Delhi is one of the urban giants of the world. Like Tokyo, Shanghai, Beijing, Seoul, Jakarta, and Manila, Delhi is veritably a colossus of the modern world, a new type of metropolitan being without historic precedent. The urban transformation of this region is increasingly of interest to activists and academics who raise questions about the effects of the rapid recent growth. For example: What are its causes and effects (on issues such as planning, inequality, and social change)? Has the physical transformation into something that could be called a Global City improved the lives of Delhi’s inhabitants? While these questions are interesting and important (and are addressed in several chapters in this volume), I offer a spatial perspective on urban transformation in this chapter. The intent is to provide a multi-method narrative of the growth of the National Capital Territory (NCT) and the National Capital Region (NCR). I identify some of the key drivers of urbanization, especially at the regional scale, beyond the confines of the political boundaries of the NCT, and certainly far beyond the Delhi of Mirza Ghalib and William Dalrymple.

There are two reasons for taking this approach. First, it is widely agreed that the extent of urbanization has physically surpassed whatever administrative...
boundaries have been conceptualized over time (such as the NCT now). Second, while the literature on Delhi has largely focused on the NCT (for good reasons), it is necessary now to go beyond it to try to comprehend the NCR as a whole. A series of motifs—such as that of Purani Dilli and Lutyens’ Delhi, the milieu of jhuggi jhopri clusters and camp slums, the kothis of old Delhi, and the gated communities of Gurgaon and Noida—are suggestive of the extent of diversity (and fragmentation) in this large space. Thus, to truly understand the transformation of Delhi into a colossal metropolis, the spatial enquiry needs to take in the entire urban framework of concrete structures, industrial zones, untreated landscapes, planned and unplanned communities, and colonial and postcolonial architectural ambition.

I discuss the geography of space, place, and people of the NCR through a critical examination of archival data, plans, and maps. Mapping offers several advantages for understanding the NCR. First, it allows for a visualization of population and urban development clusters in the entirety of the NCR through a synthesis of census data and historic maps. Second, the analyses can be done at multiple scales—in this case, at the more researched scale of Delhi, the city (or the NCT), and the lesser explored scale of the NCR. Finally, mapping allows a spatial examination and juxtaposition of data from the census, satellite images, and the CASI–NCR Survey. This presents the possibility to uncover many stories of Delhi—from its urban heart to the rural–urban mix at its vast fluid fringes.

The specific techniques of mapping and analysis used here were shaped by the type of data available and included the use of Geographic Information Science tools, satellite images (and their classifications), and manual mapping. The geographic description is at the scale of sub-districts within the NCT and of districts in rest of the NCR. For the sake of continuity of discussion, the specific methods used and their limitations are discussed briefly in the appropriate sections.

The remainder of this chapter is divided into four sections. First is a discussion on the growth of Delhi over time, beginning from descriptions in the historical literature and archival maps. Second is an exploration of the geography of the NCT–NCR continuum using remote-sensing data. Third is an examination of present and historical data in combination with the coverage of the CASI–NCR Survey. The concluding section ties in the themes of space, place, and people in the production of the uneven and heterogeneous urban structures of Delhi.
The Growth of the City and the Region

Delhi’s origins go back hundreds of years and the city has often been described as a constellation of cities. Whether they are eight or nine in number and whether one imagines that the mythical Indraprastha of the Mahabharata was located here, the ruins of the early Persian Empires and the Tughlaqs and Lodhis offer relatively little information (by contemporary standards) to understand Delhi’s past urban fabric. Rather, it is useful to focus on three more recent political moments that had a long-lasting impact on the city: the Sepoy Rebellion of 1857, the decision to move the capital of British India from Calcutta to Delhi in 1911, and the partition of 1947. Along with the other waves of political events, these three played important roles in the incremental development of Delhi’s urban fabric between 1857 and 1956 (Figure 1.1).

Figure 1.1 Incremental growth over a century
Source: Cartography by author.

