

Development Control Regulations and
Urban Form: Exploring the Linkages

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Case No 1-0020

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Reframing Urban Inclusion

The opening set of cases produced by IIHS represents a focus central to our institutional mission, its teaching and its practice: urban inclusion. Through an on-going collaborative, multi-year research project titled 'Reframing Urban Inclusion', the 30 cases available on the website, www.cases.iihs.co.in include original teaching and learning cases commissioned and produced at IIHS through support from the Ford Foundation.

The cases were curated to address a particular set of challenges. The first is pedagogical. IIHS' stated aim is to be part of a global moment to re-think urban theory and practice from India, South Asia and the Global South. These cases are a key curricular and pedagogical intervention within that effort. Distributed through open access modes to encourage widespread, public and diverse forms of use, the cases seek to give scholars and educators in the Global South a new canon to teach with, that begins from and is responsive to place.

The second is more outward facing. India is at a critical moment in its urbanisation. The urban agenda has begun to emerge strongly on the national political register, and questions of how to shape policy agendas from housing to employment, planning to service delivery, are more pressing than ever before. It is our hope that these cases will therefore equally be used by and inform an evidence-based, empirically rich, conceptually grounded and reflexive practice and interface with policy.

Since 2013, the project has brought together leading academics and practitioners from different disciplines to identify and contextualise social and economic realities of Indian cities through the case method. We hope that they will provide new evidence of the possible opportunities and mechanisms for urban integration as well as build a conceptual and empirical foundation for politically, socially, and economically inclusive cities.

The project has three thematic foci:

1. Conceptualising Pro-Poor Planning

Urban planning processes determine access to basic resources such as land, shelter and housing, livelihoods, mobility, and security. Inclusive urban planning is aimed at serving all the citizens of the city, reducing vulnerability and addressing exclusion from access to these basic resources.

Cases in this theme (1) untangle the current state of urban planning and its effects on vulnerability and exclusion, (2) explore how meaningful participation can be more effective in pro-poor planning, and (3) highlight opportunities for, and instances of successful integration across agencies and organisations involved in urban planning.

2. Re-visiting Settlement Upgrading

This theme seeks to expand and re-articulate debates on slums in India. The 'slum' is a form of an urban settlement that is situated at the intersection of land markets, new urban political economies, the efficacy of the state as a provider of housing to the poor, differentiated state-citizen relations, splintered urban infrastructure, questions of law, legality and planning, as well as conceptions of urban citizenship.

Cases in this theme (1) explore the processes of settlement and resettlement, paying attention to the market and political forces that shape the outcomes, (2) broaden the scope of settlement transformation from spatial upgradation to impacts on other sites of transformation such as livelihoods and employment, and (3) explore alternative imaginations of 'property rights' and tenure regimes.

3. Re-drawing the Picture: Metrics of Urban Inclusion

The dynamics of urban poverty and vulnerability are poorly understood. We know that the security of tenure, spatial coherence of urban infrastructure and service delivery, transit distances between livelihoods and living spaces, socio- cultural identities and social networks play important roles in inclusive cities. However, we have limited statistical data and information on the locational and distribution patterns of urban India.

Cases in this theme (1) examine the use of data in urban decision making and identify potential sites for intervention, (2) provide a more contextual and holistic analysis of urban dynamics, moving beyond sector-wise administrative data collection methods, and (3) emphasise improvements in information and learning from experience for local decision making.

IIHS Case Method

The IIHS case is a work-in-progress that represents experiments in different forms of creating interdisciplinary and inter-sectoral cases, as well as a diversity of pedagogical environments to learn and teach with these cases. The opening set of cases is, thus, also in a sense, an experiment in form and teaching modes. Given this, we do not claim a singular 'IIHS Case Method' or any one form or definition of a case. Indeed, one of the explicit aims of case development at IIHS is to challenge conventional ideas of what case-based learning is.

