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Identify and Investigate Various Planning and Design Aspects of the Neighborhood

Kr. Naved A. Ariyana*

Assistant Professor, Department of Architecture, Galgotias University, Greater Noida, Uttar Pradesh, India

Abstract – Strolling has consistently stayed the most rudimentary of all human versatility implies. Notwithstanding, the current portability designs in the metropolitan territories totally overlook this fundamental human intuition. The ensuing wellbeing, ecological and socio-social worries in the contemporary occasions is inciting social orders across the globe to resuscitate their walk societies. Strolling is generally perceived to be affected by close to home, socio-social and ecological (common and assembled climate) factors. The area constructed climate decides the walk conduct of its inhabitants through an intricate interchange of various arranging and plan factors. Different scientists have endeavored to unwind this intricate exchange of affecting components; and using different level headed and emotional philosophies, attempted to relate them freely or aggregately with walk practices. A few nations and urban communities across the globe have formulated arrangements and executed systems to upgrade walkability in their particular locales. In spite of the fact that the Indian metropolitan turn of events and transportation arrangements also has begun mirroring the person on foot concerns, our urban areas actually stay in the early phase of creating and receiving passerby situated practices. It gets relevant to investigate how our Indian urban communities, in the arranging and plan of their areas, react to the walker's approaching requirements and intrinsic longings.

Keywords – Pedestrian, Neighborhoods

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INTRODUCTION

Strolling has consistently stayed the most rudimentary of all human versatility implies. It is the most predominant human action that rises above all classifications of social, social, monetary, topographical and transient divisions or limits. All our previous settlements were Infact imagined dependent on the qualities and abilities of a walker; and were subsequently conservative, fine grained and had a size that could be effectively crossed by walking. With the high speed of urbanization and the ensuing versatility blast, this essential human impulse got an enormous mishap as the towns and urban areas steadily surrendered to the impulses and likes of the drivers. The enormous scope interruption of vehicles affected on the city texture, adjusting its scale, treatment and spread while repulsive disintegrating its passerby culture. As the negative natural, social and wellbeing ramifications of this recent fad are surfacing and getting acknowledged, endeavors in abundance are made across the globe to restore the walker culture in the clothing of supportability plan. Strolling incorporates the entire array of portability designs made by walking that fluctuate contingent upon reason, objective and different components. Strolling might be a unique passerby conduct viz strolling, playing, running, running, walking or a static walker action viz sitting, standing or mingling. Strolling speed can fluctuate across a range of delayed to lively. The passerby travel might be easygoing walking trips around the area or objective excursions to work, entertainment or shopping. Strolling might be a method of transport itself or an assistant to other vehicle modes.

Existing Transport Scenario and the Liveability Concerns

Ludicrous past, the urban areas across the world have seen a sharp expansion in the auto proprietorship drifts as additionally at any point muddled portability designs. The advanced society has expanded its reliance on the private vehicle mode. While the complete enrolled vehicles in India developed at a Compound Annual Growth Rate of 10.5 percent (Figure 1.1) somewhere in the range of 2002 and 2012 (MoRTH, 2013), the modular split (Figure 1.2) uncovered the biggest portion of 72.4 percent for the bikes, trailed via vehicles, jeeps and taxicabs having portion of 13.5 percent with just 1.0 percent share for transports. Since the street limits have not expanded correspondingly, the restricted street foundation bear the weight of heightened transport related requests. This has in a real sense stifled our urban areas. The urban communities have become threatening, grimy, risky, undesirable and unreliable spots to live. Different issues and grave concerns have arisen

that question the supportability and liveability of our urban communities.

