THE IMPORTANCE OF URBAN DESIGN GUIDELINES FOR TRANSIT-ORIENTED DEVELOPMENT, THE CASE OF THE UNIVERSITY BELT, MANILA CITY

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ABSTRACT

The University Belt, known for its agglomeration of educational institutions, faces rapid urbanization, rising population densities, and poverty rates. With the National Building Code of the Philippines outdated and the Manila Zoning Ordinance baseless due to the lack of a Comprehensive Land Use Plan, the University Belt showcased increased developments, converting low-population, low-building-density areas into unregulated high-population, high-density areas with condominiums, apartments, lodging, and commercial establishments. Without action, the University Belt and its urban development will become even more uncontrolled. The research argues that an Urban Design Guideline will regulate development and redevelopment in the study area and foster control. Thus, this paper seeks first to understand the urban growth and development trend that led to the current condition of the University Belt, determine why the University Belt continues to promote an uncontrolled and unregulated neighborhood despite having governing policies for architecture practitioners, and synthesize architecture practitioners' insights on the governing urban development control policies to highlight the possible need for Through foot and windshield surveys, GIS mapping, a careful study of available datasets, and a survey, the site's context was fully understood and analyzed. In this research, a stratified random sampling approach using a normal distribution with 397 architecture practitioners in the study area found that those who observe urban development controls lack the confidence and relevance to follow it. This research emphasizes the importance of an Urban Design Guideline because it will consolidate all issues of compatibility, frequency, specificity, and harmony of applicable urban development controls in the University Belt to create a high-quality, livable environment ready for transit-oriented development.

Keywords: Transit-oriented Development, Urban Design, Development Guideline, Urban Development, University Belt

1. INTRODUCTION

Compared to other metropolitan areas in developing countries, Manila and the University Belt have seen rapid urban growth, high population densities, rising poverty rates, and a surge in land prices (Edelman, 2016). Being the district with the highest concentration of universities in the country that are closely located with each other (Boquet, 2017), the University Belt experienced uncontrolled and abrupt urbanization and growth of various developments. It was further exacerbated with the introduction of LRT-2 and Legarda Station in 2004. It was characterized by the construction and reconstruction of numerous structures by various developers with questionable compliance with existing regulations and outdated infrastructure and utility systems (Edelman, 2016). The said phenomenon is improbable and unfavorable since the national government identified areas surrounding major transit nodes as prospective Transit-Oriented Developments (TOD) as part of the "Build! Build! Build!" program, where the government already sought a loan from the Asian Development Bank (ADB) to conduct a feasibility study and creation of a comprehensive design for TODs (JICA & ALMEC, 2019) By definition, a TOD is an urban development strategy which promotes a compact, mixed-use, and pedestrian-friendly neighborhood, promoting smooth movement of pedestrians and motorists, as well as providing open and green spaces and a strong sense of place (DHSUD, 2023). However, given the current condition, the feasibility of a TOD is far from being feasible.

As an urban development strategy, the government envisions TODs to be mainstreamed into land use plans of involved cities (DHSUD, 2023), and in the case of the University Belt and the City of Manila where it is situated, the Manila Zoning Ordinance, and the National Building Code of the Philippines as development control policies in effect to the said area, continues to breed confusion and questions to architecture practitioners, who developers task to design the public and private realm, to which are identified as the primary users of these policies in exercising development control regarding its applicability, validity, reliability, and relevance. As a result, the existing uncontrolled and abrupt urban growth and development within the University Belt, if not sustained, is further exacerbated. Hence, this paper aims to address an empirical research gap by gathering insights and evidence from the primary users of existing development controls regarding the continuous phenomena of uncontrolled urban development despite having existing policies to observe and a possible need for a new and/or site-specific urban design guideline for the prospective TOD to create a favorable and livable neighborhood to improve the physical and mental well-being people within the University Belt and help improve their productivity and performance as part of one cohesive and safe community (Edelman, 2016) which is also what's expected to a TOD.

This research motivation led the researcher to identify four (4) research questions: what is the existing urban development condition of the University Belt district, what are the governing urban development control policies within the University Belt and its condition, what are the insights of the primary users of these governing policies, and if there is a need for updating of existing policies or possibly, a need for a new urban design guideline specific for the University Belt district which is envisioned to provide a well-designed and accessible public realm to maintain a unique sense of place and cultural identity in an increasingly globalized world, and a heightened concern for urban regeneration, leading to an enhanced appeal of urban settlements to be more livable and workable for advancing economic growth (Punter, 2007).

At the end of this study, the researcher aims to understand the urban growth and development trend that led to the current condition of the University Belt, determine why the University Belt continues to promote an uncontrolled and unregulated neighborhood despite having governing policies for architecture practitioners and examine the reasons why, and synthesize architecture practitioners' insights on the existing governing urban development control policies and highlight the possible need for an Urban Design Guideline specific to the University Belt district and what specific concerns should be underscored. By answering these three (3) objectives, this research will identify, justify, and recognize the importance of an Urban Design Guideline specific to the University Belt and underscore possible vital items that must be addressed for a controlled and regulated urban development.

