

Manufacturing cities: Spatial planning and infrastructure development in urban India¹

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Introduction

More than 55 per cent of the world's population now lives in urban regions (United Nations, 2018). In particular, urbanization has rapidly increased in low- and middle-income countries in Asia and Africa, sometimes more than three or four times in the last 50 years (ibid). This increase in urbanisation has been accompanied by a simultaneous expansion of the spatial footprint of cities and urban regions. Advances in geo-spatial technology have enabled urban researchers to demonstrate the expansion in the spatial extent of urbanisation beyond what is captured by population data alone. This recent work demonstrates that the rate of increase in land being occupied by cities is greater than the increase in population in most regions of the world (Angel et al., 2016; Seto et al., 2011). The expansion of the spatial footprint of urban regions is therefore more than can be attributed only to population increase. Researchers have attempted to understand and explain this by proposing a range of theories about the nature of urban expansion in different parts of the world, including those that highlight the continuity between urban and rural built forms in different ways (McGee, 2014; Brenner and Schmid, 2011), or those in India highlighting the expansion of urban centres beyond metropolitan areas (Denis et al., 2012).

Since economic liberalization in 1990-91, Indian cities have experienced economic, physical, social and political change that is unprecedented in the rate at which it is taking place as well as in its scale (Chatterjee, 2008; Shaw, 2007). Although impacts of economic liberalization and accompanying policy changes have been far reaching, the spatial transformation of Indian cities has perhaps been the most visible outcome of economic liberalization (Sami, 2012). Urban and peri-urban land in India is being used in various ways: as a bargaining tool, as an incentive and as a valuable resource (ibid). In a competitive economy, state and city governments are turning entrepreneurial and are constantly striving to make their region or city the most attractive to businesses (Xu and Yeh, 2005), using land as a key resource to facilitate economic development (Mitra, 2017).

It is within this broader frame that this paper focuses on the creation and development of large urban conurbations that the Government of India is planning as part of its push to build mega-infrastructure projects that specifically focus on harnessing India's potential urban growth. Using the case of these megaprojects such as industrial corridors, we assess theories of state rescaling in the Indian context, and analyse the relative restructuring of state power across different scales: the national, the regional, and the local (Brenner 2003; Brenner 2004; Kennedy, 2014). This case is significant because the Indian national and state governments are actively building policies that target urban regions as potential drivers of economic growth. This urban expansion is a planned, deliberate attempt to create new urban-like settlements along economic corridors, not an outcome of outgrowth or spillover of existing urban regions, creating novel patterns of urban expansion that are important to investigate.

These are an outcome of specific types of industrial and economic development policies that have led to the emergence of different urban forms, often on the urban periphery.

These include the development of Special Economic Zones (SEZs), National Investment and Manufacturing Zones (NIMZs), and new towns in and around existing urban regions that focus on specific types of industrial and economic activities. The most recent, and perhaps one of the most ambitious strategies is the push to develop industrial corridors between major Indian cities, which the Indian national government has embraced as a key development strategy. However, these corridors also propose the creation of large urban conurbations that will connect existing metropolitan areas, crossing city and state boundaries. The emergence of such urban mega-regions will have implications for existing processes of spatial planning and urban and regional governance, and will fundamentally change patterns of urban growth in India.

These are not isolated instances in India alone, however. There are several other examples of industrial corridors in other parts of the world, including East Asia and the United States that were leveraged and developed to take advantage of high-density development and the clustering of businesses and labour. The most ambitious of these is China's Belt-Road Initiative (BRI) that aims to build a corridor that connects Asia with Europe. The Tokyo-Osaka corridor, upon which the industrial corridors in India, especially the Delhi-Mumbai Industrial Corridor, have been modelled, is among the oldest, and was instrumental in Japan's transition to an industrial economy (Macomber and Muthuram, 2014). Another Asian example comes from South Korea, where the Seoul-Pusan corridor has become the country's main axis for industrial and urban development. Drawing on the Tokyo-Osaka corridor, the Government of India has conceived a set of industrial corridor projects across the country as industrial investment destinations meant to attract domestic and international capital. Work on the Delhi-Mumbai Industrial Corridor is already underway while at least five more corridors are being currently planned (Department of Industrial Policy and Promotion, 2014). However, the scale at which these corridors and the potential new urban settlements are being planned is unprecedented. Along the DMIC alone, there are 24 new settlements that have been planned in addition to developing existing cities, in what is already one of the mostly densely populated regions of the country.

The Government of India and its officials see the development of these industrial corridors as a means to enable India's ongoing urban transition, while simultaneously propelling economic growth by attracting domestic and international capital to invest in and along these corridor regions. This is part of a larger push that the Government of India is making towards improved connectivity across the country through the development of mega-infrastructure, building a network of linked roads/highways/rail lines, waterways and airports. This urban expansion is a planned, deliberate attempt to create new urban-like settlements along economic corridors that are meant to act as magnets for migrants and job seekers, providing alternative employment locations to older Indian metros like Mumbai or Delhi. However, as Nair (2015) writes, these plans draw "nothing from the historical failure of satellite towns or of other similar plans to act as counter-magnets to the metropolis" (Nair, 2015: 58). The planning and development of large cities of an unprecedented scale, such as Dholera in Gujarat (Sampat, 2016; Datta, 2015b; Datta, 2015a), are also setting important precedents for spatial planning and urban governance. Dholera, and other cities like it are being built on so-called greenfield land usually on the urban periphery, which lie beyond the purview of existing urban governments. There is

also no provision for a city government or an elected local body in these settlements, which will be planned and governed by a Regional Development Authority (RDA), and all the members of the RDA will be appointed by the respective state governments.⁴