Note: The segments show parts of the city developed as an aftermath of (a) the Rebellion of 1857, (b) the development of an imperial capital, and (c) Independence of India and Pakistan.
All along, transportation infrastructure played a critical role. In the mid-1800s and later, the development of railways was of prime importance (detailed in the following sections). After Independence, the gradual yet steady growth of the city was strongly influenced by the development of its road and rail transportation networks. This was influential in generating the sense of an economic region, one different from that bounded by a political demarcation. In the decades after Delhi became the national capital, a series of policies attempted to dissipate congestion, encourage economic development, and provide basic services to high-density areas. This discourse of relieving congestion, “to immediately control and channel the sprawl,” also started the conversation about a possible National Capital Region in the *Interim General Plan for Greater Delhi, 1956.* However, the city did not grow across the Yamuna river until the 1970s and the National Capital Region Planning Board did not come into formal existence until 1985. And parts of the NCR which attract global and national investments, such as Gurgaon and Faridabad, did not come into prominence until the early 2000s. The evolving transportation linkages between Delhi and its outgrowths, hastened with the establishment of the metro rail system—the newest transportation infrastructure to reshape the region—have helped create the idea of the NCR (Figure 1.2).

Before Independence

The origins of the modern urban giant probably begin from Shahjahanabad (what is known today as Old Delhi) immediately after the Sepoy Rebellion of 1857–1858. The city of Shahjahanabad was shaped by achieving a balance of landscaped woodlands and densely populated areas by the Mughals and early British rising power. The site of the city was carefully selected to be placed at the northeastern corner of the Ridge. The Grand Trunk Road was the artery for development of the densely populated, fortified city, and the lush green forests surrounding it—a concept brought together by Mughal design aesthetics.

But, by 1857, the year of the rebellion, the Mughals were rulers in name only, and the fief of the last Emperor Bahadur Shah Zafar was limited to the boundaries of Shahjahanabad. That too disappeared when the British formally deposed and exiled him to Rangoon. The life and times of Delhi immediately before that pivotal period, and since then, have been chronicled in English in the form of colonial atlases, memoirs, travelogues, and literary works. The colonial archive paints an image of pre-1857 Delhi as a place of high culture and great economic wealth (though concentrated in the hands of a few). Percival Spear, Delhi’s original biographer, was instrumental in shaping the colonial perception of urban prosperity in *Twilight of the Mughals.* More recently, Narayani Gupta and Robert Frykenberg have further expanded this discussion in the volume *The Delhi Omnibus*. These two volumes provide a rich narrative of the various eras of Delhi and pay special attention to its urban history, culture, and society.

In the British colonial atlas from the 1870s, *The British Empire*, Delhi and the nearest town of colonial significance, Meerut, are described thus:

Delhi, a celebrated city on the Jumna. Pop. 150,000. The city, seven miles in circumference, is entered by eleven gates. The Mogul’s palace is a magnificent building, and the principal mosque, which cost £100,000, has been restored by the British Government. It has a college for English, Arabic, Persian and Sanscrit, and a large observatory.... Meerut is a capital of a district. Pop. 30,000. Two miles north of the town is a military cantonment, headquarters for the Bengal artillery, with a military prison.

Figure 1.2  Comparison of the present extent of the NCT and its neighboring cities (Gurgaon, Faridabad, Noida, and Ghaziabad) with the extents of Dilli/New Delhi before Independence

Source: Cartography by author.

Note: The extent of urbanization in Delhi has been enormous in the last 70 years.
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Apart from signature Mughal landmarks, Delhi presented other locational advantages and potential to be further developed. Gupta notes that Delhi’s location and regional geography played an important role in its urbanization in this time period. By the 1860s, the construction of the railways was beginning to transform Delhi into a major trading center. The location of Delhi between the doab of Punjab and Rajasthan made it an important distribution center for the whole of north India. Delhi tehsil (sub-district) covered an area of 683.97 square kilometers in 1880, including the hinterlands, described by Gupta as a 7-kilometer radius around Shahjahanabad, which was defined by the Yamuna, Upper Yamuna Canal, and Delhi Ridge. The hinterland covered a heterogeneous landscape of at least four types of soils which determined the land use.

The Rebellion of 1857–1858 not only transferred power but also transformed the lives of the people of Dilli in the next decade. Narayani Gupta notes in Portrait of the City that the transformation was marked by mass displacement and demolition in the walled city, followed by half a century of increase in trade, construction, and population. The railway project, which has its own complicated story of origin, became an important factor to boost Delhi’s economic growth. The development of the railways led to the demolition of the fort walls and displacement of workers. Shopkeepers and farmers, who operated out of the bazaar next to the fort walls, were displaced to Kishanganj to make space for the railway station. After 1857, conscious efforts were made to boost trade. Gupta notes that “by 1877, Delhi was drawing away trade from Amritsar.” The chief imports were rice, sugar, iron, brass, and copper, and the exports were raw cotton from the hinterlands and leather goods produced locally. Increase in trade aided the transformation of the city into a mercantile center to go along with its administrative past.