How then does a user know how to use cases? Pedagogical transactions will differ from case to case and indeed multiple options will be open within each case. Therefore, in order to aid users, all IIHS cases come with a set of consistent elements that help users navigate through the diversity of form and content. These are:

- **Preface:** Every case begins with an introduction by the case writer that describes their own approach to the case. How did the case writer frame the case? Why did they choose to structure it as they have? What were their intentions in writing the case?
- **Teaching Note:** The second shared case element is the Teaching Note. Here, the case writer lays out their imagination of how they would teach with the case in its current form. They suggest learning outcomes, pedagogical modes, learning environments and assessment frames. True to the diversity of the cases, each of these is particular to the case.
- **The Main Case:** This is the main body of the case—its core empirics, arguments, discourse and data. Across the cases, these come in different forms: PowerPoint presentations, audio-visual material, web interfaces, written text, and data visualisations.
- **Pedagogical Possibilities:** The next element lays out the case writer's suggestions on other ways in which the case could be taught, including in other disciplines or learning environments. These are not as detailed as the Teaching Note but offer a set of possibilities to the user to imagine other uses of the case than those laid out.
- **Case Archive:** The final element of the case is a library of documents—reports to interview transcripts, unedited footage to visual photo libraries—that act as an archive for the case. This repository allows users to also access a host of background and additional information necessary to navigate the larger contexts in which the case is situated.

Each IIHS case—regardless of the diversity of its form—comes structured with these elements. It is our hope that this recognisable framework will enable users to navigate easily across cases with very diverse elements and forms.

Case Note

'Development' with its grammatical variations, means the carrying out of building, engineering, mining, or other operations in, on, over or under land, or the making of any material change in any building or land, or in the use of any building or land and includes subdivision of any land (Delhi Development Act, 1957; Karnataka Town and Country Planning Act, 1961; Maharashtra Regional and Town Planning Act, 1966). Development Plans/Master Plans prepared under their respective town and country planning acts provide a legal framework within which development of an area of a city is supposed to take place. Land-use zoning and development promotion/control regulations serve as legal instruments for planning and executing proposals contained in the plan. These are expected to guide the use of land and property, and the extent of the physical development in various use zones for organised and orderly development of cities.

Development Control Rules (DCRs) attempt to control/regulate different aspects of city development. At the city level itself, the quantum of different land uses and overall density is regulated. Activities, densities and high-rise versus low-rise development are controlled for each land-use zones by the way of zoning and other regulations like FAR, ground coverage, height, setbacks, minimum road width, number of dwelling units, etc. Open spaces within and outside the buildings are regulated for public welfare through setbacks, percentage of open areas, minimum distance between buildings, etc. Traffic to particular areas is regulated by approach roads and parking requirements. The height of the buildings in different land uses is regulated either through development controls or other agencies like the fire department, Airport Authority of India, Archaeological Survey of India, etc. There are several other controls/regulations that deal with detailed design and construction of the buildings including staircase, windows, shafts, etc. In some cases, facades and even the colour of the building is regulated for urban design concerns.

Through my own training as a planner, master plans and DCRs within were a given and one had to just work with them. We used to plan for places keeping in mind the norms, standards and DCRs set out in the Master Plan. The DCRs were never questioned with the assumption that some logic must have gone in formulating them and one need not reinvent the wheel but rather build on that further. Once I started working and observing things closely I realised two things, first, many parts of Indian cities were self-built and therefore, were not directly under the purview of DCRs and second, there were a number of deviations from the DCRs in the planned colonies. The sacrosanctity of DCRs was further disturbed when Master Plan of Delhi, 2021, introduced a substantial increase in ground coverage, floor area ratio (FAR), heights, dwelling units, densities, etc., as compared to MPD 2001. The bubble completely burst when I was part of a committee that was deliberating on rationalisation FAR and other zoning regulations in Karnataka, and members were putting out numbers without any rationale or

logic. The literature review also revealed little knowledge and cases on the subject in the Indian context. It was felt that some primary work is required in building knowledge around these DCRs and how they interact (or not) with the built-form in and around the city.

Using observation and house-listing methods, this case examines the linkages between the built-form and DCRs in Delhi with a focus on residential areas.