In this paper, we focus on primarily on the Delhi-Mumbai Industrial Corridor (DMIC), looking explicitly at planning and governance arrangements. We also present some preliminary results from our work along the Chennai-Bangalore Industrial Corridor, which seems to echo our findings from the DMIC. In particular, we ask what the planning, and implementation of such megaprojects implies for urban growth, urban and regional governance, and state rescaling in the Indian context. Here, we follow Kennedy's (2014) approach of studying the shifts in economic governance at various scales accompanying the spatial restructuring of state power, moving away from analysing these shifts as either decentralisation or (re)centralisation of power. We find that as rescaling takes place between regional and national level governments, urban local bodies, city government officials and city-level governments are being consistently by-passed in the planning and governing of these projects, despite there being significant local impacts of such projects. Recent studies in post-liberalization India (Kennedy, 2014; Ren and Weinstein, 2008; Grant and Nijman, 2004) have also highlighted different ways in which the state in India is being restructured and rescaled. Most of the earlier work on rescaling, including the above studies, has focused on urban regions and dealt with the state restructuring in an urban context (Brenner, 2009a; Brenner, 2009b; Brenner, 2004; Jessop, 2004; Brenner, 2003; MacLeod and Goodwin, 1999). We build on this framework and begin to apply it to the question of industrial planning and the development of mega-infrastructure projects like the DMIC. We also examine the relationship between industrial and spatial planning and its implications for urban regions.

We situate this analysis within a comparative examination of the strategies adopted by the Government of India as well as the state governments of Karnataka, Gujarat, and Rajasthan. Since the early 1990s, there seems to have been a growing tendency away from the earlier balanced regional development strategies that the Indian government had adopted until the 1980s, and a shift towards uneven spatial development, especially in post-liberalization India (Grant and Nijman, 2004). This seems to be evident also in the case of the industrial corridors.

The rest of this paper is laid out as follows. The next section focuses on our methodology, followed by a review of the literature that will build the theoretical scaffolding for our paper. The remainder of the paper is devoted to an analysis of our data to explain the changing relationship between the state and national governments and their agencies, as well as the evolving role of private sector actors in the planning process. We end with a summary of our findings and directions for future research.

⁴ The development of these corridors raises several other questions and concerns. A full discussion of these issues is beyond the scope of this paper. For more, see: (Anand et al., 2014a)

Methodology

In this paper, we hope to begin to develop a framework to help us understand the mechanisms by which the national and regional governments are rescaling and restructuring through the governance and planning arrangements of large mega-projects. We are also interested in understanding relationships between various stakeholders, especially the growing role of private sector players in urbanisation and development processes. Our research involved raising questions about causes of contemporary phenomena, drawing on multiple sources of evidence, making it difficult to separate the specific set of events being studied (urban redevelopment and governance issues) from the larger context of political and economic change in India. Given these constraints, a comparative case study approach emerged as the most suitable methodology for this project (Campbell, 2003; Yin, 1994).

Within the larger framework of the DMIC, we focused our primary work in two states: Gujarat and Rajasthan. This was because a large majority of the corridor (67%) passes through these two states, and because we expected contrasting experiences given their levels of industrialisation and urbanisation.⁵ We undertook fieldwork during 2013-15 in four locations: the state capitals Gandhinagar (Gujarat) and Jaipur (Rajasthan) where much of the planning was taking place as well as two selected industrial nodes Vadodara-Ankleshwar (Gujarat) and Jodhpur-Pali-Marwar (Rajasthan). For the Chennai-Bangalore Industrial Corridor (CBIC), we focus on the Bangalore Metropolitan Region and the three nodes that are located around the urban periphery of the Bangalore region. Fieldwork began in 2018 and is ongoing. Studying the industrial corridors allows us to interrogate the nature of planning and governance between and across different levels of government and explore the relationship between state and non-state actors at different stages in the implementation of a large megaproject.

When we began studying the DMIC, plans had been in place since 2007, the project itself was still at a fairly early stage in implementation, with most projects within the larger DMIC frame still at the conception, planning, or approval stage. Therefore, our research largely focused on planning arrangements, rather than studying actual impacts on the ground. We extensively used plan and policy documents, texts of relevant Acts, and press releases by the government as well as insights from over 50 semi-structured interviews with officials in different departments of local, state, and central levels of government, activists, developers, lawyers, architects, academics, and other knowledgeable observers. We identified a set of initial respondents through a reading of policy and government documents, as well as through our individual networks. We used a set of questions to guide the interview process, although respondents were free to direct the conversation towards their areas of expertise or knowledge. Drawing on Fainstein's methodology in *The City Builders* (2001), we used a reputational method to identify respondents, relying on them to point us to others who would be potentially valuable informants (Sami, 2012; Fainstein,

⁵ Of the major Indian states, Gujarat had the highest level of per capita output from the industrial sector in 2011-12 at Rs. 25,843 per capita (using GDP data for 2011-12 at 2004-05 constant prices, and 2011 census population). By comparison, Rajasthan was among the bottom 6 major states with Rs. 9,418 per capita. Rajasthan has also been part of the BIMARU grouping of poorer states – Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. Source: Central Statistical Organisation, Census of India, and author's calculations.

2001). Since several of our respondents spoke to us under conditions of anonymity, they are not directly identified in the text.

We have adopted a similar approach to studying the CBIC as well. The plans for the CBIC are also in very early stages with only a handful of projects having been approved. Fieldwork in Bangalore began in 2018 and is ongoing. The results presented here therefore are preliminary and draw on spatial analysis conducted to understand the extent of land-use change in the Bangalore Metropolitan Region, from early plans and policy documents on the corridor, as well as a few preliminary semi-structured interviews with government officials.

