



ISAC Position Document

Security in the Built Environment of Delhi with respect to the Delhi Masterplan 2041.

A document advocating the security for Delhiites presented by:

Information Sharing and Analysis Centre (ISAC)

India's leading cybersecurity non-profit foundation

Partner with NCIIPC, under Prime Minister's Office, Government of India

Partner with CERT-IN, MeitY and AICTE, Ministry of Education

Website: <https://www.isacindia.org>

Authored by:

Ar. Raja Singh,

M.Arch, B.Arch.

Senior Manager - Environmental Design and Security,

Information Sharing and Analysis Centre.

(PhD Research Scholar, School of Planning and Architecture, New Delhi)

Advocated by:

Group Captain Aanand P Naidu (Retd IAF)

MA LLB, PGDM, Dip Elec Eng.

Director - Information Sharing and Analysis Centre

Rajshekhar Pullabhatla, CISSP

Founder-Director, Information Sharing and Analysis Centre

Endorsed by:

Prof. Dr. Anil Dewan,

PhD, MBEM, B.Arch

Professor, School of Planning and Architecture, New Delhi.

Security in the Built Environment of Delhi with respect to the Delhi Masterplan 2041.

About the Master Plan-2041.

The Master Plan for Delhi is one of the key instruments that facilitates Delhi's development by assessing the present condition and guiding how to achieve the desired development. The anchor agency for the master plan is the Delhi Development Authority. Implementation of the Plan is the collective responsibility of all agencies involved in the development of Delhi, including the Central Government, concerned departments of the Government of the NCT of Delhi, service providers, landowning agencies, regulators, and local bodies among others.

The first Master Plan for Delhi was promulgated in 1962 under the Delhi Development Act of 1957, followed by the Master Plans of 2001 and 2021, each of which is an extensive modification of the respective previous plan document. These plans were prepared for 20 years perspective periods and provided a holistic framework for planned development of Delhi.

The MPD-2041 is a 'strategic' and 'enabling' framework to guide future growth of the city, built upon the lessons learnt from the implementation of the previous plans.¹

The Vision of the Master Plan for Delhi-2041 is to “Foster a Sustainable, Liveable and Vibrant Delhi” This document is a far-sighted approach to how the development in Delhi has to take shape. It is very pertinent for this document to be all inclusive and to look at the various aspects which are responsible for overall growth without any compromise to security and safety.

Security as a Basic Human Requirement

The Maslow's pyramid is a broad chart of the needs of a Human Being. At the base of the pyramid lies the most basic needs. Along with food and shelter, Security is also situated there as a most essential need of a Human Being.

Article 3 of the Universal Declaration of Human Rights states that ‘Everyone has the right to life, liberty and security of person.’ This is also resonated in the Fundamental Rights promulgated in the Constitution of India in Article 21 which guarantees Right to Life for any person in India.

¹ Draft of Delhi Master Plan 2041 https://dda.org.in/MPD_2041.aspx#

Over the years, this concept of security and the Right to Life has focused on prevention of physical captivity of a person by state or non-state actors. But just as the Right to Life has been expanded by Judicial Activism and Judicial creativity, we see that it has a very large gamut. From right to clean air, to right of speedy trial to the recent inclusion of Privacy as a right, Article 21 has been the true savior of democracy and a fulfiller of the human spirit. Life, in Article 21 is not merely the act of breathing², or mere animal existence. Security, like other ideals is something we all need as an essential part of life.

In the Sustainable Development Goals recognized by the Department of Economic and Social Affairs of the United Nations Organization, there is a focus on Security, stated as follows:

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities (SDG 11.7)

Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime (SDG 16.a)

This document highlights this need for security in the Master Plan for Delhi-2041 as a right for Delhi-ites. We will also explore the various realms of security which may be broadly classified as follows:

- *Physical Security in the Built Environment (Including Women Security)*
- *Cyber and IoT Security*

The above will be highlighted in the context of the Draft of the Master Plan for Delhi 2041.