The case seeks to explore the kind of spaces built across different housing typologies in Delhi, based on whether the settlement is located within the Plan or outside the Plan. It is an attempt to fill the knowledge gap in the DCRs and built-form sphere to some extent, and include these concepts in the learning journey of planning education in a manner that is more analytical and filled with reason, which is largely absent today. It is expected to help expose the learners to the nitty gritty of DCRs in the context of the built-form, and equip them to ask more questions in terms of what should be controlled and to what extent, who should control and how, which instruments are more suited in what context, etc.

Components and Materials

The components of this case study include written material, datasets, maps and pictures. The study looks at three out of five major housing typologies in Delhi— unauthorised colonies, resettlement colonies, and JJ clusters. Within each, built form analysis looks at the relationship between buildings, uses, layouts and DCRs, mapping extensions, over-reaches. The note talks about the process of case development and how it can be used for teaching purposes. The datasets provide the primary data collected during the case development and further analysed in the context of development controls. There are two sets of maps for each of the settlement: one representing the actual data and analysis; and the other gives an overlay analysis based on the changing development controls in Delhi Master Plans.

Exhibit 1 takes the reader through the sites that were selected for the study. It gives an overview of the sites, why they were selected and quick snapshots of the three study areas chosen in the first phase of the study.

Exhibit 2 is a snapshot of land use zoning. The image shows all the elements that comprise different land use categories and zones. It allows the user to get a glimpse of how the land is used and for what purpose.

Exhibit 3 is a snapshot of the history behind development controls. It contains an image explaining 'The Setback Principle'.

Exhibits

Exhibit 1: Site Selection and Quick Snapshot of Study Areas

The study was originally designed to cover five different housing typologies in Delhi— planned colonies, urban villages, unauthorised colonies, resettlement colonies, and squatter settlements. However, due to paucity of time and resources, three out of five settlements (unauthorised colony, resettlement colony, and JJ cluster) were studied in this phase. These included the Madanpur Khadar Resettlement Colony, Madanpur Khadar Extension Unauthorised Colony, and Priyanka Camp, which is a squatter settlement (refer presentation on site location and transect maps). The settlements were selected because different typologies are in close proximity to each other. Another important consideration was that they have been in existence for around the same time, given that house construction and consolidation is very much a function of time.

Quick Snapshot of Study Areas

Madanpur Khadar Resettlement Colony: Located in DDA Zone O, the resettlement colony was set up starting 2000, to families evicted from the areas of South Delhi, including Kalkaji, Nehru Place, Alakananda, Vasant Kunj, Gautam Puri, AIIMS, etc. There are in total around 10,000 plots across three different sizes, 25 sqm, 18 sqm and 12.5 sqm, built over three phases.

Madanpur Khadar Extension Unauthorised Colony: Located right next to the resettlement colony, the unauthorised colony also falls under Zone O. It followed the same trajectory as any other unauthorised colony in Delhi—farmers selling agricultural land to colonisers/developers, which leads to land aggregation and formation of layout (plots) by developers, without getting the land use changed from agricultural to residential and then selling plots to individuals. As the name suggests, Madanpur Khadar Extension is an offshoot of Madanpur Khadar Village, which was built over agricultural lands bought from the village residents.

Priyanka Camp Squatter Settlement: Located right next to a drain, Priyanka Camp falls under Zone F of DDA. Speaking to the residents revealed that some of them had been there for as long as 40 years.

Exhibit 2: Exploring Development Control Regulations – Land use zoning

A. Land use zoning

Land use categories:

Residential,
Commercial,
Industrial,
Transportation,
Public-Semi Public (PSP),
etc.

Land use zones:

RD and RF in Residential,
C1, C2, C3 in Commercial,
etc.