2. METHODOLOGY

This research underscores the importance of an Urban Design Guideline for the University Belt. This is made possible by first analyzing the existing condition of the study area, the University Belt district in Manila, and then structuring the first sets of parameters for analysis to create a structured approach to understanding the development context. By understanding the existing condition and how it led to such phenomena, the researcher

generated questions through a survey of architectural practitioners within the study area and the city of Manila. The role of this survey is to understand the viewpoints of the ones responsible for designing the urban fabric in the study area, assess their viewpoints, and try to justify the significance of having an Urban Design Guideline specifically for the University Belt district. The details of the methodology are summarized in Figure no. 1 and are explained further as follows:
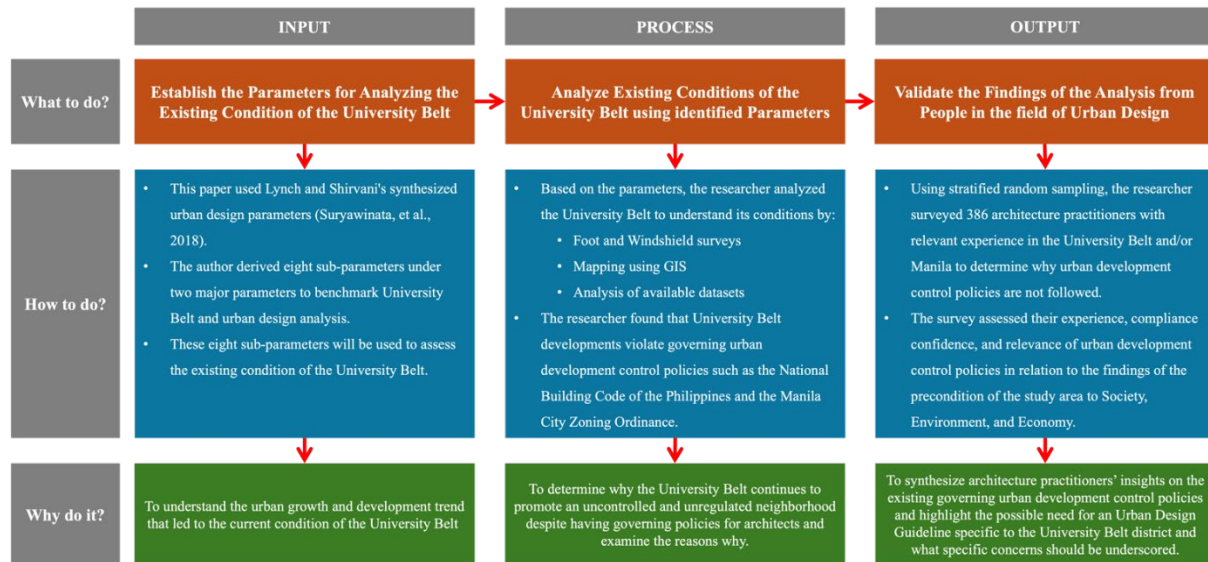

Figure 1: Conceptual Framework of the Study

2.1 Input

In the early phase of the study, the researcher will first identify an acceptable parameter for analyzing the University Belt and its urban development context to have a structured and orderly understanding of the study area and its preconditions. This will be made possible by following the synthesized urban design elements as parameters from known urban design scholars and authors of various literature and relevant scholarly articles, Kevin Lynch and Hamid Shirvani, which will be used as the parameter for analyzing the preconditions of the University Belt to answer to the first objective of the study of understanding the urban growth and development trend that led to the current condition of the study area.

2.2 Process

The University Belt, a prospective TOD due to the government's impending funding and project direction and the introduction of the Light Rail Transit 2 (LRT2) Legarda Station, has impacted its surrounding neighborhood. This section aims to scrutinize and further understand the morphology of the urban fabric, its behavior, and what led to the current phenomena. Using the identified eight subclassifications of an Urban Space, as shown in Figure no. 2 in the input section of this chapter, the researcher conducted a foot survey and windshield survey of the study area where the author has been residing and working since 2007. Aside from those mentioned above, to get a macro perspective or context of the University Belt, the researchers employed Mapping through Geographic Information Systems (GIS) using satellite images of the urban fabric before and after the introduction of the LRT2, which is considered the catalyst of urban development and the ongoing phenomena in the study area. To further understand the primary data gathered and processed, the researcher also paralleled secondary data from scholarly articles and relevant literature to reinforce the evidence gathered from the primary data. This paper will achieve the second research objective of determining why the University Belt continues to espouse an uncontrolled and unregulated neighborhood despite having governing policies for architects to shape the neighborhood into a high-quality urban development. The findings from this section will help create and generate the guide questions for the said survey to extract viewpoints, insights, barriers, and drivers of architecture practitioners to underscore the need and importance of an Urban Design Guideline and the essential points it needs to address and focus on.