Shifts in state power in the context of economic liberalisation

Much has been written about the liberalization of the Indian economy in 1991, and the impacts that this has had on urban regions in the country (Shaw and Satish, 2007; Ahluwalia, 2000; Shaw, 1999). In particular, there is a growing body of work that has focused on India's urban transition and the types of new settlements that are emerging in and around metropolitan areas including new town development (see, for example, Sami, 2013; Bhattacharya and Sanyal, 2011; Searle, 2010; Benjamin, 2006), as well as the phenomenon of urban expansion particularly along transport corridors (Coelho and Vijayabaskar, 2014; Balakrishnan, 2013; Chattaraj, 2010), sometimes using the corridor as a logic to facilitate a particular imagination of urbanisation (Balakrishnan, 2019; Nair, 2015). The most recent of this work comments on the emergence of "smart cities" in the Indian context (Datta, 2015b; Datta, 2015a), especially focusing on Dholera in Gujarat, which is one of the emerging DMIC cities. There is also a wide body of literature that focuses on megaproject development in Asia and other parts of the world (see, for example, Orueta and Fainstein, 2008; Shatkin, 2008; Lungo, 2002). However, the scale and type of megaproject discussed here is of a different order and magnitude: the DMIC and the other corridor projects are industrial megaprojects of an unprecedented scale in the Indian context. These are significantly larger than any urban or industrial project undertaken so far in terms of their physical footprint (Kumar, 2015).

It is also important to understand this within India's federal governmental structure. In the Indian governmental system, administrative power and decision-making authority is concentrated at the top of the hierarchy: with regional governments at the state-level, thereby weakening local government in India (Weinstein, 2009; Kochanek and Hardgrave, 2008). Further, liberalization reforms in the 1990s as well as subsequent financial reform through the Finance Commission of India not only reduced the national government's control over economic management at the state-level, but also encouraged state governments to pursue their own economic and developmental goals, which have increasingly been concentrated around metropolitan economies in each state (Ahluwalia, 2000; Shaw, 1999). As state power continues to be reconfigured in India, urban regions are emerging as "targets for a variety of far-reaching institutional changes and policy realignments designed to enhance local economic growth capacities" (Brenner, 2004: 3).

As these new spaces of production (Brenner, 2004) emerge, new opportunities for participation are created in which non-governmental actors can assert themselves and

participate in urban governance and development processes (Sundaresan, 2013; Sami, 2012; Sridharan, 2008). As Indian policymakers prepare for an urban transition that is industry- and services-led, there is a growing belief that this transition will be driven by settlements that lie outside existing urban centres as well as outside the purview of existing arrangements for urban governance, and government schemes and programmes targeting cities. Consequently, these settlements function as spaces of exception, economically (Ong, 2006), as well as in terms of governance, and there is little thought given to the implications of the transformation of these newer spaces into more urban-like settlements. Another strand of literature has examined these questions in greater detail, including the emergence of non-state, particularly private actors, in the process of planning and development, a phrase termed as the 'privatization of planning' (Mahadevia, 2011; Shatkin, 2008; Weinstein, 2008; Benjamin, 2007).

Further, as the Indian economy has opened up to foreign investment, capital investments have increasingly concentrated in more economically advanced regions, like existing metropolitan areas, industrialised districts, and coastal regions (Chakravorty, 2000). National and state governments are increasingly setting aside the geographically balanced approach to development that they had followed until the 1980s, in favour of promoting the development of specific regions (Grant and Nijman, 2004; Chakravorty, 2000).

As scholars have shown (Shatkin, 2013; Baud and de Wit, 2008), new arrangements of state power have emerged partly as a result of this process of economic integration and globalization with clear implications on how governments in India function. For example, with liberalization, the central government has considerably reduced the degree of control it has over state governments, encouraging greater state-level initiatives, especially with respect to attracting investment (Kennedy, 2014; Ahluwalia, 2000).

This, however, does not mean that the national government in India is 'hollowing out' (Jessop, 2004). National institutions, in fact, continue to be vital to the formulation and implementation of policy. However, the principal level of political and economic coordination is shifting and being reconfigured as urban regions emerge as key sites in this process of rescaling (Brenner, 2004; Roy, 2003; Jessop, 1994). Even as urban regions become increasingly important as 'engines of growth' (Anand et al., 2014b), the actual process of empowering local-level government agencies, however, has been slow and varies widely from state to state in India. Currently, "municipal governments in India are *not* major actors of this evolution and city policies do not generally provide an arena for deliberation and agenda-setting about urban futures" (Kennedy, 2014). As state (regional) governments reinvent themselves to take advantage of these emerging opportunities, they also simultaneously resist efforts by the national government to devolve powers to the local level, through efforts such as the 74th Constitutional Amendment Act aimed at providing locally elected governments in every city. In addition, as newer settlements emerge or are deliberately created through such projects like the industrial corridors, they do not have the physical or governance infrastructure that is needed to support urban regions.

Most of the work highlighted above has focused explicitly on trends and processes of governance and urban development within city-regions. Our work extends this to industrial infrastructure projects like the industrial corridors, that spread beyond urban boundaries, creating a network of new, emerging urban-like settlements. These corridor projects consequently have tremendous implications for Indian urbanisation even though they are not planned or executed by urban development agencies.

State Rescaling and Spatial Development

Processes of state rescaling in the Indian context are taking place both to facilitate, and as a strategic response to, uneven spatial development. This resonates with literature from economic geography, which finds that in India, “the neoliberal nation-state is simultaneously a reduced state (less concerned about promoting regional balance) and an enlarged state (directing development to selected regions) (Chakravorty, 2000). We do this by studying processes of economic governance for the case of the DMIC, and by analyzing the various strategies employed by the national and state governments (of Gujarat and Rajasthan) to direct capital flows. In doing this, we follow Kennedy’s (2014: 12) approach of studying “the current spatial transformations of state power taking place in India and the implications for economic governance at various scales, offering a fresh alternative to the sterile dichotomy between decentralization and (re)centralization”.

