

Engaging Complexity: A Prologue to Creating Effective Urban Transport and Land Use Planning for Metropolitan Nairobi

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Bio:

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Summary of paper:

In this paper, I describe the theory behind the CSUD approach to analyzing policy making in urbanizing places in low and middle income countries (LMICs) and how this might be improved to enhance the chances for effective land use and transport planning. I argue that the “strong state vs. markets” debate that dominates much of the current urban policy-planning discussion is largely misplaced. Any effective planning approach in LMICs requires us to simultaneously address urban planning, improvement of urban governance and institution building. The paper proposes a new planning approach built upon the concept of policy networks (described here), which seeks to address these simultaneous challenges. The approach shares aspects of procedural and collaborative planning approaches but is unique in that it addresses the particular constraints of LMICs. The metropolitan region of Nairobi, Kenya, provides the context for this work. However the inherent flexibility and adaptability of the policy network framework makes it a useful approach in other cities facing similar constraints. This is the first of a new series of CSUD working papers that explores the questions of urban complexity and effective land use and transport planning in LMICs.

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I. Governance and Urban Complexity: Creating Urban Policy Networks

Urbanization is a complex and long-term social and physical process. It involves the settlement of socially diverse populations in densely populated urban places. The planning challenge is to create an urban context that addresses the housing, employment and urban service needs of these populations. The success or failure of the planning process critically depends upon the effectiveness of the urban governance process that shapes land use and transport in these rapidly growing city regions, virtually all of which are in the world's low and middle income countries (LMICs).

The dominant policy debate about the governance question in the development literature in recent years posits a sterile choice between a strong activist state of the 20th century variety, typical of the world's high income countries (HICs) or, failing in that quest, freeing the local actors almost entirely from state constraint via policies of privatization and market deregulation, often labeled as neoliberalism. Neoliberalism is rationalized in the presumptive hopes that the collective actions of markets will somehow lead to effective solutions to the social and physical challenges of urbanization where state action has failed. This simple "either/or" policy construction is unsatisfying both as a description of the real choices anywhere or as an especially relevant description of the actual transport and land use planning context in the city-regions of the LMICs.

The everyday reality of urban life tends to fall largely outside the bounds of effective formal government (this is true in both HICs and LMICs, but is particularly characteristic of cities in LMICs). The rational activist state capable of making and enforcing rules exists mainly on charts of governmental organization hanging in the ministries of LMICs. These formal organizational charts bear little relationship to the *realpolitik* of day-to-day decision-making in these rapidly urbanizing places. Governance effectively resides largely in the informal housing and informal economy that sustains the bulk of the socially and ethnically diverse urban residents. These informal mechanisms of governance conform neither to the rationalist norms of a Weberian bureaucracy nor to the self-interested rationality imputed to the operation of competitive markets by neoclassical economic textbook writers. Hence the "either/or" choices of the dominant policy debate are of little help in grappling with the complexity of urbanization as it is actually playing out in the contemporary world.

If we wish to effectively address land use and transport challenges, as a first step we need to develop a planning approach that is in tune with the reality of actual governance. Furthermore it must be an approach that can foster an ongoing process of evolution towards improved mechanisms of effective urban governance. Improving urban governance and urban planning means implementing actions that do two things: improve the actual situation on the ground and support the effective creation of formal institutions of democratic governance and planning. Absent such a two-pronged approach, our policy and planning prescriptions are little more than graphically attractive

documents lining the shelves of government offices and academic libraries.

In this paper, I describe the theory behind the approach that CSUD takes to develop a better understanding of effective policy-planning decision processes in urbanizing places in LMICs and how they might be changed to improve the chances for effective land use and transport planning.

Going beyond the strong state vs. free market dichotomy requires that we create a descriptive theory capable of explaining governance. The theory has to be sufficiently comprehensive that it explains the complex reality of contemporary urbanization while still being parsimonious in terms of explanatory variables. This balance between complexity and parsimony is important for our ability to identify effective venues for planning intervention. In this paper I adopt the theoretical concept of the policy network (explained in more detail below) to provide a theory of urban governance that addresses this need for balancing complexity and parsimony. I argue that through a careful analysis of the policy network, it is possible to devise planning intervention strategies that can permit effective improvement in the underlying situation and strengthen formal institutions of democratic governance.

