

**Socio-technical Comparison of Unequal Urban Mass-transit Systems in Gurgaon (India)
and Sitta October (Egypt)***

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Abstract

Based on first-hand study of urban mass-transit operations, this paper compares systems of mass-transit services provision in two towns: Sitta October in Egypt and Gurgaon in India as *oeuvres* to assess the natures of their respective urbanities. Both towns are few kilometers from the capital cities, Cairo and Delhi. Their physical layouts, demographic profiles and economies change to reflect patterns of interaction between global flows of capital and labor, national and local institutions of planning and government, infrastructure and historical influences from respective surrounding regions as well as the survival strategies of groups and individuals. Through a spatial political economy analysis of Large Technical Systems involved in the supply of mass-transit services, this analysis interrogates modes of physical mobility associated with privatization of services and the dwindling of welfare-related programs. It contextualizes the dynamic interaction between government institutions and private suppliers, the changing modes of urban governance within neo-liberal transformations and argues that these systems are socially constructed and socio-political dispositions remain decisive in shaping the relationship between global flows of capital, labor and institutions of governance on one hand and the modalities of urban unequal mobility on the other. (190 words)

Sociological studies of cities usually address urban change, governments, politics, cultures and identities without exploring how infrastructure networks mediate all these dimensions. Focusing on transportation, this paper re-conceptualizes the relation between infrastructure and cities by conceiving of transport infrastructure as socially constructed technical systems, interdependent with land use, planning and construction technologies, and governmental and para-governmental institutions and regulations. These systems work simultaneously in harmony and discord, to provide inhabitants with urban services and amenities. Rather than individual causal agents in the process of urbanization, these infrastructures are reflections of the social and historical modes of spatial fixity and movement. The forms they take and the functions they perform could sharpen our sociological understanding of the similarities and differences among cities, regions, groups and cultures.

Based on first-hand study of urban mass-transit operations, this paper compares systems of mass-transit services provision in two towns: Sitta October in Egypt and Gurgaon in India as *oeuvres* to assess the natures of their respective urbanities. Both towns are few kilometers from the capital cities, Cairo and Delhi. Their physical layouts, demographic profiles and economies change to reflect patterns of interaction between global flows of capital and labor, national and local institutions of planning and government, infrastructure and historical influences from respective surrounding regions as well as the survival strategies of groups and individuals. Through a spatial political economy analysis of Large Technical Systems involved in the supply of mass-transit services, this analysis interrogates modes of physical mobility associated with privatization of services and the dwindling of welfare-related programs. It contextualizes the dynamic interaction between government institutions and private suppliers, the changing modes of urban governance within neo-liberal transformations and argues that these systems are socially constructed and socio-political dispositions remain decisive in shaping the relationship between global flows of capital, labor and institutions of governance on one hand and the modalities of urban unequal mobility on the other.

Egypt and India are heavily populatedⁱ, with diversified, yet predominantly agro-economiesⁱⁱ. Their respective states came into existence under British colonial rule. Upon independence in 1952, Egypt emerged as a bureaucratic authoritarian state (Waterbury 1983), whereas India forged a particular democratic route following the partition in 1947. Since then, both countries shared a brief history of non-alignment inspired by the zeal for development and associated with state-led industrialization, import-substitution and an “explicit commitment to prolonged, if not indefinite, state intervention” in market processes (Ibid: 13). The 1970s marked the failure of these strategies to simultaneously pursue capital accumulation, resources redistribution and reform. Both states started to withdraw their welfare dispositions at varying rates.

Since the initiation of the Open Door Policy Packages in 1974, Egypt has been steadily liberalizing its economy within the framework of Economic Reform and Structural Adjustment Program (ERSAP) started vehemently in 1991ⁱⁱⁱ. India treaded a similar path by mid 1980s, turning “by stealth” towards a liberalizing economy (Kohli 2006; Nayar 2006). In 1991, with the Congress in power, the country embraced an economic reform program similar in gist to Egypt’s ERSAP. Nevertheless, in 2008, both countries remain poor with rampant inequalities of income and livelihoods. Although Egypt’s average GDP grew annually at 4.4 percent and India’s at 6.1 percent; 44 percent of Egyptians and 78 percent of Indians lived below US \$ 2 a day. In 2003, the ratio of the richest 10 percent to the poorest 10 percent was 8 and 9.5 respectively (World Development Report 2003)^{iv}.

Inequalities extend to the urban systems. In 2005, almost 43 percent Egyptians lived in urban areas. Out of 26 administrative governorates, 4 were entirely urban (Cairo, Alexandria, Suez, and Port Said), with more than half the country’s population. They received most public and private investments in infrastructures and services. Cairo stands out as the primary city par excellence, home to 15 percent of the total population of the country (Egypt Human Development Report (EHDR) 2005). In India, unevenness was more pronounced, due partly to the subcontinent’s expansive territories and regional variations (Ramachandran 1989). In 2005, around 29 percent of Indians lived in urban areas. Out of 3700 urban settlements, 35 were metropolitan cities, home to a minimum of one million strong each. Bombay, Delhi, and Calcutta top these metros and collectively host 48 million persons (Parikh and Radhkrishna 2005).

Access to urban amenities and livelihoods is rampantly uneven. In 2003, 97 percent of the total urban population in Egypt had access to water source, compared to 84 percent of urban Indians; 98 percent of urban Egyptians had access to sanitation compared to 28 percent of Indian (EHDR 2005). The seeming universality of access in Egypt obscures differential efficiency, sustainability and geographic outreach related to uneven access to incomes and livelihoods. Although in 2005, almost all households in Cairo had statistical access to electricity, piped-water and sanitation^v, 16 percent of all Cairens acquired the lowest 40 percent of incomes. In Delhi, 93 percent of households had access to electricity yet 8 percent of the population lived below the poverty line (Economic Survey of Delhi 2002). Almost half of urban Egyptians (45 percent) and half of those who lived in Greater Cairo resided in informal settlements (Bayat and Denis 2000). In Delhi, 45 percent lived in slums. In both cities there were high incidents of illegal tapping of power, telephone lines, water sources and sanitation (Economic Survey of Delhi 2002).