Source: Master Plan Delhi 2021,
Chennai Master Plan 2026

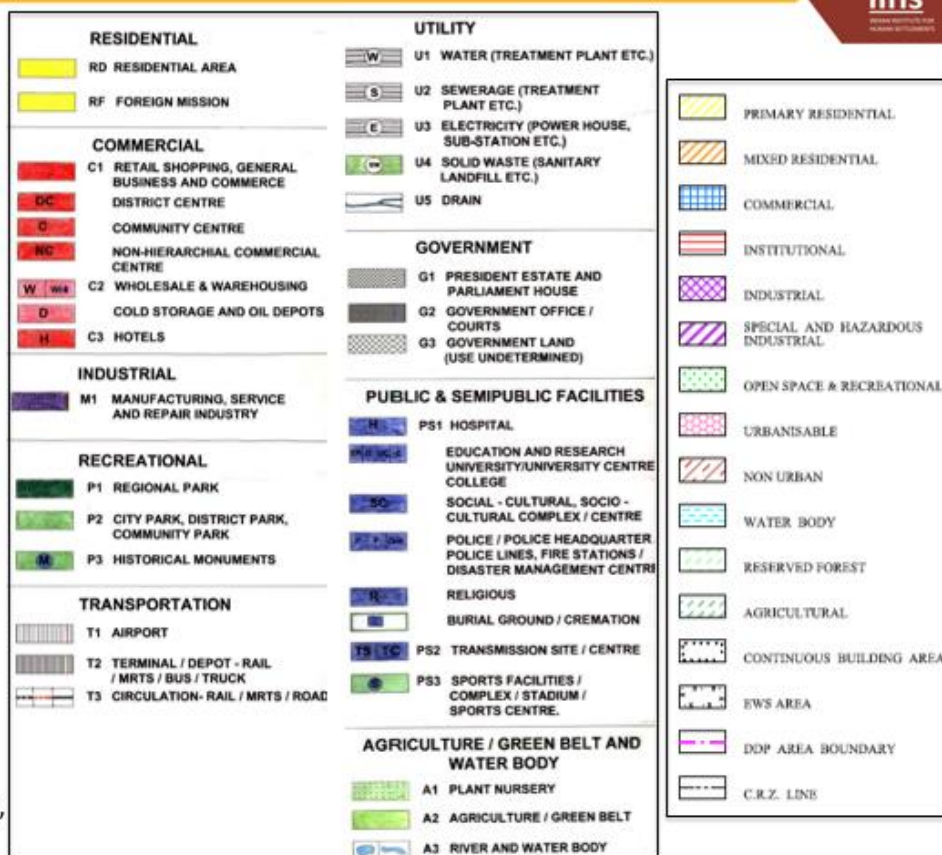


Exhibit 3: History behind Development Controls

History behind Development Controls



The Setback Principle

Typical example in a 1 1/2 times district, for streets 50' to 100' wide



WHEN 1916



ARCHITECT Hugh Ferriss



GOAL

As cities came to fill with skyscrapers in the early 20th century, planners turned their interest from the layout and footprint of neighborhoods at street level to the volume of buildings as they rose toward the sky.

Teaching Note

The case on built-form and DCRs will ideally fit within a built-form/planning/housing module. Even beginners can relate to the case and they will only need to be provided the glossary beforehand.

Depending on the time and class composition, the case can be used in a number of ways. Three possibilities have been detailed out below which can be combined or built upon by faculty.

Teaching Option 1: Using the Case in Single Session

In a 2–3 hours' session, broader subjects and concepts like master plan, built-form, zoning, DCRs, etc., could be discussed first (refer presentation on exploring DCRs), followed by a Lego exercise where the class (in groups) visualises the built-form in the context of varying DCRs. This should be followed by a presentation on case findings (faculty member can choose visualisations for presentation from the folder). The class should then be asked to comment/respond on their key findings and visualisations. The class discussion could be facilitated to cover issues like relevance of control, forms of control, appropriate metrics, etc.

Teaching Option 2: Using the Case over Two Sessions (including a home exercise)

Session 1: Broader subjects and concepts like master plan, built-form, zoning, DCRs, etc., could be discussed first (refer presentation on exploring DCRs), followed by a Lego exercise wherein the class (in groups) visualises the built-form in the context of varying DCRs.

At the end of the first session, datasets are given to the learners and they are asked to make visualisations depicting the built-form of the case study areas. Learners should also be asked to calculate various built-form indicators including FAR, ground coverage, plot densities, per capita built-up area, etc.

Session 2: Learners present and discuss their work on datasets. The faculty member may choose to present a few visualisations created as a part of this case. The class should then be asked to comment/respond on their key findings and visualisations. The class discussion could be facilitated to cover issues like relevance of control, forms of control, appropriate metrics, etc.