Increasing manufacturing and production activities from the start of the 1860s to the 1890s led to an increased migration of workers and shopkeepers to the city—a majority of whom were male and tended to settle in the hinterlands. The distribution of workers by occupation varied in the city and the suburban hinterlands. Where at least half of the male population in the suburbs were engaged in manual labor, only a third of the male population in city were manual laborers, which suggests that the city had a substantially higher proportion of professional workers than the suburbs. In the Census of 1901, the population had reached 405,000. Hindus were the more prosperous majority group while Muslims were an enfeebled minority after the annihilation and exile of the erstwhile ruling class. Gupta also notes that the leading castes
of the region had embraced trades and crafts that had traditionally been associated with Muslims.

With the growth of the population, there was an expected increase in the volume of housing and building activity. The center of commerce remained in the congested Chandni Chowk area. Building activity heightened in the 1880s and 1890s, but the pattern of settlements in the hinterlands and the poorer parts of the city was haphazard. A majority of construction involved encroachment of neighboring plots or roads and purchase of suburban plots to add more rooms per family.

Fifty years after the Rebellion of 1857, a plan for an imperial capital was proposed by Edward Lutyens, and in the decade of the 1920s, Lutyens’ plan for the colonial capital was actualized. His vision of the city was based on a nodal network (similar to Paris and Washington, DC), with a central avenue connecting the parliament and the house of the viceroy. According to Menon, “Lutyen's baroque city plan and the setting of capital complex on Raisina Hill invested the project with qualities of landscaped order and monumentality which were to become established as the hallmarks of the urban environment of Delhi … and this is largely why Delhi ‘looks different’.”

The green and forested areas of Delhi were also historically created and governed by the choices of the urban elite. The colonial culture of the state initially influenced the treatment of the space beyond human settlements in ways that were aligned with colonial sensibilities. Mann and Sehrawat write that between 1883 and 1913, Delhi Ridge was developed to address the deforestation, which had occurred in the years of construction after the rebellion, for example, for shooting ranges for the Raj. After several proposals, the site for the proposed forest was selected at the north end of the ridge. The end result was a city with striking monuments in a modern setting surrounded by indigenous and marginalized rural communities.

**Independence and Delhi in the Next 70 Years**

The Independence and partition of India influenced the next phase of the urban growth and architecture of Delhi. The large-scale population redistribution and refugee crisis from the partition brought in the Punjabi community, and over time, their experiences and cultural preferences began to influence the aesthetics of the city. At the same time, the newly independent Indian State began to create architectural landmarks that further developed the baroque style of planning initiated during the colonial rule, while inserting architectural
elements of a Hindu revivalist ideology. This shaped the urban fabric of New Delhi and south Delhi in a number of ways. New Delhi grew as an extension of the imperial plan, extending to the south of the city and giving birth to neighborhoods such as Lajpat Nagar and South Extension. The influx of a large refugee population and the development of the capital led to congestion in the city again. Bopegamage notes that “almost overnight, the city’s population increased by 103.4 percent. The sudden influx of immigrants brought pressure on the living space of the city proper. Some took accommodation in the abandoned houses, some settled down in the suburbs and some in the satellite towns.”

It was soon apparent that the population had surpassed what the previous plans had accounted for and a planning intervention was needed. Amrit Kaur spells out this urgency in the Interim General Plan (IGP) 1956:

Delhi also suffers from the unplanned sprawl of all metropolitan areas, a sprawl made possible by the radius of reach of the motor car which in turn, has its revenge in cluttering up the roads. Green spaces and open recreation areas recede further and further. Unplanned growth in Delhi has caused population to run ahead of water supply and sewerage capacity.

The primary recommendation of IGP 1956 was to decentralize in order to relieve congestion. However, these efforts were not completely successful. Menon attributes this failure to the “presence of and power of bureaucracy in a strongly state-controlled economy.” The absence of cohesive master plans between the 1960s and 1980s has been attributed by Gautam Bhan to a “failure of planning.”

From the perspective of architecture and housing development, Menon attributes the changes in the next two decades to utilitarianism and catalytic policies of the state along with the perpetual search for “Indianness.” Housing in the city was by and large developed under the influence of local politicians and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go. Early Delhi Development Authority (DDA) housing was based on austere socialist values, and supervised by young architects who learnt the trade on the go.