Concerning transport, in Delhi, around 23 percent of the capital's annual plan outlay of Rs 50,000 crore^{vi} for 2004-05 was earmarked for the city's transport sector along with a high capacity bus system (HCBS) (The Financial Express Feb. 1, 2005). Similarly, since the 1970s, major developments have transpired in road infrastructures in and around Cairo - bridges over the Nile, urban motorway viaducts, underground carriageways and underpasses, ring roads and radial motorways. Many of these infrastructures were not accessible to urban state-run buses. The government developed a 60 kilometers heavy metro network along the major transit corridors and partially liberalized surface transport network. Meanwhile, both countries continue to possess large public transportation authorities, incapable of meeting rising demands for daily passenger transport and governments are seeking alternative venues for service provision. Within this context, how can understanding transport infrastructure help theorize the city and urban mobility?

Theoretical Oeuvres

"A major obstacle to comparative research is the lack of viable middle-level theories that are capable of embracing nations with very different histories and social life"^{vii}.

Infrastructures are socially constructed and cities are "infrastructural constructions" (Graham and Marvin 2001: 179). Transportation in particular is intimately related to processes of urbanization as fixed and mobile capitals (Harvey 1985). It is a Large Technical System (LTS) locked up in a dialectic relationship with socio-spatial forms and institutional structures in regulating mobility across time and space (Beckmann 2001). This paper compares processes of urban mass-transit provision and modes of urban governance in Sitta October, Egypt and Gurgaon, India through an amalgam of social construction of technology (SCOT) approach and the perspective of Unbundling Large Technical Systems (LTS). It analyzes the relation between infrastructure and cities by conceiving road infrastructure networks and urban mass-transit services as fixed and mobile technologies respectively, constructed and reproduced through primary and secondary socio-technical systems. Primary systems refer to roads and vehicles, whereas secondary systems refer to administrative structures and agencies, policy frameworks and governance institutions. The structures, functions and dynamics of these systems reflect socio-historical modes of spatial fixity and movement that characterize each city.

The initial analytical category is the "relevant social groups" (Clayton 2002). These are groups who play a role in the development of technological artifacts and bestow shared meanings upon them. In the context of Egyptian and Indian cities, these groups include, but are not limited to government and non-government actors, formal and informal service providers. The concepts of "stabilization" and "closure" are also relevant to the present analysis. Stabilization referred to the time frame across which the artifacts continued to develop and closure referred to the stage when further developments were constrained or exhausted (Bijker and Pinch 2002). SCOT flexibly interprets the development of artifacts and argues that technologies historically unfold through an interactive social process and that they affect economies and spaces through socio-political mechanisms.

Yet, identifying relevant social groups and meanings they attach to artifacts does not sufficiently explain the changes within primary and secondary LTSs or their spatio-temporal effects. Therefore, the paper supplements SCOT with a spatial political economy strand (*cf.* Winner 1993; Clayton 2002; Bijker and Pinch 2002). After identifying relevant social groups on the national scale, it

contextualizes infrastructure networks and spatial forms within three vectors: a) global flows of capital and governance rationales, b) emerging regional administrative changes, c) existing institutions of local government, and d) the will of private operators to have a stake in their own livelihoods. The first vector pertains to the dismantling of welfarism and associated inflows of global ideas of unbundling of LTSs; the second refers to the emergence of regional spatial, policy and administrative scalar differentiation of national territories; the third pertains to structural and dynamic changes of local governments towards ad hoc and special purpose departments and the fourth conceptualizes how non-governmental providers survive within these contexts bearing in mind that the states in Egypt and India have different political dispositions.

Dismantling and Unbundling of “Natural Monopolies”

“The mobilization of self assures its own reproduction by creating social, spatio-temporal and technological conditions that restrict the genesis of any other mobility paradigm” (Beckmann 2001:594). Unlike cities in advanced countries, physical mobility in Egyptian and Indian cities is characterized by multiple contending modalities, making Beckmann’s statement difficult to visualize without resorting to issues of power. It is argued that extending infrastructure networks is as much a political as a technological decision. “[U]rban infrastructure networks embody power relations and reflect highly uneven political-economic struggles between firms, state and public sector organizations and wider social agents” (Graham and Marvin 2001:195). Diverse agents stand at different positions of power that determine their capacities to mobilize resources to ensure continuous and reliable access and use of infrastructure networks and technologies (Beckmann 2001, Graham and Marvin 2001).

On the national-scale, “relevant social groups” in transport infrastructure networks include central and federal governments, international donor organizations, local governments and private sector formal and informal actors. Since independence, the governments of Egypt and India have differentially subsidized road networks and urban mass-transit services. Both countries inherited road and surface transport networks designed for colonial, extractive purposes (Ibrahim 1978; Chaichian 1988) and experimented with various strategies to build upon and redirect these networks. The predominant strategy was premised upon the Keynesian logic of constructing standardized and integrated infrastructures networks, built upon the technical notions that goods and services are “public” i.e. equally accessible and affordable to all sectors of society and that infrastructure networks should best be provided through “natural monopolies”^{viii}.

This logic closely entwined with the formation of nation states and their legitimization through the “rational modern ideal” of planning national territories and economies and management of resources through state transport undertakings (STUs). However, in spite of social-welfarist dispositions and slogans of “industrial catching up with the West”, “economic sovereignty”, and “subsistence and fairness” state strategies in Egypt failed to ameliorate uneven spatial developments (Moore 1994; Mansfield 1969). In India, development planning not only failed to separate an ideal of instrumental rationality from the domain of politics but also failed to assert itself as an independent instrument of politics, outside power contestations (Nayar 1972; Chakravarty 1989; Chatterjee 1997; Byres 1997). Scholars blamed national five-year plans for reducing socio-economic development to economic growth and failing to separate technical expertise from interest groups within state structures (Khilnani 1998).