The rescaling of state power is occurring at two levels: first, through an attempt by the national government to promote particular (urban or industrial locations, while often conflating the two) locations as destinations for capital accumulation while maintaining control over project financing, planning, and approvals; and second, through an increased assertion of institutions at the state (regional) level over programs and policies introduced by the national government, especially as state or regional level governments and institutions are increasingly able to attract and manage forces of capital accumulation to particular locations within their territorial jurisdictions, based on either locational, resource, strategic or pragmatic considerations. Urban local bodies are completely absent from this process, although spatial planning has been devolved to them by the 74th Constitutional Amendment Act.

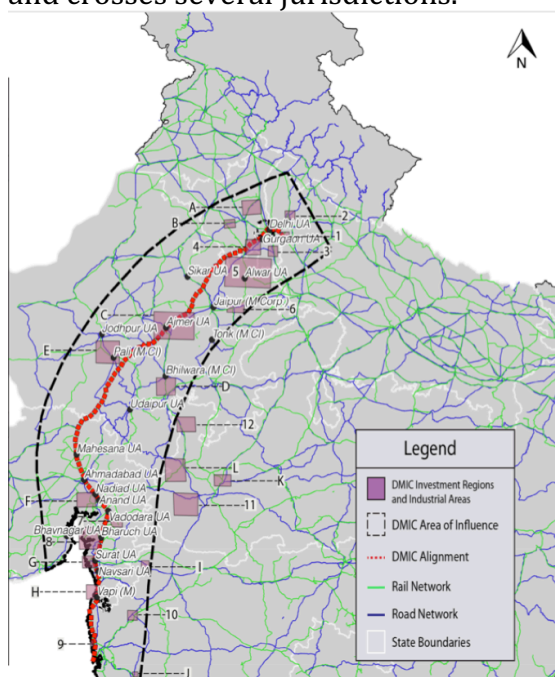
Echoing Brenner (2004), this process of rescaling does not imply a reduction in the power of the national government or a devolution of powers to state (regional) governments, but rather can be viewed as a process of contestation and assertion of regional governments over processes of economic governance (Kennedy, 2014; Brenner, 2004). In this case, state (regional) actors continue to negotiate with the central governments for particular outcomes within frameworks set by the national government as they did earlier, but they now also compete between each other to attract capital investment through high-profile investor events and institutions such as Vibrant Gujarat, as well as create new institutions (such as Special Purpose Vehicles and Regional Development Authorities) that are directly controlled by state (regional) institutions to manage the new state spaces (economic as well as physical) such as Special Economic Zones (SEZs) and Special Investment Regions (SIRs) that are being created on the urban periphery through economic and industrial policies. In the next section, we begin to look specifically at how these governance arrangements play out in the case of the industrial corridors.

Governance Arrangements for the Industrial Corridors

The DMIC

The idea of the DMIC originated with two related developments: one, a Memorandum of Understanding (MoU) signed between the Government of India and the Government of Japan in 2006 to signal collaboration on infrastructure development in India; and two, the planned development of the Dedicated Freight Corridor (DFC) between Delhi and Mumbai by the Ministry of Railways in 2005 in response to a concern about slow average speeds of freight traffic, and an increasing share of freight moving to road (Pangotra and Shukla, 2012). Motivated by the Japanese experience of the high speed rail link between Tokyo and Osaka driving economic concentration and urban megalopolis growth, the Indian government decided to develop the DMIC as a buffer region of approximately 100 km on either side of the DFC in partnership with the Japanese government (Japan International Cooperation Agency (JICA), 2009; Mangaonkar, 2009).

Spread across six states (see Figure 1), the DMIC is being developed within a buffer region on either side of the under-development DFC between Delhi and Mumbai.⁶ A project of the scale of the DMIC requires coordination across several domestic and international stakeholders from the public and private sectors. The implementation of the project spans several different ministries (Ministries of Finance, Commerce and Industry, Railways, Shipping, Road Transport and Highways, Civil Aviation and Power, Urban Development) and crosses several jurisdictions.⁷



⁶ The six states through which the DMIC passes include Uttar Pradesh, Haryana, Madhya Pradesh, Rajasthan, Gujarat and Maharashtra.

⁷ In addition to the Ministries listed here, the following Ministries are also listed in the DMIC Concept Note as possible invitees for decision-making: Ministries for Environment and Forest, Labour and Employment, Petroleum and Natural Gas, and Chemicals and Petrochemicals.

Figure 1: The Delhi-Mumbai Industrial Corridor. Source: DMIC Concept Paper; IHS Analysis

The governance structure of the DMIC is consequently extremely complex. The planning and development of the corridor is managed by the Delhi-Mumbai Industrial Corridor Development Corporation (DMICDC), which was set up as a national level entity in 2008. As interview respondents explained to us, the DMICDC is structured as a Special Purpose Vehicle (SPV) that is constituted as a public corporation. The Government of India is represented by the Department of Industrial Policy and Promotion (DIPP) within this SPV as the single largest shareholder with a 49% stake in the DMICDC. Other shareholders include the Japan Bank for International Cooperation or JBIC (26%), the Housing and Urban Development Corporation Ltd or HUDCO (19.9%), the India Infrastructure Finance Company Ltd or IIFCL (4.1%) and the Life Insurance Corporation of India or LIC (1%) (Department of Industrial Policy & Promotion, 2014). In 2012, a separate DMIC Project Implementation Trust was set up to oversee project approval and to fund project implementation (Delhi-Mumbai Industrial Corridor Development Corporation, 2014).