2.3   Output

After analyzing the existing condition of the University Belt using the established parameters, the extracted findings helped generate questions for the survey of architectural practitioners in the study area and the city itself. These questions for the survey contained questions to gauge their confidence and experience in adhering to the governing urban development control policies in the University Belt and the city of Manila where it is situated, identify policy barriers of implementation before the said adherence to governing urban development controls, and insights regarding the said existing policies. Before the survey, the researcher used stratified random sampling of architecture practitioners in the study area and the city of Manila. By dealing with an uncertain amount of population, the researcher computed the sample population using Cochran's Formula, whereas:

$$n0 = z^2 * p * (1-p) / e^2$$

where;   n0: Estimated Sample Size
z: Z-score
p: Estimated Population Proportion
e: Margin of Error

To compute the Estimated Sample Size, the researcher employed a Z-Score of 1.96 for a 95% confidence level (z), 50% for the Estimated Population Proportion (p) since the study is dealing with an unidentified population count, and a Margin of Error (e) of 5% which is the standard and acceptable metric for sample size population following the principles of Normal Distribution as theorized by Gauss and the Bell Curve. The Estimated Sample Size (n0) is computed at least 385 with the given variables. For this study, the researcher garnered 397 respondents, which equates to a 4.92% actual margin of error. Using IBM-SPSS and Microsoft Excel, the outcomes of the said survey are then processed and analyzed, which will be discussed in the Results section and will serve as the basis for the justification, importance, and insights of the target population towards an Urban Design Guideline for the prospective TOD in the said neighborhood which aims to promote a controlled and regulated urban development to achieve a high-quality and livable neighborhood.