Similarly, STUs in both countries sustained unduly performances due, among others, to long gestation lags of investments, inadequate project planning, lack of foreign exchange, unskilled personnel, transport difficulties, absence of market surveys and frequent infrastructure failures (Rao 1967). More over, congestion, low commercial speed, pollution and accidents characterized modes of mass-transit within cities in both countries. In early 1980s Greater Cairo, suffered from severe traffic congestion, polluted air, and high accident rates. Its population grew annually at 4 percent, while car ownership rate grew at 17 percent. However, 63 percent of daily trips were by public transport. The road system was only 60 percent paved and consisted mainly of ordinary streets with poor traffic control (World Bank 2000). India’s situation was comparable; while the population in India’s six

major metropolises increased 1.89 times from 1981 to 2001, the number of registered vehicles went up 7.75 times (India Infrastructure Report 2006).

Meanwhile, resource constraints precluded road expansions while existing road designs did not allow segregation of vehicles travelling at different speeds. Simultaneously state-run transport facilities declined. In Delhi, while the number of personal vehicles per 1000 persons expanded three times between 1981 and 2001; the number of buses per the same unit increased only 2.3 times. Further, the share of public transport vehicles in the total vehicle fleet in the country declined; while the share of buses in the total motor vehicle fleet was 11 percent in 1951, it came down to only 1.1 percent in 2001 (Ibid.).

Demographic changes within Egyptian and Indian cities throughout the 1970s and 1980s further devoured STUs capacities. The influx of migrants to cities compounded with natural increase hiked up instances of squatting, encroachments and poverty. Large sections of migrants travelled on public transport without paying, tapped electric, water supplies and other amenities. They held no legal titles to their places of habitation pushing governments into distinct relationships with these populations creating what Chatterjee (2004) labeled 'political society'. In budgets, STUs assumed more than half daily commuters as defaulters and took over loading, low performance and inefficiencies as inevitable predicaments.

Global economic crises compounded demographic changes. In cities, governments were particularly wary of the rising demands of the urban poor and sought to safeguard against political upheavals. While India resorted to Emergency, in Egypt the situation was not much different. After "intifadat el haramiya" (the uprising of thieves, as Sadat nicknamed the riots that flared up in cities in reaction to World Bank stipulations to remove food subsidies in 1977), there was virtually no political activity allowed in Egyptian cities. In India, there were temporary restrictions on activities of communist parties at that time (Chatterjee 2004). Both governments initiated various ad hoc measures, sometimes advocated and funded by the World Bank to upgrade urban amenities and services. They faced mounting problems, which reflected in repeated budgetary deficits and reductions in infrastructure expenditures.

Under World Bank stipulations, governments eased out the restrictions over private capital involvement in infrastructure developments. In 1973 the government of Egypt sought money capital to rehabilitate several cities affected by the war. Helped by the oil boom - accompanied by flows of money remittances from around three million Egyptian migrant laborers in the Gulf, the government inaugurated the Open Door policy packages, "Infitah", in 1974, which welcomed private capital investments in infrastructure and the economy (Mabro 1974). The program of new urban communities was initiated under these policy packages and gave tax incentives and holidays to Egyptian and international private capital to venture into manufacturing industries. The state was to provide basic infrastructure networks such as electricity, primary roadways, and telephony in collaboration with elected boards of trustees, mostly businesspersons in charge of managing the affairs of the new urban communities, as in Sitta October. By the late 1970s, the sudden drop in oil prices and emergence of the debt crisis, led to the first round of structural adjustments measures (El-Ghazali 1971; El-Hadi 1993; Denis 1997).

Similarly, India reached the 1970s with low growth rates and "a license-obsessed, restrictive state" (Bhagwati 1999:34). There were closures to trade and investment, over-evaluated currency that reflected import substitution strategies of earlier decades and a government unable to sustain social expenditures and the low rates of private investments (around 19-20 percent). These factors constrained the increments on profit margins and the economy was severed from the elastic world markets and forced to depend on sluggish agricultural expansion and low rates of foreign direct investments. There was overall low levels of efficiency and state owned enterprises suffered incremental losses. The ministry of industry acted as a restrictive agency through licensing systems and eventually the government declared Emergency (Frankel and Rao 1990; Frankel 2005). In the years to follow, the Egyptian and Indian governments undertook the structural adjustment programs and stipulations of international funding organizations and took up the privatization of their respective economies and infrastructure networks.

The trajectories of LTSs' development vary across contexts. In most Western cities, they moved from an initial growth phase to accelerated growth and later into stabilization, where they became "black-boxed" and "taken for granted" (Graham and Marvin 2001:160). This was followed by a decline phase where newer, privately-run systems came up. In Egypt and India LTSs repeated failures increase their visibility. Repeated STUs failures and dysfunctional planning in both countries delay stabilization of primary and secondary LTSs; populations on the receiving ends repeatedly question governments' capacities to provide such systems. Presently, Egyptian and Indian governments are rethinking their positions on "natural monopolies" and separating the construction, maintenance and provision of previously integrated infrastructure networks and services through importing technological innovations in production and management. Meanwhile, several associated policy changes and institutional transformations are underway to facilitate national and foreign direct investments (Graham 2000).

India with 3.3 million kilometers of predominantly poor quality roads carrying nearly 65 percent of freight and 85 percent of passenger traffic is taking drastic measures to allow private investments in transportation. The National Highway Authority of India (NHAI) is widening national highways as part of the National Highways Development Programme (NHDP). Under this program, the government seeks to develop a Golden Quadrilateral connecting Delhi, Mumbai, Chennai and Kolkata along the North-South corridor and Srinagar to Kanyakumari and Porbunder to Silchar on the East-West corridor (India Infrastructure Report 2006). Ministry of Shipping, Road Transport and Highways announced that all projects included in NHDP would be implemented through build, own, and transfer (BOT) contracts. It is claimed that these contracts mark a revolution in BOT projects, with some bids opting for negative grants i.e. private infrastructure companies bidding for contracts to build roads offer to pay the government a lump sum amount arrived at through the bidding process if awarded the contract (Rastogi 2006).