The DMIC will be built in a phased manner, with each state developing Industrial Areas (IAs) and Investment Regions (IRs) within their jurisdictions along the buffer region of the corridor. These are large areas with a minimum area of 100 sq. km. and 200 sq. km. respectively.⁸ With the launch of the Smart Cities Initiative and the Make in India campaign in 2014, the IAs and the IRs along the DMIC are now being imagined and planned as ‘smart’ manufacturing cities to attract industry and accommodate future population growth (Department of Industrial Policy & Promotion, 2014), of which Dholera in Gujarat is the first to be developed.⁹ Therefore, the plan for the DMIC explicitly intends to facilitate planned urbanisation within this buffer region by creating alternate growth centres through industrialization. The aim is to build 24 manufacturing cities, several logistics hubs, and residential townships over the course of the project (Department of Industrial Policy and Promotion, 2007). The vision is that these new cities will help meet pressures of urbanisation and also lead India’s economic growth for the next 20-30 years (Kant, 2016; Bhaskar, 2011).

⁸ In the original concept note, Investment Regions (IRs) are specifically delineated industrial regions with a minimum area of 200 sq. km., while Industrial Areas (IAs) had a minimum area of 100 sq. km. For more details, please refer to the DMIC Concept Paper, and the Make in India website (www.makeinindia.com) (Department of Industrial Policy and Promotion, 2014; Department of Industrial Policy and Promotion, 2007).

⁹ Although the original plans for the DMIC were formulated by the United Progressive Alliance (UPA) government in 2007 and envisaged the development of several Industrial Areas (IAs) and Investment Regions (IRs) along the corridor, the National Democratic Alliance (NDA) government that came to power in 2014 embraced this within its larger agenda of developing ‘smart’ cities that will attract industry and manufacturing, create employment and promote growth, especially under the recently announced Make In India campaign (Department of Industrial Policy and Promotion, 2014). While several news announcements in 2014 claimed Dholera as India’s ‘first new smart city’ (Datta 2015) as well as declared several of the other planned nodes in the DMIC such as Shendra-Bhidkin as smart cities, the list of cities selected under the Government of India’s Smart City Mission announced in August 2015 did not include any of the DMIC cities. Prior to the announcement of the Smart City list, government officials in Gujarat had told us that CISCO and IBM have prepared an IT master plan for Dholera keeping in mind principles of smart city design, and several news stories in 2014 mentioned the same. While Dholera and other DMIC cities might not receive financing under the Smart Cities mission in its current phase, the process of planning for DMIC cities might incorporate elements of smart city design, and this will be financed in the same way as the planning of the nodes.

Interviews with state government officials as well as the Cabinet Approval Note for the Development of Industrial Cities in the DMIC show that the government plans to build and develop these manufacturing cities in a phased manner, by developing core infrastructure in a smaller area at first, and then selling the appreciated land around the core area to finance the next phase of development. As state government officials explained, the national and state governments are constrained in their ability to finance industrial infrastructure at this scale. Therefore, the national government hopes to provide seed funding for the initial phase and then finance subsequent phases through the appreciated value of the land. The development of each node or city in the DMIC will proceed through the creation of a SPV in which the Indian national government and state governments will both hold equity. The national government's equity contribution will be capped at Rs. 3,000 crore per node, while the state government's equity contribution will consist of the land required for development.

According to the Cabinet Approval Note for Development of Industrial Cities in the DMIC (Department of Industrial Policy and Promotion (DIPP), 2011), each city will take about INR 50,000 – INR 70,000 crore to construct, and 60-65 % of the projects will be constructed on a PPP basis.¹⁰ The national government will contribute INR 2,500 – 3,000 crore per city for the non-PPP trunk infrastructure to kick start the first phase of around 25-50 sq. km and then undertake development of subsequent phases by ploughing back the gains from the sales into the Fund corpus.¹¹ To illustrate, the DMIC Trust approved projects worth Rs. 2,784 crore for the activation area of the Dholera Special Investment Region (SIR) in May 2015 (DeshGujarat, 2015; Express News Service, 2015).

At the state (regional) level, the management of DMIC projects is undertaken by a nodal agency within each state, which is responsible for preparing the plans for projects, securing approvals from the DMIC Trust, and managing the implementation. In the case of Gujarat, the Gujarat Industrial Development Board (GIDB) was originally deputed to be the nodal agency, however, the state government has since created the Gujarat Industrial Corridor Corporation, a new agency, which will oversee the development of the DMIC within the state.¹² In Rajasthan, the Bureau of Industrial Promotion (BIP) was the designated nodal agency, but there was a proposal being tabled to create a new office under the Chief Minister of the state that would directly manage the development of the DMIC.

The CBIC

Planning for the Chennai-Bangalore Industrial Corridor is in very early stages. Spread across 560 km., this corridor will cross three states: Tamil Nadu, Karnataka, and Andhra Pradesh. The key nodal agency for this process is the same as that for the DMIC: the Delhi-Mumbai Industrial Corridor Development Corporation (DMICDC). This corridor is also being planned and developed with the support of JICA and the Government of Japan

¹⁰ One crore is equal to 10 million. At the time of writing, 1 USD = 71.76 INR

¹¹ The Government of India's contribution is INR 18,500 crore (INR 17,500 crore for 7 cities + INR 1,000 crore for project development by DMICDC).

¹² According to interviews with officials at GIDB and GICC, both agencies continue to be involved in the development of the DMIC. However, the exact separation of functions is unclear at this point.

(Department of Industrial Policy & Promotion, 2018). For our study, we are focusing on the Bangalore Metropolitan Region.