Teaching Option 3: Using the Case over Multiple Sessions (including a home exercise and field work)

WEEK 1

Session 1: Broader subjects and concepts like master plan, built-form, zoning, DCRs, etc., could be discussed first (refer presentation on exploring DCRs), followed by a Lego exercise wherein the class (in groups) visualises the built-form in the context of varying DCRs.

At the end of the first session, datasets are given to the learners and they are asked to make visualisations depicting built-form of the case study areas. Learners should also be asked to read all the settlements in the context of the master plan, and calculate various built-form indicators including FAR, ground coverage, plot densities, per capita built-up area, etc.

Session 2: Learners present and discuss their work on the datasets. The faculty member may choose to present a few visualisations made as a part of this case. The class should then be asked to comment/respond on their key findings and visualisations. The class discussion could be facilitated to cover issues like relevance of control, forms of control, appropriate metrics, etc.

At the end of the second session, learners are introduced to the field assignment. The assignment includes mapping various housing areas in the city, comparing their built-form to each other, and in relation to the master plan provisions.

It is expected that the field work will take about 2 weeks

WEEK 2 & 3

Field Work

WEEK 4

Session 1: Learners put together their findings

Session 2: Final presentation and discussion

Note: In the third option, it is up to the faculty member whether to present case findings before the primary field work or after.

Accessing the Full Case

The full content of this case is open-access and downloadable at www.cases.iihs.co.in.

The full content of this case includes the following documents:

Folder A: Introduction to the Case

Terms of Use and Agreement

Reframing Urban Inclusion

IIHS Case Method

Preface Note

Teaching Note

Folder B: Main Case

Datasets

Madanpur Khadar Resettlement Colony

Madanpur Khadar Extension Unauthorised Colony

Priyanka Camp Squatter Colony

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Squatter Settlement

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Exploring DCRs

Site Location and Transect Maps

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About the Author

Geetika Anand is trained as an Urban and Social Planner. Geetika has over nine years of experience in the development sector spanning across Master Planning, planning legislation, housing, water and sanitation. Her interest lies in exploring production of built spaces through different actors and processes. She has worked with the government, development authorities, education institutions, NGOs, CBOs, private sector and the community. Geetika has taught as a visiting faculty at School of Planning and Architecture, New Delhi.

Her recent assignments include research on urban water and sanitation and housing (co-author of chapters in the India Exclusion Report); studying development controls in Delhi; supporting geo-spatial analysis for the state of Odisha and selected cities; cases and short films on urban water and sanitation as a part of policy brief; baseline and end-line studies for a sanitation and livelihood intervention in Katihar, Bihar; policy brief for urban sanitation in Bihar; a sustainability analysis of the Jawaharlal Nehru National Urban Renewal Mission; technical support to Bangalore Development Authority for Master Planning; Govt. of Tamil Nadu's roll out of their state-wide urban sanitation program; and providing knowledge support to a national groundwater sanitation nexus programme (supported by Arghyam, a grant-maker in the water and sanitation sector).

Pooja Rao is trained as a planner from the School of Planning and Architecture and is currently pursuing Masters in City and Regional Planning specialising in transportation from Georgia Institute of Technology. During Pooja's time at IIHS she was central to the research on land use and mobility. Prior to IIHS, Pooja has worked at the Center for Infrastructure, Sustainable Transportation and Urban Planning, Indian Institute of Science and INTACH.

About IIHS

The Indian Institute for Human Settlements (IIHS) is a national education institution committed to the equitable, sustainable and efficient transformation of Indian settlements. IIHS aims to establish an independent funded and managed National University for Research and Innovation focused on the multi-sectoral and multi-dimensional challenges and opportunities of urbanization. The University is intended to be a globally ranked institution. The IIHS is a proposed network of mother and daughter institutions across South Asia, leveraging on the local and regional knowledge and innovation and linking them to global best practices. Its mother campus, based in Bengaluru, will include academic, research and social infrastructure, student and faculty housing. This campus is expected to set international standards for efficient, economic and sustainable design, operations and maintenance.



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