In Egypt, the fifth five-year social and economic development plan (2002-2007) highlighted the importance of private investments in road infrastructure networks. The government gave precedence to governorates and new urban communities close to ports and linked to international markets. The plan's first year 2002/3, indicated that "priority" locations gained 365 kilometers of new roads compared to 200 kilometers in existing towns. Similar importance was due to the project that links sectoral highways to the International Highway between Rafah, on the eastern borders with Israel, and Salloum, to the western border with Libya (MoH 1999). In addition, the government plans to expand existing stock of transportation infrastructure networks and construct a freeway system with L.E. 20 billion over twenty years. It plans to electrify the railway line between Alexandria and Aswan with L.E. 10 billion over twelve years and construct a new line from Ismailia to Rafah with L.E. 650 million over four years, and that between Cairo – Ismailia with L.E. 2 billion over four years^{ix}.

Similarly, there are plans to develop a high-speed train service between Alexandria and Aswan with L.E. 15 billion over fifteen years, upgrade 400 railway stations with L.E. 20 billion over twenty years and complete Cairo Metro network with L.E. 25 billion. Concerning commuter services, Minister of Finance declared in 2007, that the intention is to facilitate labor mobility across national territories so as to control rising rates of unemployment (official estimate is 8.8 percent). This means the construction of light rail lines from Alexandria to Borg el-Arab industrial town with L.E. 2 billion over three years, another between Cairo and 10 Ramadan town with L.E. 3 billion over three years and another connecting Cairo to Sitta October with L.E. 2 billion over two years^x.

Regional Spatial Apartheid

Unbundling represents capital's attempts to resolve the contradictions between the need to speed up turnover time and spatial fixity (Harvey 1990). Empirically, while unbundling integrates national territories through large-scale communication and transportation networks, it simultaneously connects specific privileged points and "bypasses" others (Graham and Marvin 2001). The National Capital Region, Delhi and Greater Cairo Region are cases in point. Although, the idea of creating national capital regions has occupied policy-makers in both countries since the 1960s, tangible administrative measures were taken only in the 1970s (Richardson 1981; Mishra 2005). Since the 1990s, "premium" road and communication infrastructures are increasingly shaping up these regions and intensifying

their connectivity to investments, land use changes, economic activities and labor flows^{xi}. While in India a tangible policy framework exists since 2000 (National Capital Region Directory 2000); a comparable document is absent for Greater Cairo Region. Yet, in both cases, governments are adamant to construct ring roads and intensify connectivity within these regions. Recently, Cairo Governorate contemplated extending Cairo Underground Metro to Sitta October, whereas in Delhi the extension of Delhi Metro to Gurgaon is already underway.

The Government of India extends transportation infrastructure networks to tier I cities such as Delhi Metro Rail, Bandra-Worli Sea Link in Mumbai, and Bangalore Mass Rapid Transit. It has only recently started extending these tiers II and III cities such as Pune, Nagpur, Kochi and Jaipur. The advent of Information Technology and its Enabled Services supports these projects. Similarly, the Government of Egypt has always allocated funds predominantly to metropolitan cities. Cairo remains the primary city; with 13.4 percent of total state investments in infrastructure and 19.6 percent to Greater Cairo Region (Fifth five-year plan 2002-2007).

Unbundling is also associated with gradual revisions of national road transport policies percolating fiscal authorities to state governments. For instance, the central government of India imposes a cess of 50 paise for national highways development, 34 percent of the central road fund goes to states and union territories. In addition, nearly 30 percent of central road fund, collected through a cess of Rs 1.50 on petrol and diesel goes to states; while about 60 percent goes to building national highways and rail over-bridges (India Infrastructure Report 2006). The Department of Road Transport and Highways drafted a national road transport policy to ensure greater participation of the private sector and rationalization of motor vehicle tax regimes across states, eliminating octroi and imposing a value added tax. The policy focuses on environmental, technological and fiscal aspects of motorized transport and gives more room for states to issue their respective statutes. It has room for the creation of equipment leasing companies, accreditation of vehicle body manufacturers and a differential taxation system to encourage use of multi-axle vehicles. It also encourages state governments to establish co-operative societies to train unemployed and unskilled youth for maintenance services.

In Egypt, the government does not announce any clear policy framework but the five-year plan (2002-2007) contains rudiments of a mass-transit policy. It considers transport sector a “strategic axes” of development and stresses the need to coordinate and integrate various modes of transport through upgrading infrastructures and linking transport networks across regions. The plan does not discuss mass-transit separately. Apart from article 1.4 concerning the “expansion of use of less environmentally polluting means of transport such as electrical and natural gas”, the focus is predominantly on roads, highways and cables. The document is clear about state strategy of encouraging private sector at various levels, from citizen associations to large-scale foreign direct investments in the provision of housing, transportation and communication infrastructure in general and in new urban communities in particular. It set as target for 2006/7, 135,463 passenger kilometers per million i.e. 54,598 tones kilometers per million for roads. These expectations are based on estimated rate of road utilization of 4 percent of passenger kilometers/million and 6.5 percent of tones kilometers/million.