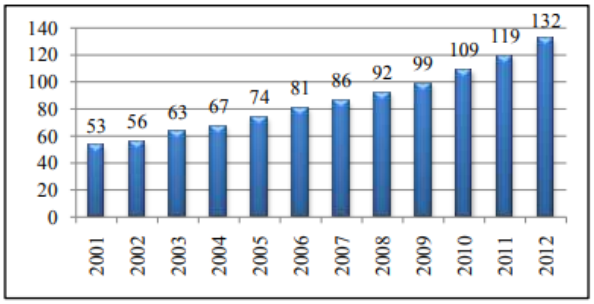

Figure 1.1: Registered Vehicles per 1000 Population in India

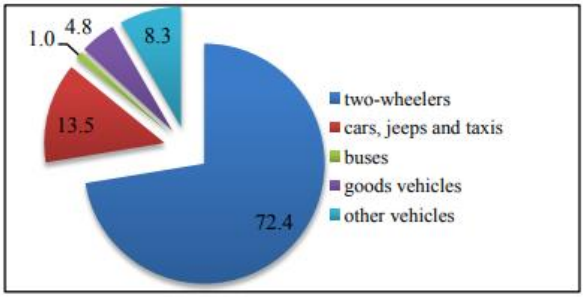

Figure 1.2: Modal Split of Registered Vehicles (percent) for the Year 2012

Expanded vehicular traffic has caused intense blockage on the streets seriously obstructing the portability and availability of the people on foot, cyclists and the crippled while testing our street wellbeing measures. The ecological results as far as air and clamor contamination are similarly extreme. In metropolitan India, the vehicle area is viewed as the significant supporter of air contamination. According to an investigation of Delhi by the Central Pollution Control Board, India, 76.2 percent of carbon monoxide, 96.9 percent of hydrocarbons and 48.6 percent of nitrogen oxides in air are contributed by the vehicle area (CSE, 2009). The degree of suspended particulate matter in all metropolitan urban communities surpasses the breaking point set by the World Health Organization (Singh, 2005). Expanded gridlock causes decreased vehicle speeds that definitely increment the degree of vehicular discharge. Transport, being entirely reliant upon non-renewable energy source, adds to an Earth-wide temperature boost in a bigger manner. Transport has likewise affected upon the cityscape and actual development designs. It has worked with the decentralization of urban communities that spread much past their edges, causing significant development in trip lengths and advancement of scattered travel designs. The current versatility patterns and the ensuing effects on liveability, climate and actual development designs have antagonistically influenced the walker culture of our Indian urban areas.

Reasons for Disappearance of Pedestrians from Urban Realm

Various physical and social factors have connived jointly towards disappearance of the pedestrians from the urban scene.

Physical Deterrents to Walking

Strolling as a method of transport has since a long time ago evoked negative social and individual view of the actual obstructions or obstacles across most social orders. Nonetheless, the reaction to these concerns has barely been to check the traffic volume and speed. Maybe the walkers have been compelled to pull out from the streets to keep away from any setbacks or mishaps. Despite the fact that a critical number of outings in Indian urban communities are made by walking (16-58 percent), walker stays the ignored street client as far as required framework, conveniences and administrations. Just around 30% of the streets in most Indian urban areas accommodate passerby pathways; and very nearly 20% of street mishaps include walkers (MoUD, 2008). Developing vehicular patterns have additionally engendered scattered examples of movement and the lengthier excursions, making objections past sensible strolling distances. The distance over which strolling might be considered practical differs significantly, contingent upon the actual attributes of walker framework, the people on foot themselves and the reason and setting of the excursion. Notwithstanding, 1-2 kms has commonly been viewed as an adequate normal distance in writing (Goodman and Tolly, 2003).

Social Construction of Transport

Decision of the vehicle mode has frequently been seen comparable to the normal practices and socially shared discernments, making it hard to embrace conduct outside this standard. Vehicle travel expects generous social prevalence in characteristics like status, riches and influence as well as satisfying its vehicle work. Social agreeableness of strolling has been horribly minimized by social predominance of vehicle. Strolling, cycling and public vehicle are regularly compared with low economic wellbeing. Further, the apparent shortage of time is regularly sent as a pardon for falling back on the other vehicle modes in the advanced society (Goodman and Tolly, 2003).