Thus, the housing was characteristically bland, with steep stairs, flat roofs, and plastered or lime-washed walls, punctuated by functional sunshades. On the other hand, the elite in the city designed against this austerity with the construction of versions of “Spanish villas with icing-like decorations” giving birth to the gaudy style of 

kothi housing and residential enclaves. This style of architecture further spread across middle-class neighborhoods in the 1980s and 1990s.
In the 1980s, two new forms of housing rapidly grew across the city: “developer” housing, which replaced some of the older housing stock, and “group housing” projects in the periphery of the city. This phase of development was largely influenced by the monopoly of the DDA in land ownership and thereby its control of land values in the NCT. Along with private group housing, a new form of elite urban space began taking shape on Mehrali Road in the form of farmhouses. In the 1962 plan, these spaces were proposed as part of a green belt where urban agriculture could be practiced. In reality, these lands are used—then, as now—as marriage gardens, weekend getaways, and other recreational activities. Anita Soni describes the increase in the number of farmhouses in Mehrali as one of the many ways by which asymmetric access to political power not only determined access to land but also predetermined the deterioration of agricultural land and Delhi’s urban environment. This infill development began to strengthen Delhi’s linkage with Gurgaon (now Gurugram) that in the 2000s became Veena Oldenburg’s “Millennium City.”

Before the economic reforms of 1991, Delhi had become a strong regional magnet for economic and industrial development, an identity that has only become stronger since then. According to Phillipe Cadène, Delhi is now part of larger industrial chains along which a number of industries and industrial nodes are located. Ludhiana and Delhi form two pivotal points of this space. The construction industry is largely concentrated around Delhi. The metallurgical industries stretch from east Delhi to Haryana and Rajasthan. In essence, Delhi and its outgrowths exert control over the entire industrial space, especially through the number of corporate headquarters located in the NCR. Delhi’s political centrality plays an important role in exerting control over the industrial corridor.

Seeing from the Sky: The National Capital Region from above

In 2017, Delhi NCR was an urban agglomeration of nearly 30 million people. McKinsey’s 2010 report on Indian cities argued that it was poised to grow even more as an urban region in the coming decades. The NCR today contains 30 districts, 21 of which are outside the NCT boundaries. The NCR is spread across four states (plus the NCT) and covers an area of over 55,000 square kilometers (or 13.6 million acres). The region, as seen in Figure 1.3, includes places as far-flung as Muzaffarnagar and Kurukshetra, Alwar and Bharatpur, Mathura and Aligarh, and Bulandshahar and Hapur.
The space of the NCR is a diverse landscape and varied topography of plains, hills, and a portion of the Thar Desert. The Earth Observation Programme and other satellite products are helpful in identifying the variation in the landscape and its physical transformation in recent decades. Along with the visible spectrum of light, satellite images also capture various wavelengths of infrared radiations reflected from the surface of Earth that enable researchers to understand the physical form of land covers and water from the neighborhood to the planetary scale.

In this section, I explore the extent of the urbanized landscape in the NCR and reflect on its ecological impacts. I have utilized remote sensing (or, the Earth Observation) technique of supervised classification for this purpose. Multispectral satellite images from Landsat missions, captured in 2011 and 2016, point to a complex relationship between natural–human environments in the region. In terms of urban structures, the region exhibits a network of dense
urbanized centers, with cities and towns connected by major roadways. In contrast, the landscape around these centers exhibits a great variance including large forest canopies, the northern end of the Aravallis at the southwestern side of the NCT, and a flat agricultural land use at the east.

A preliminary study of the land cover changes in the NCT in Figure 1.4 shows an increase in urban land cover. While urban forms can be heterogeneous (in density and age), the process of recognizing these categories requires a

![Figure 1.4 Mapping extents of urbanization with the Earth Observation Programme between 2011 and 2016](https://doi.org/10.1017/9781108935654.003) Published online by Cambridge University Press

**Sources:** Satellite images for 2011 and 2016 captured by Landsat 5 MSS (multispectral scanner) and Landsat 8 satellites, respectively, published by United States Geological Survey. Analysis by author.