3.   RESULTS
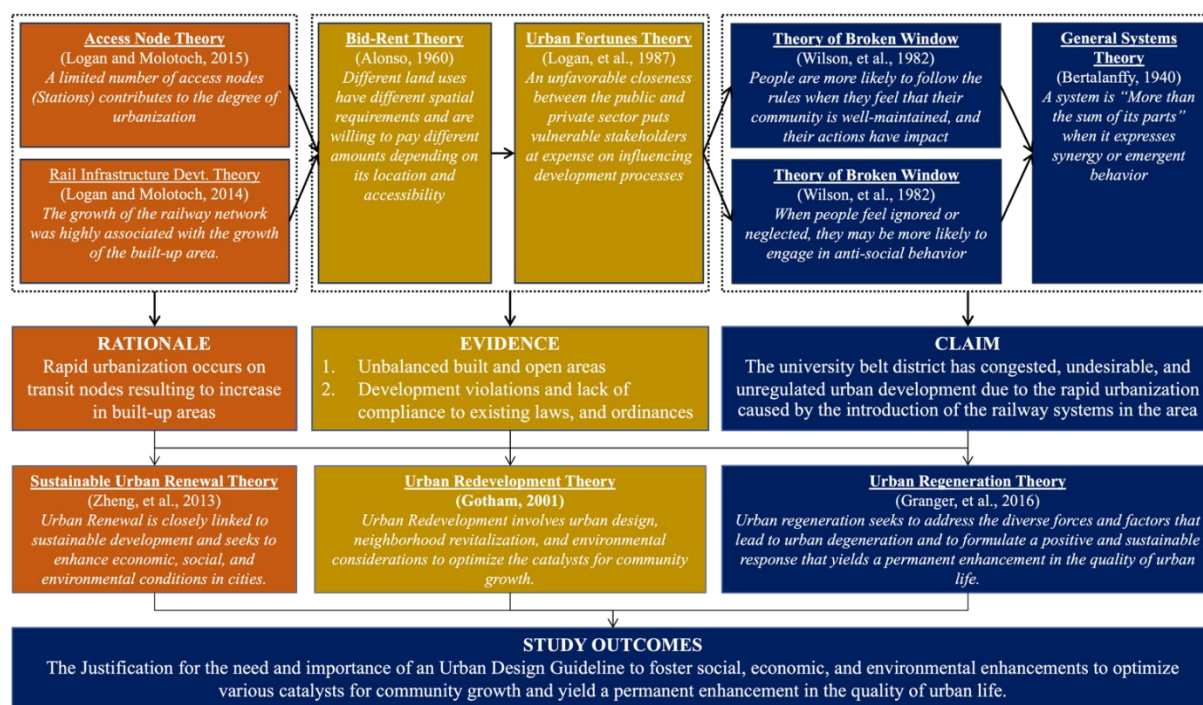
3.1   The Theoretical Framework of the Study

Figure 2: Theoretical Framework of the Study

This research, argument, and outcomes are grounded on multiple urban planning, development, and economic theories. To preface the argument, which is composed of a Claim, Evidence, and Rationale essential for kickstarting a study, the Access Node Theory states that limited access nodes contribute to urbanization rather than solving issues of vehicular congestion (Molotch, 1976). And given that Manila and the Philippines as a whole have limited and insufficient serviceable railway nodes and transportation means compared to Other Southeast Asian and/or other countries, rapid and uncontrolled urbanization is most likely to happen rather than alleviating the vehicular congestion within the city, which is further exacerbated by increasing built-up areas, and reduction of open spaces following the theory of Rail Infrastructure Development. In contrast, it is claimed that The growth of the built-up regions is highly associated with the growth of the railway (Molotch, 1976). There is the foundation of the argument's rationale, which, to contextualize, rapid urbanization is expected to occur on transit nodes, which results in the creation and construction of more buildings and other built-up components of the urban fabric

As a result of the rationale, the accessible and strategic location of the said transit node created an imbalance between the built and open areas where built-up areas started consuming supposed open and public spaces to maximize and optimize properties and developments within the district, which is fully supported by the idea behind Bid-rent Theory where it is stated that different land uses have different spatial requirements and are willing to pay different amounts depending on its location and accessibility (Botelho, 2019). Following the theory of Urban Fortunes, where an unfavorable closeness between the public and private sectors puts vulnerable stakeholders at the expense of influencing development processes (Molotch, 1976). These theories laid the foundation for the evidence of the argument that further urban development maximization of the district through its developers and property owners as they took the window of opportunity to ride the advantageous phenomena of urban development, led to degraded and violated urban development policies and conditions in the area by encroaching properties, violating building code requirements, and other regulations governing the University Belt.

This phenomenon is further exacerbated as nearby districts experience the same unlikely phenomena, which is also an unfamiliar expectation since, according to the Theory of Broken Window, people are less likely to follow the rules when they feel that their community is not maintained, stakeholders are ignored, and their actions does not have or only a minimal impact resulting to anti-social behaviors (Wilson & Kelling, 1982), and the General Systems Theory. In contrast, it states that a system is "More than the sum of its parts" when it expresses synergy or emergent behavior (Hofkirchner & Schafranek, 2011). These two theories then laid the foundation of this paper's claim. In contrast, the University Belt propagated and expanded, creating districts that continue becoming congested, unregulated, and uncontrolled urban development, negatively influencing nearby neighborhoods.

To alleviate the situation, this study introduced three additional theories that aim to establish a theoretical foundation that aims to address the current urban development condition of the University Belt. The theories of Sustainable Urban Renewal are geared toward enhancing the social, economic, and environmental condition of urban areas (Zheng et al., 2014), Urban Redevelopment which underscores urban design, neighborhood revitalization, and environmental considerations as catalysts for community growth (Gotham, 2001). and Urban Regeneration, which highlights precautionary factors that lead to urban degeneration to foster a permanent and good quality of urban life (Roberts et al., 2016), are all geared toward the direction for the justification and need of an Urban Design Guideline, which is imperative for high-quality urban development.