Invisibility of Pedestrian in the Past Transport Policies

For quite a while frame, metropolitan streets in India have stayed guided by the Codes of Practice gave by the Indian Roads Congress (IRC) as right on time as 1970s and 1980s. These codes and in the end the customary rush hour gridlock designing practice hase remained vehicle-driven. Strolling

has remained practically undetectable in our metropolitan and transport arranging arrangements. Huge extent of modular offer especially for short excursions has frequently been neglected. Issues of the people on foot have never been gathered at adequately definite level that remained ineffectively addressed. Justification this disregard, as cited by different researchers, is the 'widespread' and 'common' nature of strolling. It has remained so fundamental to all arranging and transport exercises thus undemanding as far as government funds that it generally stayed covered up and fallen through the net in procedure definition. Minimal financial importance implied minimal monetary motivating force to get ready for strolling. Further, it offered no mechanical or designing test to invigorate the organizers. Being so inescapable, it couldn't assemble any incredible halls or backing gatherings. In this way, the absence of expert center compounded by disappointment of public to carry it to the consideration of organizers and government officials has eventually prompted the current unconcern.

Why to Revive Walking?

Walking offers several advantages in terms of environment, health, socio-cultural ties and overall economy.

Environmental Reasons

Blockage, slithering traffic and high contamination levels have made urban communities unliveable. Dangerous quantities of vehicles and expanded driving distances are inciting antagonistic climatic effects. It is bound to deteriorate if vehicle numbers proceed to increment and the vehicle framework stays centered to satisfy the private vehicle as it were. Strolling, then again, is naturally eco-accommodating and doesn't burn-through fuel. The green method of transport diminishes clog and has the most un-adverse consequence on climate as far as air and clamor contamination. Strolling upgrades liveability of the metropolitan climate.

Health Benefits

Strolling implies the most essential type of actual work. Wellbeing contemplates show that strolling can advance mental and actual wellbeing including cardio-vascular wellness, diminished pressure, more grounded bones, mental readiness and imagination. It helps in avoidance and control of some non-transferable sicknesses like diabetes, weight, hypertension, heart issues and others.

Socio-cultural Benefits

Walking can be more than a purely utilitarian mode of travel for trips to work, school or shopping, and can have both social and recreational value. It strengthens social and community ties, and encourages a sense of pride in local environments. It forms an integral part of our customs and traditions, and therefore has an immense historical and cultural context. Walking, as an activity accessible to all social groups, age groups, religions and cultures, also ensures social equity.

Overall Economy

Walking is economical costing much less than the auto and public transport, both in terms of direct user costs as also public infrastructure costs. It benefits the local community in terms of economic stability.

Research Significance

Different investigations demonstrate that strolling is affected by a blend of assorted variables including singular inclinations, socio-social arrangement and the climate. The climate may additionally be perceived as the regular and fabricated climate. Fabricated climate that is the focal point of the thesis is perceived to work through its different arranging and plan boundaries. How precisely it impacts upon walkability in different topographical and socio-social settings should be perceived.

Why to Enhance Walkability at Neighbourhood Level?

Strolling is progressively being esteemed inside brief distance scope of 1-2 kms. Countless individuals access fundamental administrations like training, nearby shopping, recreation trips inside areas and occupation focuses. Be that as it may, individuals progressively depend on mechanized modes inside this brief distance range because of unfriendly strolling conditions. In this manner the area, addressing a region whereby the everyday needs of the occupants should be tended to inside brief distance range without trading off upon the wellbeing and security of its occupants, should offer a climate that basically identifies with the speed and size of a walker.

Significance of the Study in Indian Context

In India, the affectability towards passerby concerns is getting apparent in the metropolitan arranging and transport approaches however in a tepid way. The endeavors, assuming any, are engaged at section level or at the complete city level. Walkability at the local level has not at this point got the likes of the organizers and the arrangement creators. Further, at the worldwide level, walkability is projected as a fundamental element of new urbanism, conservative city, keen development and any remaining such methodologies focusing on feasible turn of events. Different urban communities across the globe have gotten proactive about their person on foot climate,

and are looking to improve their neighborhoods through pedestrianization by receiving measures like better offices for strolling, traffic quieting in areas, individuals situated metropolitan plans, limitations on auto use, traffic instruction and preparing programs or more all stricter authorization of transit regulations and traffic quieting measures. Perceiving the advantages of strolling as likewise the manageability worries at the worldwide level, the need of great importance is to break down and evaluate our Indian urban communities from person on foot point of view so the walker concerns can be reasonably fused in the city improvement strategy rules.