II. The Stylized Facts of Urban Development: A Challenge for Future Urban Transport

The basis for this work is our research and education experiences in Nairobi, Kenya. However the larger concern here is that we develop a generic approach that is transferable to meet the specific challenges of urbanizing places elsewhere in the developing world. The test for any urban planning theory in this regard is that it is capable of addressing the following five stylized facts. A stylized fact is a simplified presentation of an empirical finding.¹ It is a useful way to describe an outstanding characteristic of a complex social situation.² In terms of addressing the complexity of creating future urban transport in the city-regions of LMICs the five stylized facts that any effective urban transport planning strategy must address are:

1. The era of inexpensive energy is over. *The spatial shape of cities and their surrounding metropolitan regions must be guided by social and economic considerations that emphasize a concern with economizing on energy use, especially in transport.*

2. The environment is no longer a “free” good. *The design of urban spaces has to minimize the production of waste products and especially green house gases.*

3. The predominant residential settlement patterns are formed largely outside the control of the organs of formal government. *The city-regions in these places are typically characterized by residential growth patterns of unplanned inexpensively built structures. These informal*

¹ See Cooley, T. 1995.

² The stylized fact could be an average characteristic (as economic growth rates over time), a dominant characteristic (as persistent differentials in power defined by age, gender, or ethnicity) or a generic element (as disease incidence across diverse populations).

settlements are typically located on sites adjacent to or in close proximity to potential employment centers. Specific locations tend to be sites that are undesirable because they are dangerous to human health and safety. The sources of these locational risks include being on top of or close to rubbish dumps, on sides of mountains subject to mud slides, in flood plains, adjacent to highways and rail lines, etc. These sites often lack adequate access to important urban services including safe drinking water, sanitation, power, urban transport, health care and police and fire protection.

4. The principle source of employment for the growing urban population is in the informal economy.³ *Much of the contemporary urban economy in the city-regions of the LMICs is organized largely around the production and exchange of labor-intensive services undertaken in the context of informality (Bromley and Gerry 1979; Allen 1999).⁴ Because this economy is neither taxed nor monitored by government it is not included in the systems of national income accounts⁵ that characterize the formal economy. One result of this accounting exclusion is that the contemporary informal urban economy is not fully accounted for in urban planning or national economic policy deliberations, despite the fact that it is typically closely linked to the value added created in the formal economy.*

5. The supply of efficient urban transport services is inadequate in relation to the need. *The problem is not that transport service supply is not expanding. Indeed supply of informal transport is strongly driven by market demand. Rather the problem is that the supply response is systemically inefficient in relation to the need given the spatial configuration of these city-regions and their need to expand spatially in an orderly manner in which transport and land use move in closer synchronization.*

These stylized facts are the metric against which we must judge any proposed planning approach to the problems that plague city-regions of LMICs. Absent effective urban mass transport systems it is going to be impossible to create patterns of global urbanization that can deliver on the promise of an environmentally and socially sustainable world. But it will be impossible to create an effective urban transport system if we do not take these stylized facts as the constraints within which we must operate.

III. The 21st Century Urban Planning Challenge

Historically urban transport planning meant the conscious attempt, by state actors, to

³ An informal economy is one that is characterized by activity that is neither taxed nor monitored by government.

⁴ It is not uncommon for enterprises in urban slums to be engaged in subcontracted work for companies that are part of the world's formal global economy.

⁵ National income accounting is the process through which governments calculate Gross Domestic Product (GDP), national income, investment, government spending, etc.

rationally control the size, shape and growth rate of city-regions via the exercise of state power over infrastructure placement, public transport service supply and land use control. The theory behind this approach, known as procedural planning theory, presumes the existence of a formal government with the capacity to effectively determine and implement policy. This formulation of the role of the state in the planning process derives directly from the planning experience that evolved over the course of the 19th and 20th centuries in the industrializing cities of the HICs of Europe and North America.⁶ Attempts to transplant this planning methodology with its implicit assumptions about the role and competency of the state (often proved wrong even in the HICs themselves) to the rapidly urbanizing city-regions of former colonies in sub-Saharan Africa and South East Asia in the early 21st century are proving to be illusive and frustrating. If we are to achieve a significant improvement in the living conditions of the world's poorest people, mitigate the causes of climate change, adapt to the changes already underway and create conditions for sustainable life on this planet, then it is imperative to devise approaches to urban transport planning rooted in the experience of the LMICs as they are, and not of the HICs as they were or hope to be.