3.2　Parameters for Analyzing the Preconditions of the University Belt
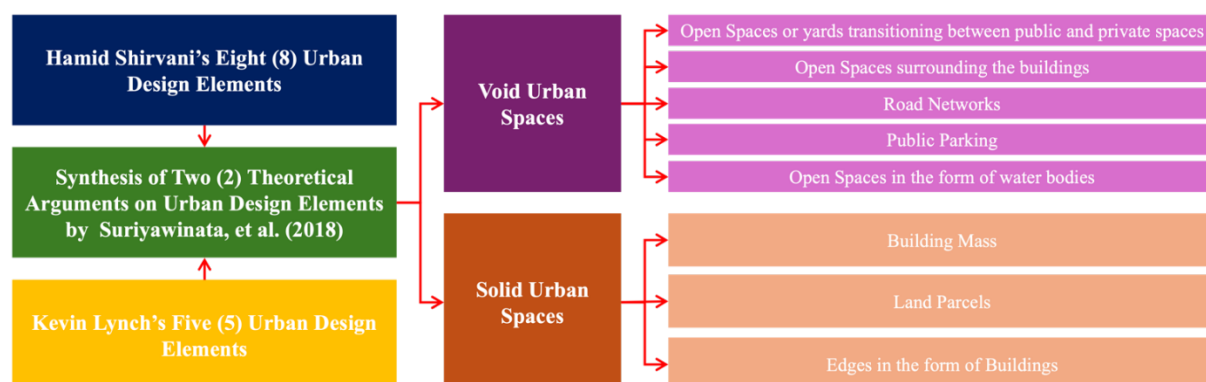

Figure 3 Synthesized Urban Elements of Lynch and Shirvani

Lynch argued in his published literature, the Image of the City, that a city's imageability can be categorized into five (5). Namely Paths, Edges, Nodes, Districts, and Landmarks, while Shirvani and his published literature, the Urban Design Process, identified eight (8) elements that form a city, namely Land Use, Building, Open Space, Parking and Circulation, Signages, Pedestrian Ways, Activity Support, and Preservation (Suryawinata et al., 2018). Synthesizing the two theoretical arguments as shown in Figure no. 3 identified that urban spaces are classified into two (2) major urban space parameters: Void and Solid Spaces. In contrast, void spaces are subclassified into five (5), namely Open Spaces or yards transitioning between public and private spaces, Open Spaces surrounding the buildings, Road Networks, Public Parking, and Open Spaces in the form of water bodies, while Solid Spaces are then subclassified into three (3), namely Building Mass, Land Parcels, and Edges in the form of buildings (Suryawinata et al., 2018).

These eight (8) subclassifications will be used as the parameters for analyzing the preconditions of the University Belt to answer the study's first objective, which is to understand the urban growth and development trend that led to the current condition of the study area. Although comprehensive, the combined theories of urban elements by Shirvani and Lynch need to be translated and adapted to the local context. Thus, as an added layer of parameters to establish a structured and legible analysis of the University Belt and its existing condition, the identified subclassification of both void and solid urban spaces is paralleled to the governing regulations for urban development in the study area, which is the National Building Code of the Philippines, and the Manila Zoning Ordinance which can be seen on Table no. 1.

Table 1: Parallelism of the Synthesized Urban Elements of Lynch and Shirvani to Governing Urban Development Control Policies in the University Belt

Synthesized Urban Elements of Lynch and Shirvani (Suriyawinata, 2018)		Equivalent Urban Elements from Governing Policies in the University Belt	
		National Building Code of the Philippines	**Manila Zoning Ordinance**
Void Urban Spaces	**Open Spaces or yards transitioning between public and private spaces**	Table VIII.1. Reference Table of Maximum Allowable PSO, Maximum Allowable ISA, the MACA, the Minimum USA and the TOSL by Type of Land Use Zoning per Lot, Section 804-Sizes and Dimension of Courts, Table VIII.2. Minimum Setbacks for Residential Buildings/Structures, TableVIII.3. Setbacks for Commercial, Industrial, Institutional and Recreational Buildings	Article V. Zone Regulations (Percentage of Lot Occupancy)
	Open Spaces surrounding the buildings		
	Road Networks		
	Public Parking	Table VII.4. Minimum Required Off-Street cum On-Site Parking Slot, Parking Area and Loading/Unloading Space Requirements by Allowed Use or Occupancy	*No equivalent policy*
	Open Spaces in the form of water bodies	Table VIII.G.1. Easement Along Water Bodies/Way by Location	
Solid Urban Spaces	**Building Mass**	Table VII.1. Allowable Maximum Total Gross Floor Area (TGFA) Based on the Allowed Percentage of Site Occupancy (PSO) of the Total Lot Area (TLA), Table VII.2. Building Height Limit (BHL) by Type of Use or Occupancy, Table VII.G.1. Floor to Lot Area Ratio (FLAR) Designations/Rights	Article V. Zone Regulations (Floor Area Ratio)
	Land Parcels	Table VII.1. Schedule of Principal, Accessory and Conditional Use/Occupancy of Building/Structure	Article V. Zone Regulations (Use Regulations)
	Edges in the form of Buildings	Table VIII.1. Reference Table of Maximum Allowable PSO, Maximum Allowable ISA, the MACA, the Minimum USA and the TOSL by Type of Land Use Zoning per Lot, Section 804-Sizes and Dimension of Courts, Table VIII.2. Minimum Setbacks for Residential Buildings/Structures, TableVIII.3. Setbacks for Commercial, Industrial, Institutional and Recreational Buildings	Article V. Zone Regulations (Percentage of Lot Occupancy)

The Presidential Decree (PD) no. 1096, also known as the National Building Code of the Philippines, establishes minimum standards to ensure well-being, health, property, and public welfare by promoting sound environmental management and control (Republic of the Philippines, 1977a). PD 1096 includes implementing policies on Site Development Planning, Floor Area Ratios (FAR), Building Height Limits (BHL), Parking Provisions, Suggested Lot Sizes, View Corridors, and more development control policies to observe a livable and high-quality urban development to design the public and private realm. In addition to the National Building Code of the Philippines, the Local Government of Manila has also issued Manila Zoning Ordinance no. 8119 (MZO), applicable exclusively to the city of Manila, outlining urban development control policies on Zoning and Occupancy classification, Percentage of Lot Occupancy for the Building Footprint, Building Densities, and an additional section adhering to international best practices in urban development and planning such as sustainable design and TODs to ensure a globally competitive and livable urban environment (Clemente, 2017).