REVIEW OF LITERATURE

Giles-Corti and Donovan (2003) looked to analyze the overall impacts of individual, social ecological, and dispassionately estimated actual natural variables on strolling. The examination included solid homemakers and laborers matured 18 to 59 years who lived in a 408 square kms space of metropolitan Perth, Western Australia. The investigation inspected the individual psychological factors as far as mentality toward cycle of attempting to work out, recurrence of past endeavors, seen social control, conduct abilities utilized in the previous month and goal to attempt in the following fourteen days. Social ecological factors considered canine possession, club enrollment and recurrence of investment in actual work. Actual ecological factors estimated practical climate, allure of climate and generally speaking spatial admittance to appealing public open space, stream, sea shore and fairway. Actual ecological factors were estimated unbiasedly. A spatial access model was utilized in estimating admittance to public open spaces, streams and sea shores. The investigation was finished utilizing SPSS. It was tracked down that the overall impacts of individual, social ecological, and actual natural elements were similarly significant. In any case, despite the fact that strolling is well known, barely any individuals do what's necessary strolling to profit their wellbeing. Most respondents strolled for transport or amusement, yet just 17.2 percent did adequate strolling to gather medical advantages. The investigation recommended that a complete system to establish more steady friendly and actual conditions will be required that should guarantee cooperation of wellbeing and transportation areas, arranging and nearby government organizations (Giles-Corti and Donovan, 2003).

Leyden (2015) inspected the connection between neighborhood plan and social capital. Social capital is characterized as the informal organizations and associations that move trust and correspondence among residents. The examination depended on the reason that some local plans empower or support social ties or local area associations, though others don't. Hypothetically, person on foot arranged, blended use areas are required to improve social capital since they empower inhabitants to collaborate. This collaboration can be deliberate or coincidental. Conversely, most contemporary rural regions do little to empower social cooperation. Social collaboration is bound to happen by greeting, not by chance experience. An overview was led in and around the city of Galway, situated in the Republic of Ireland. 750 families from 8 areas or rural regions were studied via mail. Reaction rate was 37.2 percent. Galway"s areas were abstractly sorted into 3 ideal sorts by the analyst prior to directing the overview - (1) downtown area/close to downtown area areas; (2) more established, blended use rural areas; and (3) current, vehicle subordinate rural areas. The evaluation of neighborhood walkability was made by the respondents, not by the scientist. All study respondents were approached to rate how much their areas were passerby arranged and blended use.

Lund (2013) tried the New Urbanist asserts that setting conveniences, for example, stops and retail shops inside strolling distance of homes will expand passerby travel and along these lines increment association among neighbors. It likewise analyzed the overall jobs of actual plan and individual mentalities and discernments in anticipating strolling and adjoining practices. Subordinate factors involved walker travel conduct (recurrence of walking outings and objective excursions) and adjoining conduct (recurrence of spontaneous collaborations, social ties and strong demonstrations of adjoining). The autonomous factors were gathered into three classifications, in particular, individual (sociodemographic and attitudinal qualities), neighborhood (unbiased and abstract assessments of the actual climate) and conduct (strolling trip frequencies). To assess these New Urbanist guarantees, the investigation inspected walker travel conduct and neighbor connection in eight neighborhoods of shifting plan inside the Portland metropolitan district, recognized utilizing a GIS. Depicted by useful instead of political limits, the essential basis of neighborhood choice was the degree of admittance to nearby stops and retail shops. Singular level information on strolling and adjoining practices was gathered through family reviews comprising of both quantitative and more exploratory subjective inquiries yielding a general reaction pace of only 34%. Utilizing GIS, arranging reports, and site visits, these areas were then assessed for the various attributes, in particular, course certainty, nature of the passerby climate, nature of the nearby park/shopping territory, neighborhood time and the middle property estimation. The outcomes offered some help for every one of the three connections tried: between nearby access and walker travel, between common travel and adjoining practices, and between nearby access and adjoining practices. In any case, the outcomes likewise gave a solid sign that there are non-plan factors, especially close to home perspectives,

which also are critical and should be considered in future conversations and exploration (Lund, 2003).

