail under the public eye when the southern stretch of Phase 1 of the Bengaluru metro was being constructed. Citizens and activists came together on numerous occasions to form human chains and protest against the felling of trees, proposed alignment, and loss of property. A documentary on the theme prepared by two prominent film-makers shows that there is a notable difference in perception between what citizens expect from the metro authorities (like public consultations) versus what metro officials thought was their duty (which involved merely informing the public) (Rao and Sonti 2014). In more recent times, the metro project has come under criticism for not sharing information (detailed project reports) for Phase 2, which they ultimately did after sustained public campaigns (Smart City 2017; Hindu 2017).

Even though there is very little freedom of entry and exit in the formal sense, government agencies, advocacy groups, consultants, and individuals have found their own ways to play some part in the decision-making process. A favoured way to influencing policy is to co-opt an individual (typically a senior bureaucrat) who wields power in the government. This is a technique that seems to have been perfected by the urban transport stakeholders in Bengaluru. It is also very interesting to note that some of these experts who wield tremendous power do not hold any formal training in transport planning or management.

Information availability is vital for urban transport projects. Information related to urban transport projects could include detailed project reports (DPRs)/proposals, concession agreements, and city master plans. In Bengaluru, as is the case with most of India, information regarding projects is quite difficult to obtain. This is even more so for citizens or advocacy groups who might be affected by urban transport projects or who might be trying to fight the inherent rent-seeking behaviour that usually comes with such projects. In quite a few cases, information availability may be sparse because different departments usually work in silos and may not be willing to share information with those whom they consider outsiders. Information regarding DPRs or concession agreements is also not

made public because they may be deemed proprietary. In many cases, information is not available because the project document may have been cited as “work in progress” or under some kind of review. As mentioned earlier, Bengaluru metro has come in for some criticism regarding non-transparency, and non-availability of data regarding routes, stations, and general decision-making regarding locations of stations, especially for Phase 2. A lot of this information should have been available had a DPR been placed in the public domain. However, it was only after sustained public pressure that the DPR was uploaded on the Namma Metro website. Further, metro officials are also hesitant to take part in public discussions citing the presence of media in such discussions, in spite of the fact that one such meeting was also attended by a member of Parliament from Bengaluru (Hindu 2017; Smart City 2017). In addition, there are cases where information is simply missing or concealed because of fear of exposure of potential scams. In such cases, how does one obtain information, especially if the person happens to be outside the system?

In quite a few cases, information trickles through informal sources, often divulged to news media or people/organisations, which then publicise that information through their own channels. Information also reaches the public domain when a higher authority (usually the courts) intervenes by ordering government agencies to release information. The Right to Information (RTI) Act is yet another way by which information can be obtained. However, suffice to say, with relation to what the theory of polycentricity states, information with respect to urban transport plans and projects is usually not in the public domain and sometimes public battles have to be fought in order to ensure that this information is in fact made public.

Bengaluru and the Polycentricity Chart

Studying the Bengaluru case with respect to each condition for polycentricity, two questions arise: first, what is Bengaluru’s position on the polycentricity chart, as developed by Aligica and Tarko; second, for an ideal polycentric system to be achieved, what are the conditions to be fulfilled in the case of Bengaluru?

Multiple decision-making centres: This condition is fulfilled. There are a number of relatively autonomous government agencies working on different aspects of urban transport in the city. The multiplicity is sometimes on account of the fact that urban transport itself is a diverse domain, with different ministries in charge of different aspects, which is constitutionally mandated. Sometimes, the multiplicity is also on account of organisational design where the state government has deliberately charged different agencies with different aspects of projects.

Active exercise of diverse opinions: This condition is also fulfilled. Almost all agencies related to urban transport evolve respective plan documents, which are their blueprints for different projects. The activity of “active exercise of opinion” is ever-evolving and various agencies (governmental, private,

and non-profit) and individuals are constantly seeking to push the limits. The recent case of opposition to a steel flyover proposed by the state government, through petitions (Namma Bengaluru Foundation 2016), protest marches (Hindu 2016), and presentations to the governor, is an example of the ways by which citizens become active. In the past, a proposed flyover to divert traffic through an affluent residential area was scuttled when residents (led by a member of Parliament) actively protested against it and made their voices heard by the chief minister (Rao 2013).