3.3   Existing Urban Development Condition of the University Belt

The University Belt area exhibits rapid and unregulated urban development and expansion, as seen in the proliferation of some substandard quality and poor construction of new high-density residential developments, as well as the conversion of exclusive residential buildings into lodging facilities and commercial spaces, and the

presence of illegal or underground lodging operations, are clear indications of this issue where the public has already become desensitized to these problems (Giron, 2012). Nevertheless, this is a predicted phenomenon, mainly since the establishment of Legarda station in 2004, which is projected to impact the degree of urbanization in the area in question, especially when there are only a limited number of stations to serve commuters (Dröes & Rietveld, 2015). As a consequence, there has been a substantial surge of 342.41% in land values between 2004 and 2019, as seen in Figure no. 4 (BIR, 2019), with a population density of 46,990 individuals per square kilometer (Boquet, 2017), and consistent annual growth in university enrollment of 1.2% inside the University Belt (CHED, 2022).
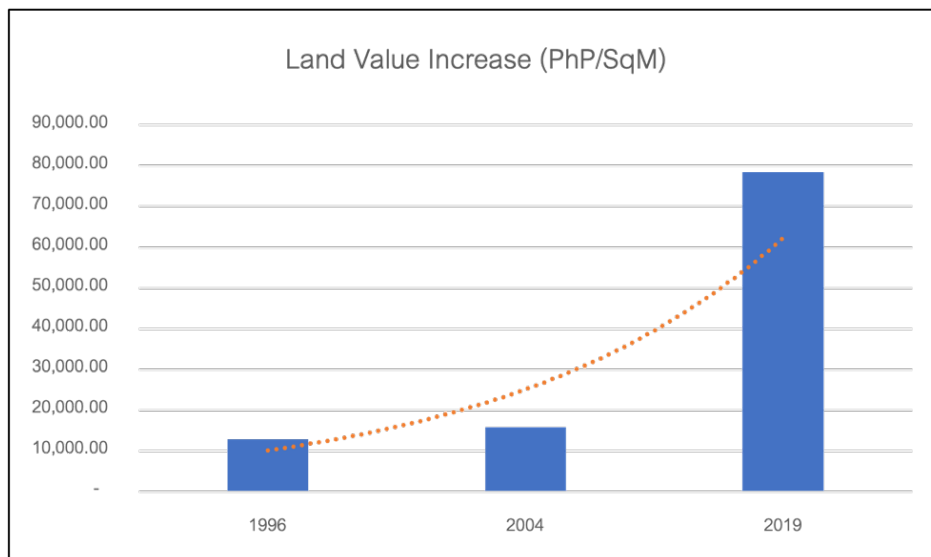

Figure 4: Average Land Value Increase through the years in the area from the opening of LRT-2 in 2004 to the year 2019 (Source: BIR, 2019)

As seen in Figure no. 5, we can see that there is a proliferation of medium to high-rise residential buildings within the University Belt district in contrast to low-density developments and some remaining open spaces in the district, particularly on identified major universities within the district, with some of them considered as important cultural heritage of the country. For instance, we can see that uncontrolled Building Heights (which translates to Building Mass in Table 1) of the said medium to high-rise residential buildings tower over the University of Santo Tomas, which is the oldest university in Asia with four (4) declared National Cultural Treasures, Far Eastern University which is a UNESCO recognized university for preserving rare Art Deco architecture, and the National University which is the oldest private non-sectarian university in the country. These uncontrolled building heights continue to deface the historical value of the said landmarks within the University Belt, and evidence of exhausting land utilization and occupancy is translated into land parcels in Table no. 1.

Figure 4: Aerial Photo of the University Belt Manila (Source: Patrickroque01, 2023)

Figures 6 and 7 clearly show that there has been a sudden and unregulated surge in projects after the construction of the LRT-2. The previous open spaces, low-density residential areas, and exclusive developments have been transformed or improved into medium to high-density residential developments such as condominiums, apartments, dormitories, and hotels. Additionally, there has been an increase in low and medium-intensity commercial developments on a city-wide scale, including food and beverage facilities, supermarkets, public markets, and offices. Furthermore, colleges have evolved into universities, and existing colleges and universities have expanded their facilities and developments.

By comparing these two images, it is evident that the loss of private and public open spaces occurred when the urbanization brought up by the introduction of the LRT-2 happened. This resulted in the overdevelopment of various public and private realms, which violated the front setback/yard requirement, translating to Open Spaces or yards transitioning from public to private spaces and Edges as Buildings in Table no. 1.