Physical Security in the Built Environment

The Security discussed above has to be manifested in reality and this has been highlighted in the Master Plan for Delhi 2041. In the chapter on 'Managing Public Spaces Better' The term 'public realm' is regarded as

An essential urban common, comprising of shared public areas in a city that belong to everyone and are accessible to all. This Plan envisages the following with particular focus on three elements, viz. streets, public and private plazas/squares, parks and open spaces:

- Improved availability and experience of well-designed, safe and well-maintained public spaces across the city*
- Improved interface between buildings and public areas with enhanced street-level activity and safety*

There has been a highlight of safety (read Security) in this vision Public Spaces. In another part of the Master Plan, there is a conversation on integrating Security in the design of the city. This is

² The Constitution of India, Selective Comments by P.M. Bakshi; Universal Law Publishers.

thought the welcome move of including the concept of 'Eyes on the Street' which is the basis of Natural Surveillance and is an active component of CPTED.

CPTED, stands for Crime Prevention through Environment Design. This was a concept propagated by Jane Jacobs in her book 'The Death and Life of Great American Cities' where she talks against the garden city type isolated residences and promotes the concept of mixed use and vibrant city spaces.

The concept is detailed as follows:

3H. Natural Surveillance or "eyes on the street" should be enabled on all roads by removing setbacks and boundary walls and building to the edge of the street ROW, wherever permitted as per norms. This would allow people from inside to look out on to the pavement, thus discouraging harassment of women on foot-paths, bus-stops and public spaces.

- The main building facade should face the street, located on the property line without setback or with active use within set back and transparent edge that contribute to street safety. Commercial frontages should have facades with minimum 50% transparency (untinted) to facilitate visual surveillance of streets.
- In case enclosure of sites is required, transparent fencing should be used above 300 mm height from ground level.
- Vending spaces should be marked in addition and adjacent to the walking path, especially along high pedestrian volume areas to activate the street and make it safe. Space to be planned for utilities including drinking water kiosks and toilets so that the walking space is enhanced but not compromised.
- 3I. Provide adequate low-mast Street Lighting for pedestrians and bicycles, in addition to any high-mast lighting provided for the carriageway. Approx. 20 lux level is suitable for non-shopping areas and footpaths and 25-30 lux-level is required for shopping areas, bus-stops, Metro station exits and any areas where pedestrians are expected to gather or wait.
- 3J. Provide Dustbins, post-boxes, signage and other public amenities at street corners for high usability.

The focus of the Master Plan 2041 on Natural Surveillance and integrating Security design elements in the design of public spaces is a welcome move. But at the same time we would like to highlight the following points which may require further deliberation:

1. **Balancing of Green Spaces with Clear visibility sight lines for enhanced security.**
2. **Enhanced security of Delhi Streets.**
3. **Opening of Public Plazas at all times with No Gates.**
4. **Night Life Promotion vs. Prevention of Crime against women at night.**

1. ***Balancing of Green Spaces with Clear Visibility line of sight for enhances security.***
It makes ecological sense for a city to increase its green cover. But the choice of the trees and shrubs should be such that it creates a foliage which allows for no chance of criminal activity. Thick foliage which is at the eye level will prohibit the clear line of sight and creates

negative spaces which leads to creation of crime hotspots. Thick truck trees which have a foliage starting from above the eye level are suggested.

2. Enhanced Security of Delhi Streets.

Even with all the provisions of Natural Surveillance, Delhi has been unable to prevent rampant Chain and Phone Snatching events in Delhi. With the Delhi government installing CCTV Cameras bringing the criminals to task may be easier. But the concern around prevention remains. It is therefore recommended that streets be pedestrianized in local markets to prevent any chain snatching events.

The service lane between a motorized road and the pedestrianized area should have bollards to prevent vehicular access and prevention of chain/phone snatching.

3. Opening of Public Plazas at all times with No Gates:

The Master Plan stipulates the Opening up of Public Plazas at all times and no gates in the same. This is well intended to create access, but it takes away the rights of local citizens to secure themselves at night hours and at times where security may be necessary. It can be considered a top down approach which may not be in the best interest of the local people as far as security is concerned.