As the map below shows, three nodes have been identified as priority projects, and they are all within the urban periphery of either Bangalore or Chennai – the two metropolitan regions that this corridor aims to connect. Tumkur is 70 km from Bangalore; Krishnapatnam and Ponneri are 180 km. and 40 km. from Chennai respectively. The area that these nodes span, as shown below, is massive: Krishnapatnam is the smallest at just over 12,200 acres or about 49 sq. km of land, while Ponneri is the largest at over 21,000 acres or about 85 sq. km.¹³ There are environmental, economic and social consequences of the development of these nodes that will cause significant disruptions to existing peri-urban and rural settlements. The planning and governance mechanisms are currently being finalized, but preliminary interviews with former and current government officials show that these new settlements will need new mechanisms of governance to be set up – most likely in the form of Regional Development Authorities, as in the case of the DMIC.



Figure 2: The Chennai-Bangalore Industrial Corridor. Source: : <https://dipp.gov.in/japan-plus/chennai-bengaluru-industrial-corridor-cbic>

We have focused our early research around the Tumkur node, 70 km from Bangalore. This node is being developed on approximately 54 sq. km. of land, located just beyond the immediate urban boundary of the Tumkur urban local government. Initial interviews with existing and former government officials have indicated that this decision to locate beyond the urban boundary of the city was deliberate, to enable faster project implementation. The assumption was that creating a separate, new institution to manage, plan, and develop this node would face bottlenecks within existing urban institutional structures.

¹³ 1 acre of land is approximately equal to 0.004 sq. km

Across both corridors, we have found that the choice of location was determined not only by considerations of availability or land price alone, but also by the larger political economy around the development of these mega-projects, particularly at the regional scale.

In the sections that follow, we begin to use the state-rescaling framework (Kennedy, 2014; Brenner, 2004) to understand how the relationships between the national and state governments are evolving through the processes of urban and industrial development.

Role of the Indian National Government

The national government continues to assert its power over economic governance, notably through the control over choice of location of industrial development. Officials with the Dedicated Freight Corridor Corporation India Limited (DFCCIL) said that in this case, the national government has chosen to prioritize the region between Delhi and Mumbai as the first industrial corridor to be built out around planned rail infrastructure, over other locations in the country, such as the region around the Eastern Dedicated Freight Corridor or the Bangalore-Chennai Industrial Corridor. This is in direct contrast to the previous experience with Special Economic Zones (SEZs), where the state did not retain control over location decision (Kennedy, 2014). Further, similar to the European context that Brenner (2004) writes about, the national government seems to be increasingly setting aside considerations of promoting industrialisation in backward regions in favour of promoting concentration in more competitive regions in order to attract capital. The selection of the location for the DMIC, benefiting one of the most industrialised regions of the country, illustrates this. The choice of CBIC, also an already densely populated region, as the second corridor to be built reiterates this point.

Further, within the larger regional context of the DMIC, the first concept plan prepared by the national government as well as IL&FS (Infrastructure Leasing & Financial Services Infrastructure Development Corporation Limited) in 2007 also identified locations for development as Industrial Areas and Investment Regions over two phases. These included Khushkhhera-Bhiwadi-Neemrana (KBNIR) in Rajasthan and Bharuch-Dahej in Gujarat. Our interviews with state government officials in Rajasthan indicated that KBNIR is already an important industrial area in the state of Rajasthan and has grown rapidly because of its proximity to the National Capital Region. Therefore, in addition to setting location decisions at a larger regional scale (the region between Delhi and Mumbai), the national government also attempted to select locations within the states, and these were locations that were already competitive for investors. However, as we will see in the following section, this attempt to fix locations for developing nodes has been contested in both states in different ways.

In the case of the SEZs, the onus of land acquisition and development was on the private sector, while state governments are primarily responsible for land acquisition and development for the DMIC nodes in a phased manner.¹⁴ For example, in the case of Dholera, the first Special Investment Region (SIR) being developed under the DMIC, the state

¹⁴ In the case of the SEZs, there were instances where state governments themselves were developing SEZs, and also assisted private developers by facilitating land acquisition. For more on this, see: (Jenkins et al., 2014)

government of Gujarat is bearing the responsibility and cost of acquiring the land and the national government is financing the first phase of its development.

In this model, the state hires private consulting firms to prepare plans, implement and build projects, and also carries out projects on a Public Private Partnership (PPP) basis, but at its core, the state acts as the developer and benefits from the appreciation in land value. For example, IL&FS is the overall project management consultant for the DMIC and developed the overall concept plan for the entire corridor in close collaboration with the Department of Industrial Policy and Promotion at the Ministry of Commerce and Industry. In addition, IL&FS has prepared plans for some smaller projects within the DMIC, and is also consulting with the individual state governments and their agencies to identify and appoint consultants for specific projects at the state level. In Gujarat, the planning and development of individual nodes is being handled by separate consultants – such as AECOMM in the case of Dholera. Local governments or regional level urban planning authorities are not part of these processes. Spatial planning is therefore taking place through economic agencies via private consultants, leading to a mismatch with local spatial plans.

Therefore, in the case of the DMIC, the national government hopes to provide seed funding for the initial phase and then finance subsequent phases through the appreciated value of the land instead of relying on private developers to build core infrastructure like in the SEZ model. In the case of the DMIC, it is actually the national and state governments that will realize most of the benefits from the commodification of land along the corridor and the profits that will accrue from its development.¹⁵ This contrasts with the case of other Asian urban megaprojects that “represent an effort to realize a privatized model of urban planning to achieve state goals of the globalization of urban economies as well as corporate goals of the large-scale commodification of urban land and the realization of unprecedented profit through real estate investment” (Shatkin, 2011: 93).