Comparing the two images also shows that Setbacks translating to Open Spaces surrounding the buildings in Table no. 1 are violated within the University Belt, as there is an apparent reduction of open spaces surrounding former building footprints in Figure 6 compared to Figure 7. This is validated since, according to other scholarly articles, the physical arrangement of the neighborhood's buildings in Manila follows a ratio of 17:3 between their footprint and the open space (Estacio et al., 2021), which validates the findings of Figure no. 8 where a rise in built-up areas from 63% to 89% occurred between 1989 and 2014 and might potentially worsen if left unregulated.

Figure 5: Figure Ground Map of the University Belt Neighborhood generated using GIS, measuring 800 meters from the location of the LRT-2 Legarda Station before the Train Station
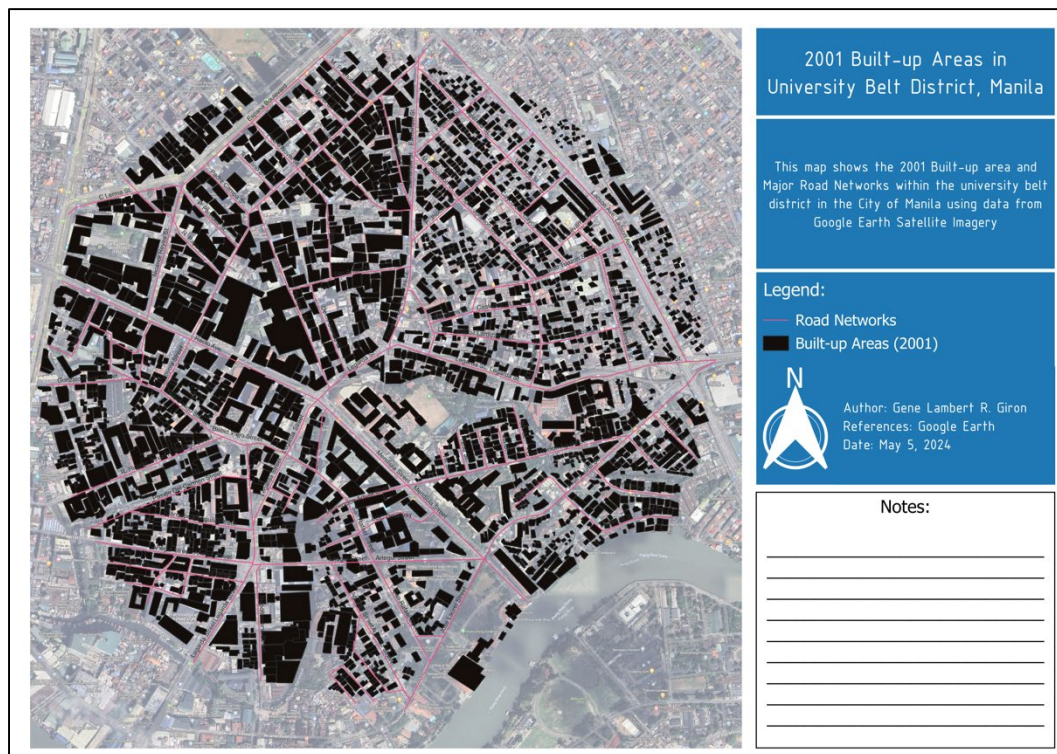

Figure 7: Current Figure Ground Map of the University Belt Neighborhood generated using GIS, measuring 800 meters from the location of the LRT-2 Legarda Station
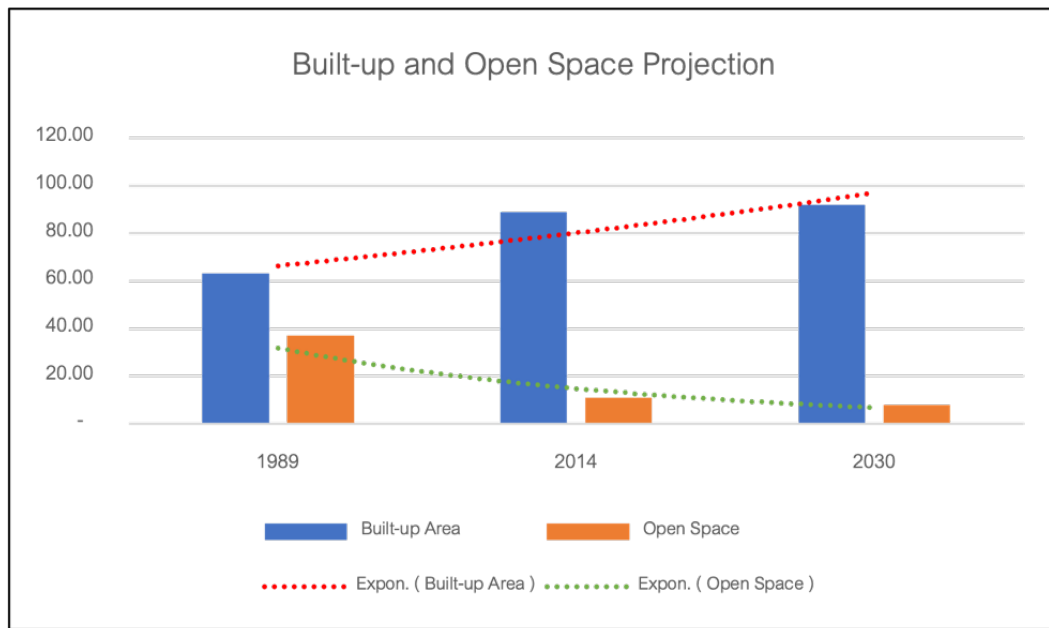
Figure 8: Built-up and open space projection for the year 2030 (Source: Muhamad Nor et al., 2021)