4. Night Life Promotion vs. Prevention of Crime against women at night:

41%³ of all the crimes against women among major metro cities happened in Delhi. Crimes in Delhi have happened in broad daylight.

The Night time for activity may lead to an increased crime rate in Delhi. The Master Plan aims at creating the following Concept for promoting Night Life:

4.2.6 Fostering Night Time Economy (NTE): i) The concept of '24-hour city' is being promoted through Model Shops and Establishments (Regulation of Employment and Conditions of Services) Act 2015 as well as the NTE policy at the national level. ii) Nodes, precincts or circuits shall be identified for continuing work, cultural activity and entertainment at night to attract tourists and locals. iii) This will improve economic yield by extending the utilisation of work spaces, and safety in the city by promoting a vibrant night life.

5.2.4 Nightlife Circuits (NCs): Night time economies (NTE) and an active night life are important for improving safety, reducing congestion by staggering activities, utilising spaces for different activities optimally, and improving productivity for formal as well as informal economic activities. i) Streets or areas such as cultural precincts, areas with concentration of heritage assets, areas in the Central Business District, etc. that have a vibrant nightlife presently shall be priority nodes of Nightlife Circuits (NCs). ii) Local bodies, Tourism Department and other concerned agencies shall identify NCs and permit extended timing for hotels, restaurants, socio-cultural activities, entertainment, sports facilities, retail stores

³ <https://indianexpress.com/article/cities/delhi/delhi-sees-maximum-cases-of-crime-against-women-again-ncrb-6209020/>

etc., to function in the night as per stipulations. iii) Concerned agencies shall work jointly in identified NCs to facilitate adequate illumination, security and easy access by public transport. Special metro lines and bus routes may be permitted to operate at low frequency during night time. iv) All new constructions/redevelopments along identified NCs shall be incentivised to create active frontages. v) Concerned agencies can collaborate with artists 'collectives, cultural groups, resident's groups, youth groups, market and vendors associations and weekly markets etc., to organise seasonal or cultural festivals, themed night walks, etc. to promote NCs.

Walled City is a node for night life circuits in the city. (ref: HCP1)

This concept of Night Life in Delhi may with a good intention to create tourism, but the cities which it takes its inspiration from may not be posing a women security issue. It is therefore advised that such areas be either reconsidered or be under security surveillance not only in the core notified area but also in the catchment around it where people would park their vehicles or enter through. A particular focus on the Walled City areas may be a menace for the residents as most lanes are missed use with inhabitants living on the upper floors and a commercial space in the ground floor.

Cyber and IoT Security

'When the good exists, the evil has to be around. That idea has provoked some to abuse the Internet. Instances of cyber crime are on the rise and that is quite threatening'- Justice Mishra in 2016; while addressing the 'International Conference on Cyberlaw, Cybercrime and Cybersecurity' here.

It is a matter of great celebration that the Master Plan recognizes the need to go digital and integrate this as a part of a futuristic aim for the development in Delhi. We look at the following provisions in the Master Plan 2041 which provide for digital infrastructure:

Chapter 15.0 PROVISION OF POWER, GAS, TELECOM AND DIGITAL INFRASTRUCTURE with Chapter Code INF3, it is envisioned that

15.1.1 Delhi needs to build world class digital network infrastructure and shift to clean energy to become a sustainable city and enhance its global competitiveness. The following have been envisaged in this regard:

- i) Enhanced production and increased use of renewable energy.*
- ii) Robust and adaptable city-wide digital infrastructure and connectivity.*
- iii) Improved infrastructure for power and gas.*

This goal of strengthening of the Critical Infrastructure of the City using Digital Infrastructure is further stated to have:

15.3 A digitally enabled and connected city

15.3.1 Delhi requires adequate infrastructure provisions to support higher service levels like network of 5G and above, full city fibre coverage, and integration of city's digital systems with IoTs (Internet of Things), Artificial Intelligence (AI), Cloud Computing and Big Data etc. for effective urban management of Delhi.