**Notes:** A composite satellite view of the NCT and its immediate vicinity (*left*). The urban footprint derived from supervised classification processes (*right*) shows expansion at the edges.
sophisticated analytical model (with some uncertainty because the classification of remotely sensed images involves some assumptions which may not accurately reflect reality). The categories of urban, water, and other uses are the more familiar classes used in urban remote sensing. In this context, the term “urban” refers to land cover where some built structure has been detected during the process of supervised classification.

Similarly, mapping the concentration of night-lights based on the “Earth at night” maps released by the National Oceanic and Atmospheric Administration (NOAA)—National Aeronautics and Space Administration (NASA) Suomi National Polar-Orbiting Partnership (NPP) program gives an approximation of urbanized areas in the NCR. In dense urban areas, the concentration of night-lights is increasingly being used to examine the extent of urban development (and development in general).26 Here, we have also captured night-lights to understand the extent of urban infrastructure at the scale of the NCR.

The images on the left in Figure 1.5 show the quantity of light reflectance, whereas the images on the right map areas of high concentration of night-lights within the region. A comparison of false color “heat maps” reveals a steady growth of the brightest portions of the region between 2012 and 2016. The largest bright node in the region originates from Delhi NCT and includes the nearby urban centers of Gurgaon, Noida, and Faridabad. The concentration of bright pixels also increased along the highways and transportation corridors. Along with the expansion of existing bright clusters, new hotspots of brightness also appear in Muzaffarnagar district. The relative difference of hotspots in the 2016 image in northwestern NCR (especially in Jind) can perhaps be explained by seasonal electricity outages and crop burning. Studies have also noted a low-intensity haze around these bright spots, which could be an artifact of how these images were processed.

In both the analyses, it is difficult to conclude whether such urbanization has left us with a better (or worse) environment. An examination of vegetation indices for the NCT has shown an overall decrease in healthy green vegetation and an increase of land covers which are not vegetated. The classification results indicate a shift in how green spaces are conceived and utilized, seen in Figure 1.4. The intensity of built-up areas and a disproportional gap with green spaces has increased over time. Our finding is consistent with a study from Morya and Punia, who find a similar trend of increased built-up area and decline in agricultural land. This decrease also contributes to the overall decline in total ecosystem services in the NCT and eventually “lead to the lesser access of services at higher cost, especially to the poor.”27
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Figure 1.5 Analysis of night-time lights in the NCR

Note: The NCR in “Earth at night” maps released in 2012 and 2016 (left). Heat map of the bright spots in the region (right). Brightest spots in the images appear in darkest gray.
The large change in the urban footprint over the 2010s explored in this section suggests that the scale of urbanization was possible by defying the principles of site selection and landscape design at a regional scale. The inferior “Othering” of green spaces to the built environment, similar to Sharan’s account of air quality in this volume, has played a significant role. However, such development comes at the cost of an irreversible impact on the ecology of the region.28

Seeing Like a State: The National Capital Region and Political Boundaries

The National Capital Region Planning Board, a regional development body, defines the NCR in terms of districts within its five regions, a definition that has seen some changes since the publication of the last regional plan in 2005. The initial plan consisted of the districts of Meerut, Baghpat, Ghaziabad, Gautam Buddh Nagar, and Bulandshahar from Uttar Pradesh (UP) and Faridabad, Gurgaon, Palwal, Mewat, Rewari, Panipat, Sonipat, Rohtak, and Jhajjar in Haryana. Only certain tehsils (sub-districts) of Alwar in Rajasthan were included. In 2013, Bhiwani, Mahendragarh, and Jind districts in Haryana and Bharatpur district in Rajasthan were included in the NCR through the National Capital Region Planning Board Act, 1985; in 2015, Muzaffarnagar district in UP was made part of the NCR as well (Figure 1.6). Understanding this administrative organization of spaces and the distribution of people is essential to fully grasp the social realities of the region, especially since the NCR is the only metropolitan region in India which is governed by four state jurisdictions and their inevitable political contentions.

To understand the extent of urbanization in the NCR, let us begin with the definition of “urban” in India. In its current form, the Registrar General and Census Commissioner of India defines urban in the following two ways:

1. all places with a municipality, corporation, cantonment board, notified town area committee, and so on; and
2. all other places which satisfy the following criteria:
   i. a minimum population of 5,000,
   ii. at least 75 percent of the male main working population engaged in nonagricultural pursuits, and
   iii. a density of at least 400 persons per square kilometer.
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Urban agglomerations (UA) are defined separately for amalgamated urban units, which have a clearly defined core and outgrowths and a population of over a million. In the 2011 Census, the NCR included nine UAs (Table 1.1).