Parks and Schofer (2016) proposed target estimates dependent on solid auxiliary information sources that connected well with acknowledged abstract measures. GIS programming worked with the utilization of target gauges in describing huge territories or proposed plans. They utilized two sources to quantify the factors, specifically, advanced flying photos procured from the North-eastern Illinois Planning Commission, the documents being organized for use in ArcView GIS programming; and computerized maps which were 2000 US Census TIGER records accessible online at no charge. The target technique was connected to the two broadly acknowledged abstract field rating frameworks, to be specific, Pedestrian Environment Factor (PEF) of the Land-use Transportation and Air Quality created in Portland, and Pedestrian Friendliness Index (PFI) for the Maryland National Capital Parks and Planning Commission. 23 neighborhoods in Chicago area were chosen critically to incorporate a wide scope of walker conditions and advancement designs.

Lee et al (2017) corresponded the residents‟ impression of neighborhood climate and the time spent on strolling in impartially shifted districts of Japan. Two locales were distinguished as high and low walkable dependent on the target lists of private thickness, land use blend and road availability. The high walkable district had a bigger private thickness, a high blended land use and a higher road network than the low walkable area. A poll was shipped off 237 occupants of high walkable and 195 inhabitants of 38 low walkable areas. The poll looked to gauge each participant‟s view of his neighbourhood‟s person on foot climate and the real time spent strolling each week. Inquiries on insight remembered classifications for availability, wellbeing, comfort, feel and climate. The area was not unmistakably characterized in the poll and relied upon the residents‟ discernment. The inquiries on the time spent strolling were recognized by reason: the strolling time for work out; strolling time for driving or shopping; strolling time for purposes other than exercise, driving or shopping; and the absolute strolling time around there. The reactions in regards to the view of neighborhood qualities were estimated on a 6-point likert scale.

The scores for strolling time and impression of the local climate were discovered to be essentially higher for the occupants of high walkable district than those of the low walkable area. In this way, residents‟ view of the local climate for the most part mirrored the genuine actual natural attributes (openness, wellbeing, comfort, style and the climate). This implied that the neighbourhood’s actual natural qualities may trade the requirement for deciding the residents‟ impression of neighborhood climate later on investigations. Further, the strolling time related emphatically with the residents‟ view of openness and style in the high walkable district; and their impression of availability, security, accommodation and feel in low walkable area (Lee et al, 2007).

Finnis and Walton (2008) proposed that the noticed mean strolling speed that intently adjusts the mean strolling velocity of everyone frames a significant pointer of the environment‟s walkability.

Lee and Moudon (2013) analyzed the relationship of neighborhood conditions with active work, particularly strolling and cycling, getting from seen (selfreported reviews) measures and genuine (objective) measures utilizing GIS. The task was directed in Seattle and the encompassing urbanized regions in King County of Washington State in the US. The investigation dissected self-revealed overview information from 608 respondents on moderate or energetic actual work, and GIS determined proportions of the local climate. The proactive tasks causing little expansions in breathing or pulse, like lively strolling, cycling, vacuuming and cultivating, were classified as moderate; those causing huge expansions in breathing or pulse like running, heart stimulating exercise, and substantial yard work, were named as vivacious proactive tasks. Both individual and ecological factors were remembered for the investigation, and the natural factors were additionally ordered into seen and target measures. The investigation showed traffic volume to be the main obstruction, while great lighting to be the main facilitator. Utilitarian objections were found to have huge relationship with strolling and moderate-force proactive tasks. Basic intercessions, for example, road lighting, asphalts/walkways, road trees, seats, bicycle paths or trails, bicycle racks, and traffic-quieting gadgets seemed to hold some guarantee in advancing proactive tasks in areas (Lee and Moudon, 2008).