To do this, it is necessary to engage in a more complex planning process; one that addresses the need for the effective evolution of procedural planning institutions and that also directly addresses the pressing needs for better access and mobility. Making the challenge even more complex is the fact that the urban transport problem cannot be divorced from the multiplicity of interconnected housing, economic, water, sanitation and other problems facing these burgeoning city-regions.

The term “governance” rather than “government” is used for two reasons. The first is to emphasize the fact that it is not possible to re-create the type of formal state power within the 21st century city-regions of the LMICs that existed in the era of urban industrialization in the HICs.⁷ The challenge of meeting the needs of the people that live in these places for effective urban planning and urban services will only be met through the evolution of institutions of shared responsibility among the agencies of formal government, civil society organizations and the private sector. The second is to convey the idea that what we seek is a qualitative dialogue and relationship among stakeholders and not a formal, static, and rigid set of Weberian public bureaus that oversee society with perfunctory “consultations.” The question is how to create the capacity for the type of fluid governance that can effectively address the needs of these city-regions in light of the stylized facts of their existence. In essence we are seeking to create formal procedural planning processes that are inclusive of a range of interests but also to recognize that these processes will not be subsumed under the guise of a powerful state with effective bureaucratic reach.

IV. Policy Networks: A Primer

The way in which we are approaching this challenge is via the creation of policy

⁶ The modernist state, as it is called, took both democratic and totalitarian forms.

⁷ The reasons for this conclusion are part of a larger complex discussion that extends beyond the scope of this paper. Suffice it to say that that it is in part a reaction to the totalitarian forms that the modernist state took in the middle of the 20th century and in part a reaction to the colonial past from which these developing nations are still emerging.

networks around the urban and transport planning challenges of the growing city-regions. A policy network is a group of stakeholders, all of whom have an interest in a given policy sector and the capacity to help determine policy outcomes. Policy networks exist in all places at all times. The first step in the conscious creation or adaptation of networks is understanding the operation of existing networks. We seek to understand the bargaining process through which stakeholders arrived at the present state of affairs. The methodological challenge is to construct a model of the specific existing network that is sufficiently comprehensive that it includes all relevant parties but that is not so large as to be unworkable in terms of any new proposals.

Network analytic models take a range of forms. The most widely accepted form, the Rhodes model⁸, focuses on three characteristics in defining the nature of the network. These are the relative stability of the network, the relative insularity of the network and the resource dependency among network members. In terms of stability: do the same actors tend to dominate decision-making over time or is membership fluid and dependent on the specific policy issue under discussion? In terms of insularity: is it a tight knit and exclusionary group or is it open, inclusive and permeable by a range of stakeholders with differing interests? On the issue of resource dependency: to what extent do network stakeholders rely on one another for support in the form of funding, expertise and legitimacy? Conversely are stakeholders independent of each other with independent resource access?

Using this tri-partite analytic model, a continuum of network types emerges. On one end of the continuum are single-issue coalitions with tightly integrated agendas. At the other end there are networks that are very loosely connected to one another but share an interest in some very particular issue. The former groups can be very powerful in shaping the public policy agenda on their issue of concern. That is not the case at the other end of the continuum where the issue-affiliated groups have little else in common. Clearly understanding the exact make up of any given policy network is an important step in understanding its potential for a sustained role in shaping public policy.