Figure 1.6 Making of the NCR boundaries—regions included in 2013 and 2015 are represented with hatched overlays

Source: National Capital Region Planning Board, see http://ncrpb.nic.in/.

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### Table 1.1 Urban agglomerations (UA) within Delhi NCR in 2011 Census

<table>
<thead>
<tr>
<th>UA name</th>
<th>State</th>
<th>Municipal corporations, census towns, and outgrowths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td>the NCT</td>
<td>26</td>
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<tr>
<td>Gurgaon</td>
<td>Haryana</td>
<td>2</td>
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<td>Haryana</td>
<td>2</td>
</tr>
<tr>
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<td>Haryana</td>
<td>2</td>
</tr>
<tr>
<td>Alwar</td>
<td>Rajasthan</td>
<td>2</td>
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<tr>
<td>Bharatpur</td>
<td>Rajasthan</td>
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</tr>
<tr>
<td>Muzaffarnagar</td>
<td>Uttar Pradesh (UP)</td>
<td>2</td>
</tr>
<tr>
<td>Meerut</td>
<td>UP</td>
<td>2</td>
</tr>
<tr>
<td>Ghaziabad</td>
<td>UP</td>
<td>2</td>
</tr>
</tbody>
</table>

*Source: Author.*

Population growth is an important measure of urbanization. Figure 1.7 shows the total population of Delhi and its leading urban outgrowths (Gurgaon, Faridabad, Gautam Buddh Nagar [that used to be known as Noida], and Ghaziabad) for the last 11 censuses. The population of this urban unit was reported to be over 1.4 million in the 1901 Census and the share of the NCT was about 405,000. In the next decade, the region saw a population decline due to plague, malaria, and other epidemics, especially in Gurgaon, whereas the NCT’s population increased by 8,000. With the development of Lutyens’ Delhi, the NCT’s population in the 1921 Census increased by 74,000. From this point onward, we not only see an increasing rate of population growth in

![Population change over time (1901–2011)](https://doi.org/10.1017/9781108935654.003)

*Figure 1.7 Change in population of the NCT and its nearby districts*

*Source: Series A2 tables—Decadal variation in population since 1901, Census of India.*
this point onward, we not only see an increasing rate of population growth in Gurgaon, whereas was about 405,000. In the next decade, the region saw a population decline reported to be over 1.4 million in the 1901 Census and the share of the NCT (Ghaziabad) for the last 11 censuses. The population of this urban unit was shows the total population of Delhi and its leading urban outgrowths (Gurgaon, Ghaziabad) for the last 11 censuses. The population of this urban unit was

Table 1.1 Urban agglomerations (UA) within Delhi NCR in 2011 Census

Colossus

https://doi.org/10.1017/9781108935654.003 Published online by Cambridge University Press

Figure 1.8 District-wise population distribution in the NCT (as percent of total)

Source: Author’s calculations from the Census of India, 2011.

the region but also see a rapid increase in the population share of the NCT in comparison to its outgrowths. Over a century, the population of the NCT rose from less than half a million to over 16 million in the 2011 Census.

Next to the NCT, Ghaziabad has the second largest population share. Even though its population increase has not been as rapid as the NCT, it has increased from 495,000 to 4.8 million over a century. In 1901, Gurgaon
and Faridabad were rural entities and Gautam Buddh Nagar (Noida) did not exist. Thus, we see a relatively low growth in population in these units. The rapid growth in Gurgaon was not seen in earnest until the 1991 Census, whereas industrial development in Faridabad reflected a steady increase in total population from the 1981 Census. Since the state boundary of the NCT has remained stable since its conception in 1956, we can also infer an increase in population density over time. Between the 1991 and 2011 Censuses, the mean population density of the NCT increased from 1,170 to 1,812 persons per square kilometer.

**Current Outlook from the 2011 Census**

Mapping the data from the 2011 Census down the census hierarchy—states, districts, sub-districts, and wards—reveals interesting demographic and spatial patterns. In this section, the demographic data of the NCR is examined at a district level (see Figure 1.9). However, for the NCT, the largest and densest part, the analysis was conducted at the sub-district level. Although the Registrar General and Census Commissioner of India considers some population in the NCT to be rural, I have considered the total population of the NCT to be urban since the NCT lacks rural governance structures.