Inflow of New Technical Solutions

De-bureaucratization, de-regulation and investment flexibility are sought out as the new technical solutions (van Horen 2004). The 74th Constitutional Amendment in India is an example. It grants state governments more powers to raise funds and energizes urban local bodies as the third tier of government. At once, the government launched Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and announced a National Urban Transport Policy in June 2005 that aims gives impetus to public transport and non-motorized vehicles (<http://jnnurm.nic.in/toolkit/Overview.pdf>). Among others, the policy proposes an Urban Metropolitan Transport Authority to oversee public transport development and 60 percent financing to investments in the sector. In Egypt, Governorates have recently been authorized to start up traffic regulation projects as part of youth employment schemes. However, the Governor lacks the authority to distribute revenues towards sector’s development. Meanwhile, the Ministry of Transport has withdrawn from urban mass-transit and except for Cairo Underground Metro and private-companies registered under investment laws, private provision of

mass-transit is the prerogative of Governorates with minimal coordination with the General Authority of Public Transport.

In India, state governments are constitutionally responsible for development of urban transport. Except for cities with corporations, the provision of urban transport services is generally neglected as if it were not part of civic responsibility. In addition, the functions related to passenger mass-transit are dispersed across multiple and multi-tiered administrative and decision-making structures. In Sitta October and Gurgaon, there are no local-level bodies responsible for the service. Nevertheless, there are serious steps towards encouraging private provision of these and other services. In 2000, the State Council in Egypt approved a draft presidential decree to regulate private sector participation in the establishment, management, operation and maintenance of water and waste water utilities for periods of up to 99 years (Al-Ahram Weekly December 14-20, 2000). The decree sought to modify the current concessions law which dates back to the 1940s and allow the establishment of a regulatory agency to supervise private sector involvement in the sector and ensure that the “poor are protected and have access to the service” (Ibid.:8). If the cabinet and the People’s Assembly approve the decree, the government would have come as close to privatizing the sector as possible without actually relinquishing ownership.

It is important to make a nuanced distinction between unbundling of infrastructure networks and the private provision of urban services. Unbundling involves the disintegration of monopoly suppliers and the separation of local and national infrastructures. Predominantly it is about a framework shift: from seeking to roll out and distribute infrastructure networks in a standardized fashion, towards a competitive, enterprise-motivated fashion. It involves “the erosion of standardized tariffs and the concomitant reduction of cross-subsidies between profitable and non-profitable parts of the network; public re-regulation to stimulate competition between public or private suppliers; a growing segmentation of parts of the market; or the easing of restrictions of new market entrants and a restriction on general public investment” (Graham 2000).

Allowing private operators within a general framework of privatization could be a concomitant process, but it is not necessarily parallel to unbundling, nor is it identical to the processes of privatization or concertation as practiced in the west (Pichierra 2002). Egypt and India have always had cooperative societies and associations, self-help groups, small- or medium-scale companies, minibuses, and other modes of urban mobility even before independence. The distinctiveness of unbundling resides in the mode and extent of private provision, institutional frameworks, associated administrative changes and spatial implications.

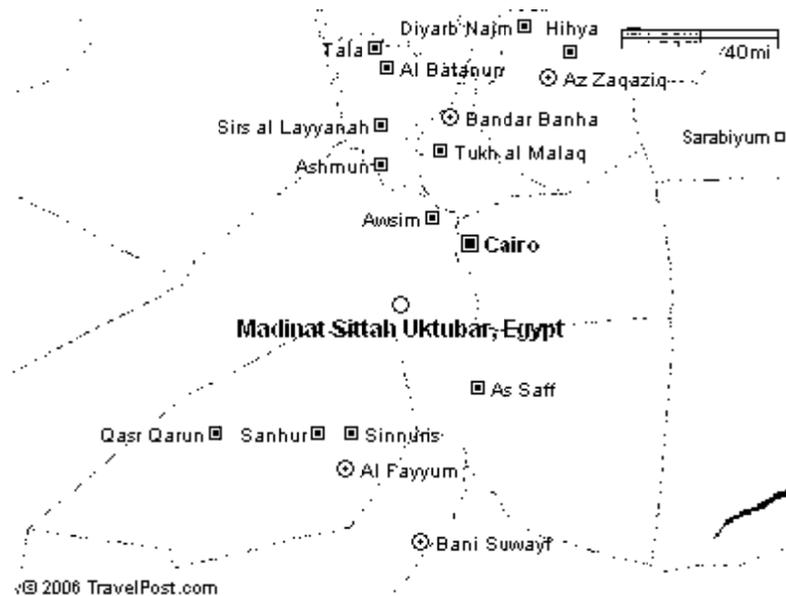
Private provision of mass-transit services has gained momentum particularly after 1990s. In Cairo, private operators provide around 44 percent of daily passenger trips^{xii} and 100 percent of passenger trips in Sitta October. In Delhi, the railways cater to only about 1 percent of local traffic. Buses cater to about 60 percent and are predominantly private, and personal vehicles account for 30 percent (Economic Survey of Delhi 2002). Although State Traffic Officers in India and Governorates in Egypt issue permits and routes for registered bus operators, it is difficult to control how these operators subdivide routes, control tariffs and subtly direct the speeds of urban mobility. Accordingly, it is the shift of governments towards contracting infrastructure operators, opening up state-run monopolies to new forms of regulated and unregulated competition, and the tendency to allow several types of capital to colonize their infrastructural spaces unevenly that makes the unbundling distinctive from the long known private provision of urban services. For this we turn to the two towns.

Sitta October and Gurgaon in Brief

Sitta October is one of the new urban communities within the Greater Cairo Region planned during the 1970s and named after the day of crossing Bar-Lev line during the Arab-Israeli confrontation in 1973. Government planners conceived it as a “growth pole”, 34 km from Cairo’s city centre with a base in manufacturing industries. New Urban Communities Authority administers the city through a city development agency and an elected board of trustees. Sitta October emerged as a post-war artifact at the threshold of the “Open Door” policy packages when the state sought aid through national and foreign capital investments. Forced to undergo stabilization and structural adjustments yet encouraged by promises of technical and financial support from international development organization, late

President Sadat inaugurated a “building and construction” era with the program of new urban communities. The government possessed the secondary technical systems by way of physical planners and administrative structures that would have ensured a successful program. However, it lacked the long-term socio-economic vision and the reliable governmental structures and mechanisms to guarantee the success of its implementation and sustainability.