In addition to negotiating with private sector actors, and state governments, the Indian national government also has to simultaneously engage with international governments and their representatives as well as donor agencies that are driving specific types of development agendas and forms and the modalities by which these are executed. The Japanese government is instrumentally involved in the visioning and financing of the DMIC and has contributed USD 4.5 billion (about INR 28,000 crore) as a combination of support from Japanese Bank for International Cooperation (JBIC) and Japan International Cooperation Agency (JICA). JICA is also funding the building of the Western DFC between Delhi and Mumbai through a preferential loan agreement (Japan International Cooperation Agency (JICA), 2009) , and Japanese firms are involved with the development of the DFC

¹⁵ This does not exclude the possibility of private developers making profits from speculative real estate investments in the region of the corridor based on publicly available plans for the corridor – indeed, news stories and anecdotal evidence from our fieldwork indicate that such speculation has already begun. However these developers are not part of the official development or planning process for the DMIC. It is therefore important to distinguish this kind of speculative private sector involvement along the DMIC from the case where private developers are directly involved in developing the projects, like in the other Asian cases mentioned earlier.

(Larsen & Toubro (L&T), 2014). The process of planning and developing the CBIC is also being undertaken in close cooperation with Japanese firms as well as JICA.

While the DMIC is a centrally conceived and (partially) financed program, it faces a set of challenges to its design and implementation from both state governments as well as communities, and critically rests on the state governments for implementation.

State governments

One of the challenges to the design of the DMIC is the response of state governments to the attempt to fix locations within the states for development. Gujarat has been more successful at incorporating its own development agenda within the national DMIC framework. The original concept plan for the DMIC developed by IL&FS with the national government had indicated Bharuch-Dahej and Vadodara-Ankleshwar as nodes to be developed in Gujarat in the first phase of the project. However, as state government officials told us, Gujarat was already engaged in planning for the development of Dholera independent of the DMIC. It was able to negotiate with the national government to replace those nodes with Dholera, which it had selected as a location for development. In addition, Rajasthan has not been able to make much progress on the Khuskhera-Bhiwadi Neemrana (KBNIR) region because of difficulties with land acquisition (discussed in more detail below).

In addition to negotiating with national government for modifications in the DMIC frame, state governments have also resisted devolving democratic power to local levels. In the context of the DMIC, this has taken place through an establishment of new institutional actors such as Special Purpose Vehicles and Regional Development Authorities that will operate in DMIC cities such as Dholera and are directly controlled by state (regional) institutions. Despite a growing involvement of the private sector and international capital in urban and infrastructure development at the local (city) level, power remains concentrated at the higher levels of government, in line with evidence from other recent research on urban governance in India (Kennedy, 2014; Weinstein et al., 2013). Although urban regions are being emphasized as drivers of economic growth, and job creation, urban local governments have very little power or decision-making ability to influence or leverage this growth.

In India, the emergence of new, hybrid institutional actors across scales has not taken place at the city or metropolitan level, but rather has played out at the state (regional) levels. This includes the creation of new institutions such as the Gujarat Industrial Corridor Corporation (GICC) to implement and manage these emerging projects. Although this entity does not yet have a website, selected state officials in the Gujarat Industrial Development Board have moved to a new GICC office in Gandhinagar, which is shared with AECOM, where we met some of our interview respondents. It is state government institutions and agencies such as these that are increasingly attracting and managing capital flows, and fixing them in what they imagine and project as globally competitive spaces – these include city regions on the one hand and industrial enclaves on the other.

Despite attempts by the Indian government since the early 1990s to cede power to local governments through the 74th Constitutional Amendment Act (CAA) and the subsequent conditionalities imposed through the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), planning and decision-making powers for the DMIC remain concentrated at the national and state levels. Local governments of existing cities in the corridor buffer region are largely excluded from the planning process, and existing arrangements for greenfield cities draw upon Article 243Q of the 74th Constitutional Amendment Act to mandate that these will be developed and managed by Regional Development Authorities (RDAs) that are appointed by and responsible to state governments rather than by elected local governments. While the 74th Constitutional Amendment mandated all urban local bodies to have democratically elected governments, Article 243Q provided for an exclusion for “industrial townships”, an entity that was not clearly defined, and a clause that has been used in multiple cases by state governments including to develop SEZs (Sivaramakrishnan, 2015).

The city of Dholera is being planned and will be governed according to the provisions of the Gujarat Special Investment Region (SIR) Act 2009 (State Government of Gujarat, 2009), which provides for a RDA for its establishment. Even though the imagination of Dholera is that it will be a city covering 920 sq km (one and a half times the size of Greater Mumbai), there is no provision for a city government or an elected local body. According to the Gujarat SIR Act 2009, all the members of the RDA are appointed by the Gujarat state government. Since other states do not currently have legal frameworks governing the establishment of Special Investment Regions, they are relying on Gujarat’s SIR Act as a model to develop their own laws, as state government officials in Rajasthan told us.¹⁶ Therefore, Dholera is setting an important precedent for the establishment of new cities under the DMIC framework, creating spaces of exception in governance terms that will exist and function outside the purview of current urban government frameworks.

This concentration of power at the state level is also evident in the case of existing settlements along the DMIC. While the coordination mechanism between the central government and its agencies, particularly the DMICDC, and the state governments, has been worked out in detail in the DMIC policy documents, the third tier of government (i.e. at the local/city level) has largely been ignored. Central and state level agency representatives we interviewed had very similar responses to our questions about the planning of the DMIC, the selection of sites for investment, the project influence area, the phasing, and other questions related to the operationalization of the DMIC. However, city level planning agencies had little awareness about the plans for the DMIC, and their perceptions of the plans were often very different from those stated by the central and state level agencies.