In the 2011 Census, the districts of the NCR have seen a steady decadal growth. The overall population increased by 21.2 percent in the NCT, 23.5 percent in Haryana, 25.2 percent in UP, and 22.1 percent in the Rajasthan sub-regions. At the level of districts, these rates differ significantly, with central Delhi and New Delhi showing a negative growth from the previous census; that is, population declines. In absolute values, the population of the NCT grew by 2.9 million, while rest of the NCR saw a population growth of 7.7 million (3.6 million in UP, 1.1 million in Rajasthan, and 3.0 million in Haryana).

The NCT is home to a population of 16.78 million people, ranging from 28,000 residing within the sub-district of Connaught Place to over 2.2 million people in Saraswati Vihar. In terms of population share, the highest quintile resides in Najafgarh, Patel Nagar, and Hauz Khas, whereas the lowest quintile of population is observed in Lutyens’ Delhi and its vicinity. Outside of the NCT, the population of the NCR districts ranges from 900,000 to 4,680,000. The highest quintile of population (8.33–11.31 percent in the distribution) resides in Ghaziabad, Alwar, Muzaffarnagar, and Bulandshahar districts, whereas Rohtak, Jhajjar, Rewari, Palwal, and Mahendragarh report
the lowest proportion of the NCR population (2.17–2.56 percent), as seen in Figure 1.10.

Population density in the NCR also showed a variation of density clusters. Within rural areas, the population density ranged from 284.1 to 773.3
clusters of high- and low-population groups sorted by social identity and socioeconomic conditions, which include religion and caste information among others. Outside the NCT, a large majority of the NCR is made of a population that identifies as Hindu. The percentage of such population varies in the range of 57–90 percent by district, except for Mewat, Haryana, where Hindus make up 20 percent of the population. Islam is the next dominant religion in the NCR. The Muslim population is relatively evenly distributed in UP, while Rohtak, Rewari, and Mahendragarh show consistently low proportions of Muslims (<1 percent of the district population).

Similarly, the sociocultural tables released by the census (C-Series) reveal clusters of high- and low-population groups sorted by social identity and socioeconomic conditions, which include religion and caste information among others.

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Rohtak, Rewari, and Mahendragarh show consistently low proportions of up 20 percent of the population. Islam is the next dominant religion in the 57–90 percent by district, except for Mewat, Haryana, where Hindus make identifies as Hindu. The percentage of such population varies in the range of among others.

Figure 1.10 Density of urban and rural population in the NCR Source: Author calculations from the Census of India, 2011.

Outside the NCT, a large majority of the NCR is made of a population that Muslims (≤1 percent of the district population). Inside the NCT, Sikhs and Muslims have dominant localities, a vestige from its past. Within the NCT, the Muslim population is more concentrated in east Delhi. In sub-districts of Seelampur and Kotwali, 25–50 percent of the population identify themselves as Muslims. These figures go beyond 50 percent in Daryaganj. The Sikh population is concentrated around Punjabi Bagh, Patel Nagar, Rajouri Garden, and Karol Bagh (Figure 1.11).

The Centrality of Transportation

I end this chapter with a few words about transportation, which, as noted earlier, has been instrumental in the growth of the NCT and the NCR. In the precolonial era, waterways and roads played an important role in providing access to the Mughal capital and provided strategic routes for travelers in the East–West Corridor. The development of the railways during colonial rule solidified Delhi’s locational importance as an important node on both the east–west and north–south routes. In the contemporary period, the locational importance of Delhi as a transportation hub cannot be emphasized enough. Transportation feeds the industrial corridors emanating from Delhi;
supports the production centers of the region; provides access to national and international markets; and has helped the growth of tourism, export industries, and higher education in Delhi.

In the last several decades, perhaps most conspicuously from the 1982 Asian Games held in the city, massive investments have been made in roads, rail, and most recently, metro rail infrastructure. These have provided support for regional economic development and been instrumental in increasing the physical spread of the region, perhaps hastening the need to think of the NCR as a planning entity. The Gurgaon and Ghaziabad UAs are increasingly well-connected with central Delhi. These connections have become even stronger with the development of the Delhi Metro Rail Corporation (DMRC) and its extensions: Rapid Metro, Noida Metro, and Metro-Link to Bahadurgarh (Figure 1.12). Delhi Metro is viewed as a major success story, at least in terms

![Transportation network in the NCR, including major roads (in gray) and metro stops (in black)](https://doi.org/10.1017/9781108935654.003)

**Source:** Author.
of project implementation, with 285 fully functional stations and another 195 under development. The Rapid Metro network of Gurgaon with 11 stations and the Noida Aqua Line with 21 stations are built to connect commuters to the DMRC network. Since its inception in 2000, the Delhi Metro has enlarged the possibility of rapid commuting in the region and created new multi-modal transportation options for daily commuters.