Figure 1 Sitta October Location

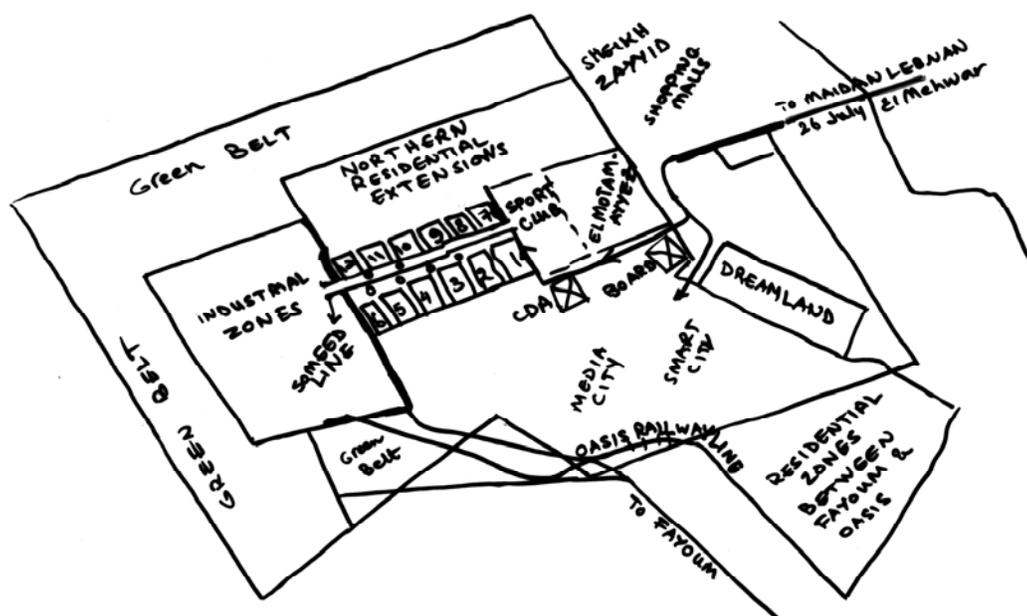


Source: http://www.travelpost.com/AF/Egypt/AL_Jizah/Madinat_Sittah_Uktubar/map/5949543

Although the principals that guided the entire program and the design of the structural plans for each new community bore the stamp of the modernist ideals of growth poles, development corridors, and satellite towns and green belts. However, selecting the sites for the new communities and choosing their names did not follow the same utopian logic. Instead, they reflected the authoritarian nationalist tendencies invested in the persona of the patriotic president. For Sitta October the late President’s decision moored the city perpetually within the orbits of Cairo and Giza, thus distorting the sought after “economic independence” envisioned through a base of manufacturing industries as per the city’s structural plan.

Law 59 (1979) created other deviations by fostering capital-intensive manufacturing industries (Soliman 1998). Except for employees working at the city agency and the contracted cadres at industrial zones, relocating to Sitta October was not necessary (Hassan 1982; Fahmi 1986). The government also did not feel the urge to extend basic infrastructures to residential neighborhoods beyond its centrally sponsored schemes (Fouad 1984). With the exception of Horus rail line built by government, investors extended roads and infrastructures to their factories only. Meanwhile, private sector real estate developers, encouraged by legal stipulations and flows of money capital through Egyptian workers’ remittances, engaged in land speculation and the establishment of residential complexes, targeted at the financially well-off (Mitchel 2002).

Figure 2 Sitta October Land Use Map



Source: Hand-drawn from the City Brochure 2006

The global shift towards IT and associated services and the government's zealous pursuit of ERSAP further changed the morphology of the city. Six private universities, the government-sponsored Smart City with potential call centers and several multinational investment, communication and banking establishments increased the volume of traffic of daily commuters to the city yet it did not translate into permanent residences. Foreign students, who could afford tuition fees and to a lesser extent the employees in the services sectors began to rent flats in government and private housing schemes in neighborhoods nearer to their workplaces, creating demand for domestic and transport services. Meanwhile, the housing schemes funded by President Mubarak's family – Iskan Shabab El-Mostaqbal and Iskan Mubarak and the NUCA constructed housing in the 6th and the 12th neighborhoods reached full occupancy with low- and middle-income residents ready to fill up the need for informal, at times illegal local services. In 2007, Sitta October buzzed with daytime activity, yet remained a relatively deserted city by night.

Law 59 (1979) did not keep up with economic changes or the transformations in demographic and land-use profiles since 1991, particularly the decline in lands used for main roads, central services and other governmental uses. It did not match up with intensified land speculative activities in and around the Green Zone. All the while, other restrictive legal frameworks continued to strangle manufacturing industries in the city thus exacerbating already declining employment opportunities. These transformations transpired within stagnant administrative structures. Since its inception in 1979, New Urban Communities Authority (NUCA) remains the apex government agency with powers over all new communities' development agencies (*el-Jihaz*). While the Ministry of Housing owns all lands in these communities, NUCA supervises land speculations and sales through city development agencies. Although its establishment marked a breakthrough from the restrictive legal and financial frameworks of existing local government structures (*elmahaliyyat*), the authority's organizational structures and mission did not develop in response to economic deregulations of the 1990s.

Similarly, the Boards of Trustees, which enjoyed more fund raising capacities and a better framework for representing local interest groups than *elmahaliyyat*, remain mired in political contestations. In addition, the failure of most new urban communities to meet their development objectives, together with successive cases of corruption involving heads of city development agencies such as *el-Jihaz* of Sitta October partly aggravated the administrative legitimacy of the authority and the board. Media reports point out that since the 1990s the ex-minister of Housing repeatedly

sponsored several consultations and conventions for possible administrative changes, yet no action was taken.