V. Collaborative Planning and Policy Networks

Planning theory attempts to explain how planning works in practice. The challenge here is to develop an approach to planning that can be synthesized with the process of policy dialogue via networks. Although there are a range of theories within the academy about planning and within planning (Faludi 1973a; Faludi 1973b) there are essentially two approaches that dominate practice; procedural planning theories (PPTs) and collaborative planning theories (CPTs). We will need elements of both if we are to succeed at institutionalizing the type of formal planning procedures described above. PPT evolved in the HICs in the mid 20th century in response to the ever-growing diversity of information that urban plans needed to take into account. Mid 20th Century planners saw themselves as experts in the integration of information from diverse sources of expertise such as designers, engineers, health experts, etc. (Rydin 2003; Flyvbjerg 1998). Through the device of a procedural method of knowledge integration

⁸ See Marsh, D. 1998; Marsh, D. and R.A.W. Rhodes 1992; Rhodes, R.A.W. 1997.

planners would assemble all the relevant information and create a plan that would achieve the predetermined goal. The problem with this approach was that it largely ignored all the social, political and economic factors that created the context in which the planning was being undertaken. As previously noted it also assumed the existence of a strong effective state bureaucracy in which planning expertise was identified with multi-disciplinary information integration. Yet more often than not it was political context in the HICs, more than the rationality of the formal planning process that determined the success or failure of the endeavor (Flyvbjerg 1998). There is no reason to assume that political context counts for anything less in the LMICs. Thus it became increasingly apparent everywhere that while planning procedures are necessary, they are not sufficient for the creation of successful plans. The important missing element in the process was the “buy in” or “collaboration” among all the stakeholders that could potentially affect the outcome.

It was out of this insight that CPT was born (Healey and Gilroy 1990; Healey 1996). A key assumption of CPT is that even though individuals are to some extent constrained by structural forces (social, political and economic), at the same time they also have agency to make decisions and change the course of a given situation. In various forms, CPT is today the dominant approach to planning in virtually all parts of the world. It recognizes that for a planning process to be successful, there must be participation by significant stakeholders. While that much is clear, it is also the case that a great deal of difference of opinion exists as to the definitions of both the terms “participation” and “stakeholder.” These are terms that require further context-specific elaboration. The approach that we take to the transport planning challenge is to place our efforts at policy network analysis and creation within a context of collaborative planning. The dilemma that this creates is that to be effective, planning needs both procedures and collaboration. The argument that is implicit in the five stylized facts outlined above is that a strong state does not exist in the city regions of the LMICs. Collaboration in the absence of effective state-run procedures does not ensure that a plan will be implemented no matter how well the process moves it forward. Consequently in the adaptation of policy networks to the challenge in urban planning in LMICs we need to be mindful of the need to move ahead on both an institution building and problem solving track at the same time.

VI. The Context of Transportation Planning for Metropolitan Nairobi

The current public transport situation in Metropolitan Nairobi can be summed up as follows: To the extent that the metropolitan region has a public transport system, it is a para transit system. In terms of governance it is a complex and sophisticated, if quasi-legal system. Despite the organizational sophistication of the industry, its demand flexibility, competitiveness, and spatial range, matatu para transit can never be the primary urban transport mode for a vital greater Nairobi metropolitan region. It is not designed for such a challenge because the aggregate measure of service supplied is entirely disconnected from the capacity and quality of the underlying road infrastructure. Additionally because it is virtually completely demand driven, matatu suppliers do not consider the spatial needs of a growing metropolitan region. They only respond to shifts

in current demand. As a result the competitive and fragmented matatu industry as presently organized can never be a force for orderly spatial development. As an industry it cannot do more than react to the conditions of the roadways, the competition within the industry, and the spatial intensity of the market demand of its customers. As a result it concentrates supply where demand is the thickest, contributing to massive road congestion, especially in the central business district (CBD). At the same time it under-serves areas vital to the future growth and development of the metropolitan region that presently have weak demand.⁹ That effectively leaves a large empty space where a comprehensive land use-transport planning effort needs to exist if the growth of the region is to be channeled into efficient and equitable economic development. It will only be through the comprehensive regional planning of transport infrastructure in concert with land use that metropolitan Nairobi will attain its potential to be a large and vital economic hub for all of east Africa.