Ewing and Handy (2014) endeavored to extensively and impartially measure emotional characteristics of the metropolitan road climate - imageability, walled in area, human scale, straightforwardness and intricacy. The examination planned to arm specialists with operational definitions for estimating the metropolitan plan characteristics of the road 41 climate and test them for critical relationship with strolling conduct. A board of 10 metropolitan plan and arranging specialists was gathered from proficient practice just as the scholarly community. For viable reasons, video clasps of streetscapes were utilized as opposed to handle visits as the vehicle for rating metropolitan plan characteristics. This was trailed by the improvement of a convention that would imitate the experience of walkers. In excess of 200 scenes were recorded in many urban communities across the United States; and chose for the visual appraisal. Master board appraisals were utilized as reliant factors in the assessment of measurable

models; the actual qualities of the road climate were the free factors. For every one of the five metropolitan plan characteristics, agreement subjective definitions were advanced, and critical actual highlights were recognized. Itemized operational standards for estimating each actual element also were created to guarantee consistency (Ewing and Handy, 2009).

Encourage et al (2010) investigated the connection between neighborhood plan and residents" dread of wrongdoing in new rural lodging improvements.

McMillan et al (2010) while supporting savvy ecological information assortment for actual work research recommended that testing 25% of private road sections inside the 400 m span of a home adequately addresses the passerby fabricated climate.

OBJECTIVES OF THE STUDY

1. To identify and investigate various planning and design aspects of the neighborhood built environment which make significant impact on walk ability in the context of Amritsar city.

2. To determine the relative walk ability of varied neighborhood built environments within the context of Amritsar city.

RESEARCH METHODOLOGY

The flow chart clarifies the various aspects of the study and the methodology followed for the study.

SCOPE OF THE STUDY

The paper attempts the analysis of neighborhood walkability situation in the city of Amritsar through chose neighborhoods as it were. The determination precludes all such neighborhoods that fall outside as far as possible. Walkability situation is produced dependent on different boundaries and markers advanced from the writing survey. Both area and portion level boundaries are considered for the reason.

LIMITATIONS OF THE STUDY

The last choice of boundaries of study, on occasion, got obliged due to issues identified with information accessibility or different reasons. Further, the boundary of openness considers strolling for its sporting worth as far as walk outings to leaves/jungle gyms, however precludes the effect of utilitarian excursions to work (schools, office, and so on) or mass travel hubs (transport stops, and so on) or shopping.