Within the city, unsatisfied with the outreach and efficiency of infrastructures and services, manufacturing industrialists and members of Sitta October Investors' Association continuously question *el-Jihaz* performance and authorities and of government representatives on the board. Residents feel estranged from trustees and *el-Jihaz*. Simultaneously, "civil" members of the board fight out their disagreements on its terrain, mobilizing their political affiliations to gain infrastructure concessions from rent-seeking government representatives. They also manage to negotiate and direct certain executive functions such as planning and project monitoring. The latter are slowly turning into project supervision and seizing to plan for the city. While in the 1990s, many manufacturing industrialists sought legitimacy in sponsoring community services projects, the 2000s witness a change of disposition. Investors sponsor few community services projects to cultivate vote banks. Residents channel their grievances through their representatives but disillusioned with political representation and administrative integrity.

These contestations manifest potently within the arena of mass-transit. State-run buses are scarce, unaffordable and unreliable; neither NUCA nor *el-Jihaz* provides inter- or intra-city means of transport and attempts of entrepreneurs and cooperative associations to provide such services fail. Meanwhile, Governors within GCR give conflicting signals and sanction short-lived special purpose agencies for regulating non-state mass-transit operators. Nevertheless, *el-jihaz* allow several unregistered and mostly unlicensed operators to provide the services and levies daily stand fees from each vehicle, irrespective of vehicle specifications or quality and outreach of services. To the extent that *el-Jihaz* secures a constant source of revenues and as long as all the operators submit to constant security surveillance, residents enjoy a degree of steady supply of mass-transit services.

However, the view is different from operators' standpoint. They come to Sitta October from surrounding governorates and are subject to repressive policing by traffic and security forces. The latter appoint "leaders" from the place of origin of each group of operators to regulate their respective constituencies and facilitate rent generation and in-kind extortions. Leaders are usually allotted facilities to provide in-city accommodation for operators so they can better monitor any "unwelcome" political activities. In response, operators devise counter-strategies to evade these extortions. They use low-tech vehicles to avoid tolling at highways; alternate routes to avoid police check points and radars on highways, strike implicit agreements to share passengers, subdivide routes among each other, and shift the loading spots to avoid inspection patrols. They solve disputes internally without resorting to police and if need be, they resort to violence. Meanwhile, they alter fares, manipulate seasonal supply, and rent their vehicles for illicit purposes. It seems that in the city, the predominant rationale of governance is to sustain political stability, maintain the status quo and ensure steady revenues even at the expense of economic growth and productivity. Conflicts over urban livelihoods are predominantly fought through the rhetoric of "basic needs" with subdued reference to group identities or affiliation with political parties.

Unlike Sitta October, Gurgaon, situated 30 km from Delhi and capital of Gurgaon District, Haryana State, did not originate as a planned community. The existing town goes back to pre-colonial times and retains, albeit nominally, colonial spatial distinctions (civil and cavalry lines). After independence, the existing town retains few ailing administrative institutions such as the city improvement trust (CIT). The trust no longer tries to draw plans or operate apolitically; instead politicians and politically packed bureaucrats fill up its board (Maheshwari 2000). Like many CITs, its tasks increasingly diminished from "betterment of the entire city" (Sharan 2006: 4906) to recommendation of road widening or construction and leasing of shops within its jurisdiction. Nevertheless, trust officers and municipal committee personnel believe that they are "closer to the common man" than other government employees. Meanwhile, Haryana Urban Development Authority (HUDA) emerged in response to extra-local real estate developments and inflows of global investments in the services sectors (Soni 2000). The city is experiencing demographic transitions with migrants from surrounding villages and IT labor pouring in. The municipal committee has now turned into a municipal corporation.