The various fixed route bus operations that now ply the streets of Nairobi and its environs are not capable of filling the void. They are at best a secondary system. For approximately half of the urban residents, walking is the primary means of urban transportation. As a result the streets and roads that service the CBD are congested all day long. It is important to remember that the carrying capacity of these public ways has not been significantly upgraded since independence. It is not uncommon for trips as short as three to five kilometers taken by motorized transport to take more than one hour. Sidewalks for pedestrians are few, so walkers compete with motor vehicles for travel space on these roads. The result is that in addition to heavy traffic congestion there are also unacceptably high pedestrian fatality rates. The air quality in and around the city is poor, which leads to high rates of respiratory disease.

In the vacuum created by this lack of modern high-speed public transport, Nairobi is characterized by high density slum settlements near the CBD and other employment centers. The poorest people need to live within walking distance of places of employment, no matter how insufferable the conditions. However anyone who can afford to purchase a motor vehicle and move away from the center of the city does so. This further exacerbates the traffic congestion within the CBD. Despite the rise in energy costs, motorized transport costs are falling as residents discover the economy of two-wheeled scooters and motorcycles. Because all users are subject to the same motor fuel prices, these travel modes are highly competitive price-wise with matatu use. Increasingly an influx of inexpensive second-hand cars from Japan and other places is simultaneously bringing the ownership costs of private automobiles within the reach of a larger swath of the middle class. When viewed from this perspective, the options for decongestion of both slums and traffic look bleak.¹⁰

⁹ It should be noted that this is not a criticism of the para transit function that matatus provide. It is merely to argue that the functions of transit and para should not be conflated.

¹⁰ The recent introduction of very low-cost new autos in India will eventually exacerbate the situation further. See New York Times October 12, 2007 "In India a \$2,500 pace car."
<http://www.nytimes.com/2007/10/12/business/worldbusiness/12cars.html?pagewanted=all>

VII. Conclusions

In terms of policy networks, the key actors must come from the ministries of Nairobi Metropolitan Development, Lands, Local Authorities, Roads and Transport, as well as representatives of the bus and matatu industries, local officials, community-based organizations, employers and workers, among others. The challenge of network analysis is to first understand how the existing network operates and then to identify key individuals and link them together in a network organized around creating a metropolitan vision and plan for Nairobi.

If the land use and transportation situation is to change, it is not only a question of creating a rational metropolitan development plan, though that is a necessary condition. It is also necessary to have both a clear procedural and strongly collaborative planning process in place. To fulfill these necessary conditions, the sufficiency condition requires a process of institution building embedded in the planning effort. Absent such an institution changing effort, the social and economic dynamic built into the present transport situation will only increase pressure on the government to build more roads, widen others and build flyovers or overpasses that will have the effect of furthering the sprawled and informal spatial shape of the region.

The critical first step is to gain a clear understanding of how the existing policy network operates and how it might realistically be adapted to alter the destructive dynamic built into the status quo. In terms of establishing a progressive policy network, the present moment is hopeful. In March 2008 the national government established a Ministry of Metropolitan Planning for Nairobi. Its mandate is to look at the larger public service, governance and land use challenges of the entire region. The urban transport question is central to its mission. Undoubtedly Bus Rapid Transit (BRT) will soon be on the agenda. For a BRT plan to succeed it is both necessary and sufficient that the private bus companies along with the matatu industry be involved in the process along with community based organizations, private sector representatives, the academic community and nongovernmental organizations that are expert in relevant areas. It would be the height of folly to ignore the history and institutional reality of the present system as the design for a modern urban mass transport system is put in place. None of the existing stakeholders alone can create a new system with their own resources. However any of them alone can severely set back any forward progress in this area. The creation of the new ministry, along with the law that empowers it can serve as a catalytic agent to empower a dynamic policy network that will lead to the type of systematic procedural and collaborative planning that the moment calls for. It must be an approach that is fully cognizant of the stylized facts of Nairobi's urbanization process. Although financial resources and technical expertise are critical, these will come in due course. The real challenge is not the need for resources or technical support, but the need to bring about a consensus. Once the consensus is in place the institutional change needed to implement it will follow, if not automatically, certainly with greater ease than would otherwise be the case.

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