Overarching set or rules: This is partially fulfilled through the NUTP 2006, which can be considered the overarching policy for urban transport planning. Some agencies such as the DULT adhere to the NUTP by coming up with schemes such as a parking policy, dedicated cycling lanes, BRTS projects, etc. Unfortunately, they do not have much power. One could even argue that agencies like DULT or BMLTA have deliberately not been given adequate authority to fulfil their mandates. On the other hand, agencies such as BDA, BBMP, etc, continue to advocate big-ticket projects that would primarily benefit private vehicles. Their actions are in contradiction to the values espoused by the NUTP. Karnataka government’s push for a rather expensive steel flyover in Bengaluru (costing ₹1,900 crore) in the face of scientific opinion, seems to be an instance of such a big-ticket project that goes against the tenets of the NUTP.

Spontaneous order: This is currently missing. It is the prerogative of the state government to invite different stakeholders to become part of the formal urban transport planning process. Entrants to the table are strictly controlled, though different stakeholders have found multiple ways of being heard, mostly through informal channels.

Thus, from an effective polycentric governance point of view, the case of Bengaluru’s transport planning can best be described as partially fulfilling the required conditions.

Changes Required in Bengaluru’s Transport Planning

Overarching rules: The central, state, and city governments must enforce NUTP that can be considered the set of overarching rules governing urban transport. Appropriate incentive and disincentive mechanisms must be enforced to ensure that different agencies in charge of urban transport strictly adhere to the principles of NUTP while implementing urban transport projects.

Diverse opinion: Active exercise of opinions, including those in the formal decision-making process, needs to be institutionalised. Genuine stakeholders (members of civil society, transport experts, project-affected people, and citizens at large) who would like to be part of the decision-making process must be included in the formal governance processes. Although this is an issue that remains to be carefully re-examined, there has been some progress in this regard. The 74th constitutional amendment on decentralised governance goes some way in

addressing the issues of deepening of democracy. However, much more needs to be done. This includes the need for evidence-based and participatory decision-making that would facilitate alternative analysis as part of the decision-making process.

Entry and exit: As denoted by the framework of Aligica and Tarko, there are different options that can be considered for entry and exit. One such option is merit-based entry, which would allow genuine stakeholders to be part of any decision-making process; the two options in the exit clause (free or constrained) might also be considered, depending on the set outcomes and previous behaviour of existing actors.

Information availability: Clear, transparent, and timely information is required to be disseminated to all actors in order to minimise opportunistic behaviour. This would go a long way in ensuring an effective governance structure. A similar case is the issue of availability of information. While individuals and non-profits are constantly seeking ways to obtain information about urban transport projects, government agencies continue to provide reasons to deny that information. Even after the enactment of the RTI Act, obtaining information remains a significant challenge.

Rule design: Who designs the rules is also an important factor: whether they are designed by outsiders or actors who are part of the system; and “collective choice,” that is, whether they are designed through consensus, majority rule, or by an individual. Each choice has its own set of implications. A polycentric system designed by an outsider might appear to be value neutral, but it also runs the risk of being an ineffective one. Similarly, a system where the actors set the rules may be

based on the reality of that jurisdiction and may seem to be more effective, but, if not done objectively, it runs the risk of being biased. In the case of Bengaluru, there are elements of urban transport planning designed by the central government which may appear to sideline local needs⁷; in addition, there are cases where the urban transport plans decided by local actors such as ULBs may seem to be biased (for example, the choice of a metro over a BRTS, or the choice to leave the planning function to BDA instead of BMRDA). There needs to be informed decision-making which also incorporates inputs from experts and research institutions that could offer scientific solutions to urban transport planning.

Collective choice: The factor of collective choice is yet another one where Bengaluru can make significant improvement. Currently, decision-making is a mix of majority rules—where representatives elected in assembly and civic elections make decisions on behalf of the people and, in some cases, individuals in power make decisions. In many cases, both these models have been ineffective and systems of checks and balances seem to be missing. There has, however, been some forward movement on whether Bengaluru can move towards some consensus model where different stakeholders are part of the solutions—namely through the 74th amendment on decentralised power.