Figure 3 Gurgaon District

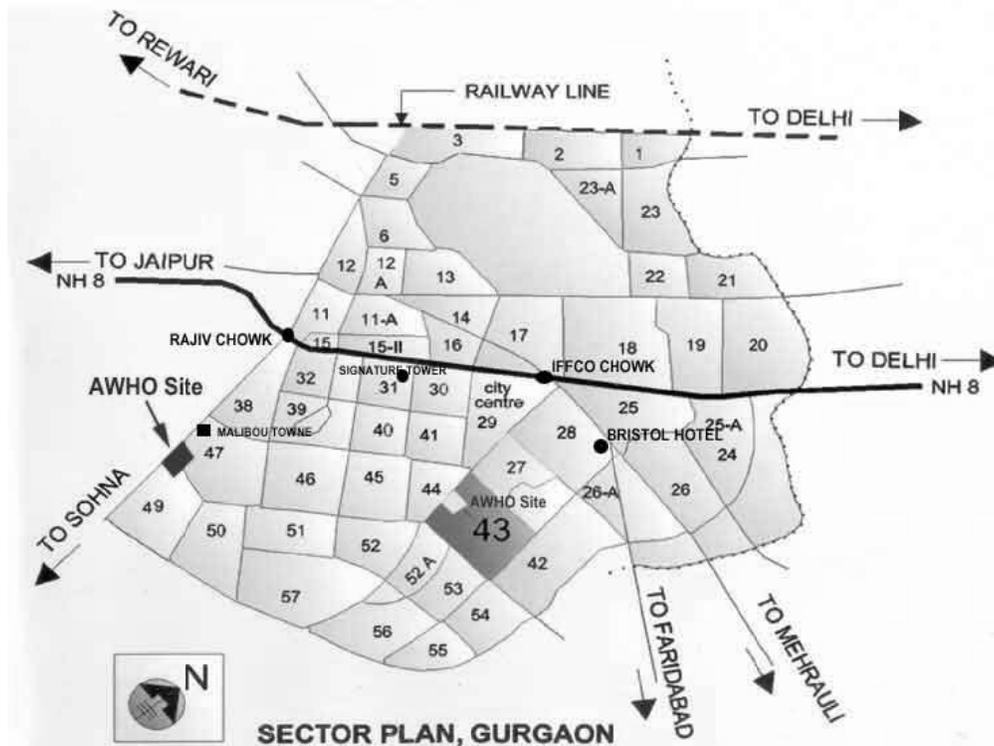


Source: <http://www.mapsofindia.com/maps/haryana/districts/gurgaon.htm>

HUDA replaced the colonization department of Haryana state and is presently the apex organ for land acquisitions and road construction. It coordinates real estate developments across the state and operates at no-profit, no-loss basis to ensure continuous revenue collection and real estate developments in “high potential” sectors. The all-purpose façade subsumes special purpose departments such as the Town Planning Department, which is increasingly turning into a special purpose agency for coordinating with a handful of licensed colonizers. With regard to land uses, unlike Sitta October, lands for roads and transportation increased and the entire city is now subsumed under Gurgaon-Manesar Master Plan 2010, with designations for special economic zones. The city, nicknamed “real estate El Dorado” (The Economic Times March 2, 1990) is now being fragmented into distinct yet inter-dependant privileged and bypassed zones with colonizers such as Delhi Land and Finance running their own metro rails. With an average per household monthly expenditure on transport of Rs. 1160, 70 percent of the city’s households had one or more motor vehicles (RITES

Surveys 2004). However, a large part of city transport is carried over by low-tech, non-motorized modes such as cycle rickshaws.

Figure 4 Gurgaon Sector Plan



Source : www.mapsofindia.com/maps/haryana/gurgaon.gif

The situation is ripe for special interest coalitions of government officials, real estate developers and entrepreneurs. In the mass-transit arena, state-level transport departments and officers recognize the capacity of private operators to provide what STUs are increasingly failing to. They also recognize these groups' disruptive and revenue capacities and intervene in regulating operators' work. While predominantly registered and licensed, private operators in Gurgaon find themselves tightly disciplined through a range of legal, traffic and spatial regulatory measures. Often times these measures conflict; with traffic policing predominantly driven by rapid profiteering, yet routing and traffic management ensure speedy mobility to and from different sectors in the city. With the exception of cycle and auto-rickshaws unions, mass-transit unions, if any, have minimal significance. Even cycle and auto-rickshaws unions do not represent the interests of operators or negotiate them with the government. Instead, their main function is to regulate ground operations and ensure uninterrupted flow of rents and revenues to traffic and other regulatory bodies - Gurgaon Municipal Council is the richest in Haryana, with around Rs. 25 crore in annual revenues from commercial establishment rents. Compared to rickshaws, Matador or Maxx Cabs operators do not form unions; they end up with precarious livelihoods, swaying with changing coalitions of vehicle manufacturers, bureaucrats, traffic police and politicians. These coalitions often determine the type of vehicles, the degrees of technology and costs and durations of their licenses and route permits. Unlike security police surveillance in Sitta October, if need for surveillance arises, political affiliations and locally elected persons in Gurgaon mediate between operators and policing institutions albeit within the overall rationale of facilitating business operations. Eventually, Gurgaon remains with complex and hierarchical forms of state politics and institutional structures; conflicts over resources are mostly fought through the terrain of political mediations and the rhetoric of group identities. While spatially

splintered, the driving motive of governance in Gurgaon is economic growth and socio-spatial “liberal” developments making the city economically “vibrant” compared to Sitta October.

A Final Note

This paper attempted to demonstrate how inequalities are constructed. Though LTSs analysis can explain similarities between cities, particularly the effect of unbundling on splintering of space and movement; explaining differential modes of governing space-time modalities require diligent focus on social processes and conflicts and careful attention to practices, norms, and to actual behaviors as well as to rules they instantiate (Burawoy 2000). The present analysis attempted also to make a distinction between government initiatives to create and maintain organizational coherence to its institutions on one hand and those that target the government itself as a distinct institutional ensemble within the broader field of social forces, i.e. initiatives to mobilize government institutions in order to promote particular forms of socio-economic intervention (Brenner 2004). Nevertheless, in socio-technical comparisons, theories help describe processes which illuminate specific cases. At best, they evolve from empirical observations but remain tools for generalizations from specific cases. Theories are best assessed by the extent of their relevance to data in hand (*cf.* Skocpol and Somers 1980).

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- i According to Egypt Human Development Report (EHDR), in 2001, the total population of Egypt was 68.7 million and India's was 1.079 billion persons.
- ii Around 52 percent of Egypt's labour force and 68 percent of India's work in the agro-sector (EHDR 2001).
- iii The program started earlier yet abandoned after 1977 food riots only to resume with full gear in 1991.
- iv According to the World Development Report (WDR), in 2001, per capita GDP at purchase power parity to US \$ was \$3,520 for Egypt and \$2,840 for India. In 2003 Gini index that measures inequality over the entire distribution of income or consumption was 34.4 for Egypt and 37.8 in India (A value of 0 represents perfect equality, while a value of 100 represents perfect inequality)
- v In 2005, Cairo's total population was 11 million persons living on 3085 square kilometers with a population density of 2473 persons per square kilometers (EHDR 2005). In comparison, Delhi's 15 million persons lived on 1483 square kilometers with 9292 persons per square kilometers (Economic Survey of Delhi 2002).
- vi 1 crore = 10 million
- vii Kantor and Savitch 2005: 136
- viii "Natural Monopoly" is a Keynesian term that refers to the mode of production of infrastructure networks where the costs of rolling out a network were large that the rewards of a regulated monopoly were necessary to ensure the economic viability of the resulting infrastructure.
- ix <http://www.amcham.org.eg/operation/events/events06/MMansour/MMansour.asp>
- x <http://www.amcham.org.eg/operation/events/events06/MMansour/MMansour.asp>
- xi In both cases, such regions do not constitute formal electoral constituencies or census categories; they are not even premised upon any identity or residential affiliations.
- xii Personal Interview with Nabil El-Mazni, Chairman of Cairo Transport Authority in 2006.