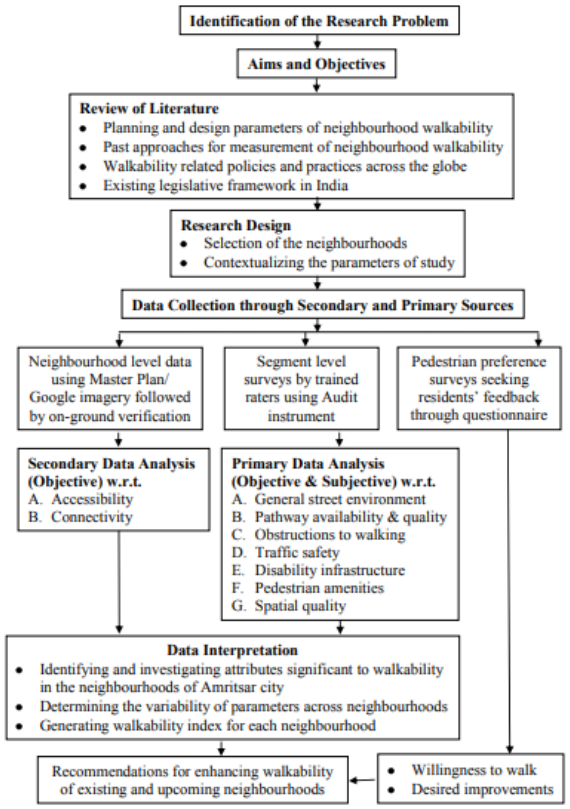

Figure 1: Research Methodology

DATA ANALYSIS

The area constructed climate impacts upon walkability through different arranging and plan boundaries. While a portion of these boundaries communicate their thoughts in total at neighborhood level, the others must be surveyed at singular section level and afterward collected at neighborhood or the city level. Likewise, the initial segment of the section attempts the examination of different area level boundaries creating single incentive for every one of the 14 chose neighborhoods around there. The portion level boundaries and qualities have been broke down as far as their pervasiveness at the general city level. An aggregate of 158 portions genuinely conveyed among 14 areas (mean length 213.27 m; min. 52 m; max. 400 m; sexually transmitted disease. deviation 80.796) were considered for the reason (Table1.1).

The subsequent part manages creating scores for neighborhoods to have the option to rank them dependent on their walkability. This included allotting greatest scores to the different boundaries, and relegating loads to plausible reactions for each property dependent on their effect on walkability, as demonstrated in past examinations. The scores for 14 areas were grown freely for the two area level boundaries (impartially surveyed) and seven portion level boundaries (both unbiasedly and emotionally evaluated). Scores for different fragment level boundaries were resolved using „weighted normal scores" for each property. These

scores were then exposed to Analysis of Variance (ANOVA) to comprehend and decipher their changeability dependent on different areas and wide populace thickness classifications. The third part considers the residents" general demeanor towards strolling, their likelihood for improving walk propensities as additionally the particular upgrades wanted in the area constructed climate.

The information gathered from upwards of 218 inhabitants of different areas guaranteed criticism from assorted arrangement of occupants that was consequently used to create data at combined city level as respects the residents" discernments and inclinations for upgrades. This was significant for deciding their worthiness for any improvement drives.

Table 1: Number and Length of Segments Surveyed in the Selected Neighborhoods

	Name of the Neighbourhood	Neighbourhood Code	No. of Segments Surveyed	Total Length of Segments Surveyed (meters)
1	Katra Karam Singh	N-1	10	2011
2	Bagh Ramanand	N-2	12	2238
3	Kashmir Avenue	N-3	10	1938
4	Dayanand Nagar	N-4	11	2210
5	Basant Avenue	N-5	14	2957
6	Rani Ka Bagh	N-6	12	2336
7	Green Avenue	N-7	13	3808
8	B-block, Ranjit Avenue	N-8	14	3292
9	Defence Colony	N-9	12	2722
10	Housing Board Colony	N-10	10	2017
11	Mohan Nagar	N-11	10	1757
12	New Amritsar	N-12	10	1997
13	Bhalla Colony	N-13	11	1948
14	Holy City	N-14	9	2465
Grand Total			**158**	**33696**

CONCLUSION

Strolling has consistently stayed the most inborn and generally common of all human portability implies. Regardless of the way that the current urbanization and versatility patterns have gravely wounded the walker domain, the advantages of strolling can't be denied or subverted even with the most extreme degree of advancement. The current day urban communities appear to have lost the passerby culture in the labyrinth of quickly heightening vehicular traffic, yet the voices calling for rehashing strolling are additionally getting vociferous. Having understood the effect that assembled climate can make in upgrading or crushing the person on foot culture, the experts across the world are attempting to adjust their fabricated surroundings from walker point of view. Different approaches and systems are figured, rules are arranged and explicit recommendations are carried out across the globe; and the Indian urban communities also have begun reacting to these evolving mentalities. In India, mindfulness gets apparent as applicable approaches, standards and principles, and incomplete endeavors, yet this move needs to build up speed.

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Corresponding Author

Kr. Naved A. Ariyana*

Assistant Professor, Department of Architecture, Galgotias University, Greater Noida, Uttar Pradesh, India