This is well illustrated in the example of Vadodara, a city that falls within the buffer zone of the DMIC in Gujarat, and is close to one of the proposed industrial areas as well as an interchange location between road and rail for the DMIC. Our fieldwork showed that although the city was in the process of preparing its 20-year Master Plan when the DMIC

¹⁶ At the time of fieldwork, the Rajasthan government was debating the proposed SIR bill, modelled on the Gujarat SIR Act, was under debate.

was announced in 2007, city-planning officials had not altered their Master Plan in any way to incorporate any potential additional growth arising from the corridor and its related investments. Part of this disconnect stems from the absence of any framework governing coordination between state governments and existing cities, even though the latter are likely to experience significant impacts.

State governments have also increasingly competed with each other to attract investments. This has been evidenced by high-profile investor events such as those organized by Vibrant Gujarat, as well as meetings between state Chief Ministers and international investors (NDTV, 2015). This has also been through an attempt at relaxing regulations such as labour laws, as interview respondents in both states told us.

But states have unequal starting points, and we find that programs such as the DMIC reinforce these trajectories of inequality. The case of Gujarat and Rajasthan explained below illustrates what Neil Brenner refers to as “the systemic failure of this rescaled, post-Keynesian urban policy regime to confront the polarizing, disruptive, and politically volatile effects of urban geographical development at any spatial scale” (Brenner, 2004: 16-17). Gujarat, one of the most industrialised states of the country, has been able to leverage the DMIC to facilitate industrial development through the creation of new institutions such as the Gujarat Industrial Corridor Corporation and the leveraging of existing institutions such as Vibrant Gujarat that markets the state as an investment destination to potential domestic and international investors.

By contrast, Rajasthan has yet to fully realize its industrial development potential, and has been struggling with implementation due to institutional and resource constraints. Even though the national government has set up structures and mechanisms to enable all states to access technical and financial support through the DMIC, the case of Gujarat and Rajasthan illustrates that this type of investment has the potential to concentrate resources in more competitive regions in the short-run, leading to potentially destabilizing socio-political forces in the medium- to long-run.

A case in point is the difference between the two states in negotiating for location decisions, and has particular implications for spatial planning: while Gujarat was able to replace the central government chosen nodes with its own selection of Dholera, the Rajasthan state government is still attempting to develop KBNIR despite difficulties with land acquisition in this region. The legal framework governing land acquisition in the two states has been another key difference explaining the differential rates of project progress in the two states. During the conceptualization of the DMIC and the preparation of original plans, governments were still acquiring land under the Land Acquisition Act, 1894, which was replaced by the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (LARR Act), 2013. Consequently, the rates at which governments acquired land were now four times the market value in rural areas, and two times the market value in urban areas, making it more costly for government to acquire land under the new legal framework. Gujarat has historically had an alternative framework for acquiring land, known as Town Planning (TP) schemes, which allowed the state government to acquire land, develop it, and return a smaller piece of land to the original

landowners, who would benefit from the appreciation in value of the developed land. Because of its ability to use TP schemes to acquire land in the Dholera region, it has been able to move forward with implementation. In the case of Rajasthan, the land around the identified KBNIR node is largely private-owned, making the land acquisition process, under the LARR bill, expensive and lengthy.

Further, Gujarat has also put in place a legal framework governing the development of these manufacturing cities in the form of the Gujarat Special Investment Region Act (SIR Act), 2009. The Gujarat SIR Act, 2009 is essential for the creation of new settlements along the DMIC because there is no legal precedent for this type of development in the country. While the government of Rajasthan has been debating its SIR Act since 2014, it has not passed into law at the time of writing. Therefore, Gujarat has been able to leverage its institutional capacities because of its long history of industrialization to negotiate with the national government and to make progress on implementation. As the above examples show, the state governments differ in their ability to leverage the development of large infrastructure projects, such as the DMIC, to further their own growth.

As the examples above illustrate, these regions are therefore not blank slates or 'greenfield' sites on which the national government can implement its planned development strategies, instead it needs to contend with and accommodate existing governance structures and priorities of the state (regional) governments (Greenfield, 2015). It is these transactional processes that are causing the constant negotiation between various actors at national, state, and local levels, which will eventually influence the ability of this project to be implemented in the form of what Watson (2015: 37) calls 'fantasy cities', and conform to the imagination of the central state and its planners.

Conclusion

This paper has focused on the planning and governance arrangements along two industrial corridors: the Delhi-Mumbai Industrial Corridor (DMIC) and the Chennai-Bangalore Industrial Corridor (CBIC). Drawing on primary fieldwork in Karnataka, Gujarat and Rajasthan as well as an analysis of government and policy documents, we have shown how the planning and development of an industrial and urban megaproject constitutes a rescaling of power and governmental authority at the national and state scales. This is not merely a question of the national government ceding power to the regional governments, but an illustration of the constant contestation and negotiation that state and national governments have to engage in to achieve development outcomes. It is also becoming increasingly important to acknowledge and understand the role that non-state actors are playing in the development process. In particular, these large megaprojects are being increasingly planned and built by private sector consultants like IL&FS and AECOMM in the case of the DMIC. In addition, supra-national actors like international governments like the Government of Japan and donor agencies like JICA, in the case of the DMIC, are also influencing the form and types of development. There is also an increasing shift towards concentrating investment and capital in already developed regions, leading to uneven spatial development and foregoing earlier goals of balanced regional development.

The development of large projects like these corridors is setting a precedent of developing massive urban-like settlements at a scale not seen before in the Indian context. These new settlements are emerging as spaces of exception in economic as well as governance terms, as they engender new types of planning and governance arrangements in lieu of democratically elected local government. This paper has begun to deal with some of these issues. However, questions remain about the implication that these new forms of governance have on existing settlements, the potential economic impacts of projects like the DMIC on local and regional economies, the environmental repercussions of these developments, and the public response to projects like these. Further research is required to follow the impacts of these projects as they are implemented, the consequences for the balance of power across scales of government, as well as the consequences for emerging forms of urbanisation that emerge as an impact of these investments.

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