The story of Delhi is one of complex and heterogeneous growth—over time and space. The narrative of urban transformation from Shahjahanabad to Delhi, to the NCT, and to the NCR has been sometimes erratic, sometimes continuous, and, in recent decades, explosive. The words of Percival Spear still resonate: “After the people, came the city.”

In IGP 1956, Amrit Kaur posed an important question—for an uncontrolled multi-jurisdictional space such as Delhi, how do we begin to define the region? Sixty-three years later, now that Delhi NCR is a vaster, even more complicated, heterogeneous space, we are yet to find a satisfactory answer. The heterogeneity explored in this chapter through multidisciplinary perspectives of history, Earth Observation, and demographic mapping points to a vast space that faces serious challenges brought on by extraordinary population growth and an uneven urban fabric. The remaining chapters in this volume take on some of these challenges.

Notes

1. See Gautam Bhan, “In the Public’s Interest: Evictions, Citizenship and Inequality in Contemporary Delhi,” (ProQuest Dissertations and Theses Global).
4. The ruins of earlier capitals are now conserved in parts of Delhi around Jahanpanah City Forest.
5. In Delhi’s urban history, this era is also referred to as the Twilight period.


9. Narayani Gupta, “Delhi and Its Hinterlands: The Nineteenth and Early Twentieth Centuries,” in Delhi through the Ages, ed. R. E. Frykenberg (New Delhi: Oxford University Press, 1986), 139. In the next 100 years, the area would increase to 573 square miles to the present extent of the NCT.

10. Stephen Legg, “Governmentality, Congestion and Calculation in Colonial Delhi,” Social & Cultural Geography 7, no. 5 (2006): 709–729, available at doi: 10.1080/13698240600974721. Legg argues that the construction of the railways was a way of deploying “governmentality” and strategically reducing the odds of another recurrence of the Sepoy Rebellion, whereas Narayani Gupta suggests that the project was part of famine relief efforts.


12. Ibid., 43.


14. Northern Delhi was site to some of the famous Mughal gardens under Shahjehan’s rule. Dalrymple recounts the story of the deterioration and disrepair of these gardens in City of Djinns, 197–200. See also Awadhendra Sharan’s essay in this volume, Vitiated Airs.


population density of Old Delhi Municipality was 132,555 persons per square mile (approximately 51,182 persons per square kilometer) in the 1951 Census. The total population in Mehrauli, Narela, and Najafgarh (then satellite townships) remained under 10,000.

20. Ibid., 151–153.
Neelanjan Sircar

Introduction

India is now the fastest urbanizing country in the world, and such urbanization is typically associated with opportunities for greater income, education, and social mobility. But the city is far from a monolithic whole; it encompasses makeshift slums to wealthy gated neighborhoods and everything in between. It is becoming increasingly clear that simply “growing up in a city” has little meaning—where you grow up in the city matters a lot for a bevy of social and economic outcomes. At the same time, global capital is engendering unprecedented inequalities in economic well-being, and rising land prices in many cities are pushing disadvantaged populations to the fringes of urban areas.

If the disadvantaged are systematically pushed to the urban periphery, they are likely to be “peripheral” to the social gains from urban growth, a phenomenon that has already been observed in many Western cities and urban agglomerations. Under these circumstances, disadvantaged populations benefit little from investment in the urban core and remain segregated from wealthier residents and their tools of wealth generation; there is a genuine fear that urbanization does little for the social mobility of the disadvantaged in such a scenario. The National Capital Region (NCR) has seen soaring land prices and incomes since the 1990s along with very high rates of in-migration, exactly the conditions under which one might expect increasing peripheralization of disadvantaged populations. For these reasons, understanding the spatial distribution of marginalized caste/religious groups and economic well-being at the scale of the entire NCR is of critical importance.

There are, however, good reasons to believe that the described model of “spatial inequality” and peripheralization in the previous paragraph does