15.3.2 With increased level of digitalisation, data centres may be setup to meet the need for data storage, server management, etc. Such data centres may be developed by public and/or private agencies as per norms.

15.3.3 Digitally unified command and control centres may be set up by the local bodies as key drivers for effective urban management, especially traffic, safety, disaster response etc. 15.3.4 Connectivity through fibre-optics is considered to be more efficient in terms of internet speed and reliability of services. "Fibre First Initiative" of NDCP 2018 and regulations of ROW Policy 2016 will facilitate augmentation of telecom infrastructure. Implementation of optic fibre shall be through collaborative models involving state government, local bodies and private sector as required for provision of shared telecommunication infrastructure.

15.3.5 Smart poles may be installed in public areas, comprising of CCTV cameras, air pollution monitoring sensors, telecom antenna, Wi-Fi hotspots/ microcells, solar lighting, public address and messaging systems, emergency call box etc., which shall be connected to the digital systems of city agencies.

Even in the Transport Sector, there is a stress on Smart Technologies and Digitally backed solutions. These are highlighted as follows:

9.11.1 Intelligent Transport System (ITS) shall use data repository and artificial intelligence to play a major role in improving the efficiency and coordination amongst different transport modes/systems in the city. i) A Mobility Data Repository (MDR) should be set up for Delhi, where reliable and accurate data pertaining to traffic volume and O-D trends, accident hotspots, congestion, freight traffic, etc. can be made available in an integrated framework. Data collated from different transit agencies shall be standardised and regularly updated through surveys and information. ii) Smart solutions through ITS will enable use of real-time data for forecasting and mitigating potential challenges, use of predictive technologies for dynamic and efficient management of public transport fleet operations, system integration, and providing real-time information to commuters, to enhance the resilience of transportation systems. iii) Utilisation of ITS for pre-warning and minimising response time of emergency vehicles (ambulance, fire tender etc.) by ensuring uninterrupted movement from source to destination.

The above is also part of the Objective 6 of the Master Plan for Delhi which lays major focus on provision for digital and telecom infrastructure.

But on a simple Find Command operation in the document, if the following words and word combinations are typed, the outcome is no results. These words are: 'hack' 'hacker' 'cyber security' and 'IoT Security'.

As recognised by Justice Mishra in the beginning of this sub-section, Cyber Security forms a key responsibility of the provider of digital services. Unfortunately, the smart devices sector, and the IoT industry is largely driven by manufacturers and their interests.

There is a lack of regulation In a recent move, the Government of India has created a trusted telecom portal for users to verify the telecom equipment for use in infrastructure to prevent any back-door access into the systems leading to espionage or breach of user privacy.

With a lack of regulation and even a lack of mention about security of the digital infrastructure and IoT Security, the Delhi Master Plan 2041 can open Delhi to a future of problems causing inconvenience or even harm.

Critical infrastructure in Delhi, which includes Utility supplies, transport sectors and telecom, for example, need a very thorough Security framework and simply reliance on manufacturers is not enough. Only after proper arrangements, demanded right at the Master plan level, for Cyber Security and IoT security can we actually fulfil the Objective No. 6 of providing resilient infrastructure which prevents against a cyber disaster.

As stipulated by the Master Plan for Delhi 2041, there is a need for audit of various spaces of the public spaces in Delhi in terms of security which may be both Physical and Cyber. The provision is as follows:

5.4.3 Citizens and other stakeholders can play a major role in public space management through initiatives such as conducting regular audits of public areas-in terms of accessibility, safety and illumination, needs of specific user groups, etc., and sharing these with concerned agencies. Concerned agencies may also gather public opinions by integrating public space user surveys as part of the active travel and other smart applications.

It is therefore recommended that Security be a prerequisite and a demand that the Master Plan should make and this intentions should be made very obvious at a simple reading of the draft. Security in the Cyber and Physical space should exist in letter and in spirit.

Reach us:

For feedback and comments, please reach on: raja@isacindia.org

Reach the foundation on support@isacindia.org