Conclusions

Urban transport planning in Bengaluru has certainly come a long way, and there do exist elements of a polycentric governance system; however, there are institutional aspects which need to be strengthened for transport planning to be considered as an example of an effective polycentric governance system.

NOTES

- 1 This was formally articulated through the formation of the National Urban Transport Policy 2006.
- 2 See “Population and decadal growth rate by residence – Persons” for Karnataka in Census of India, 2011, http://censusindia.gov.in/2011-prov-results/paper2/data_files/karnataka/4-population-8-19.pdf.
- 3 Henceforth, “theorists” will refer to Paul Aligica and Vlad Tarko, so as to differentiate their work from that of the Ostroms.
- 4 A Special Purpose Vehicle/Entity (SPV/SPE) is a subsidiary company with an asset/liability structure and legal status that makes its obligations secure even if the parent company goes bankrupt. For more information, see www.investopedia.com/terms/s/spv.asp.
- 5 See “Bengaluru Metro: About Us,” <http://english.bmrco.in/AboutUs>.
- 6 ULBs have very few sources of direct income: property taxes, advertising charges, etc, are some of the few sources of taxation which come directly under the purview of ULBs. The remainder comes in the form of transfers and subsidies from respective state governments.
- 7 A case in point may be that of JNNURM where bus specifications were prescribed that allowed the ULBs to only choose from a few select bus manufacturers.

REFERENCES

- Aligica, P D and V Tarko (2012): “Polycentricity: From Polanyi to Ostrom, and Beyond,” *Governance*, Vol 25, No 2, pp 237–62, <https://doi.org/10.1111/j.1468-0491.2011.01550.x>.
- Deepika, K C (2016): “Over 60 Lakh Vehicles on Bengaluru Roads, and Counting...” *Hindu*, 9 May, <http://www.thehindu.com/news/cities/bangalore/over-60-lakh-vehicles-on-bengaluru-roads-and-counting/article8573251.ece>.
- Hindu* (2016): “Human Chain against Steel Flyover,” 17 October, <http://www.thehindu.com/news/cities/Bengaluru/a-human-chain-to-protest-steel-flyover-project/article9228946.ece>.
- (2017): “Make DPR for Phase II Public: Citizens, MPs,” 7 October, <http://www.thehindu.com/news/cities/Bengaluru/make-dpr-for-phase-ii-public-citizens-mps/article19820792.ece>.
- MUD (2015): “Atal Mission for Rejuvenation and Urban Transformation: Mission Statement and Guidelines,” Ministry of Urban Development, Government of India, New Delhi, <http://amrut.gov.in/writereaddata/AMRUT%20Guidelines%20.pdf>.
- Namma Bengaluru Foundation (2016): “Bengaluru’s Plea: Don’t Want Steel Flyover; Want Better Public Transport.” *Change.org*, <https://www.change.org/p/bengaluru-s-plea-don-t-want-steel-flyover-want-better-public-transport>.
- Ostrom, E (2009): “Beyond Markets and States: Polycentric Governance of Complex Economic Systems,” Prize Lecture, 8 December, http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2009/ostrom_lecture.pdf.

- Planning Commission (2011): *Recommendations of Working Group on Urban Transport for 12th Five Year Plan*, Planning Commission of India, New Delhi, http://planningcommission.nic.in/aboutus/committee/wrkgrp12/hud/wg_%2ourban%20Transport.pdf.
- Rao, M (2013): “Koramangala’s Latest Challenge—Hosur Road Underpasses,” *Praja.in*, 5 December, <http://praja.in/en/blog/murali772/2013/12/05/koramangalas-latest-challenge-hosur-road-underpasses>.
- Rao, U and G Sonti (2014): *Our Metropolis*, <https://www.ourmetropolis.in/>.
- Smart City (2017): “Bengaluru Metro Makes Phase II DPR Public,” 13 October, viewed on 22 October 2017, <http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/bmrc-finally-makes-phase-ii-dpr-public/article19849214.ece>.

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