Through the methodology of Land Change Modelling Simulation and Validation, it is projected that, as shown in Figure no. 8, Built-up areas will increase to 91%. Open Spaces will be reduced to 8% by 2030 if no intervention occurs (Muhamad Nor et al., 2021). This phenomenon is inevitable and is likely to happen since access to rail in areas with limited transit options increases population and employment density, and workers who opt to live in the core area of the corridor due to its convenient position and connectivity inside the area.

Figure 6: Image showing Uncontrolled and Unregulated Parking Activities and Obstruction of Sidewalks and Carriageways within the University Belt (Source : Judgefloro, 2016)

Another precondition of the University Belt is the unregulated and uncontrolled vehicular parking activities, which induce pedestrian and vehicular congestion within the study area. Aside from exacerbating the unlikely vehicular congestion common in the area, there is evidence of parking and setback violations, which translates to Public Parking, Open Spaces or yards transitioning from public to private spaces, and Edges in the form of buildings in Table no. 1.

3.4   Insights of Architecture Practitioners in the University Belt

In this section, the findings from the existing urban development condition of the University Belt are validated by the architecture practitioners, who developers task to design the public and private realms to validate and understand what led to the loss in translation of the urban development controls and its implementation.

Table 2: Breakdown and stratification of respondents and their relevant experience

| | | | Which applies to you? | | | |
			Architecture Graduate	Architecture Student	Registered and Licensed Architect	Total
Do you have a direct or indirect experience or involvement of designing and/or constructing buildings in the City of Manila? (e.g. actual design projects, prototype projects, design plates, and th...	No	Count	11	46	34	91
		% within Do you have a direct or indirect experience or involvement of designing and/or constructing buildings in the City of Manila? (e.g. actual design projects, prototype projects, design plates, and th...	12.1%	50.5%	37.4%	100.0%
		% within Which applies to you?	23.4%	33.3%	16.0%	22.9%
	Yes	Count	36	92	178	306
		% within Do you have a direct or indirect experience or involvement of designing and/or constructing buildings in the City of Manila? (e.g. actual design projects, prototype projects, design plates, and th...	11.8%	30.1%	58.2%	100.0%
		% within Which applies to you?	76.6%	66.7%	84.0%	77.1%
Total		Count	47	138	212	397
		% within Do you have a direct or indirect experience or involvement of designing and/or constructing buildings in the City of Manila? (e.g. actual design projects, prototype projects, design plates, and th...	11.8%	34.8%	53.4%	100.0%
		% within Which applies to you?	100.0%	100.0%	100.0%	100.0%

As shown in Table no. 2, the conducted survey through stratified random sampling of architecture practitioners in the study area is composed of registered and licensed architects who have actual design projects or involvement within the University Belt and the City of Manila where the Urban Development Controls to be discussed are in play, architecture graduates who have the same experience or involvement but has yet to take the licensure examinations, and architecture students with projects and studies within the study area who studied and developed prototype projects and studies in the study area. Guided by whether they have relevant experience and exposure within the study area, 77.1% of the respondents have actual and direct knowledge and involvement in the University Belt and the City of Manila.

Table 3: Cross-tabulation of Architecture Practitioners and their confidence in applying the National Building Code of the Philippines to their projects and similar/relevant experiences

| | | | Which applies to you? | | | |
			Architecture Graduate	Architecture Student	Registered and Licensed Architect	Total
National Building Code of the Philippines	Confident	Count	21	84	92	197
		% within National Building Code of the Philippines	10.7%	42.6%	46.7%	100.0%
		% within Which applies to you?	44.7%	60.9%	43.4%	49.6%
	Neither	Count	5	22	25	52
		% within National Building Code of the Philippines	9.6%	42.3%	48.1%	100.0%
		% within Which applies to you?	10.6%	15.9%	11.8%	13.1%
	Not confident	Count	6	9	23	38
		% within National Building Code of the Philippines	15.8%	23.7%	60.5%	100.0%
		% within Which applies to you?	12.8%	6.5%	10.8%	9.6%
	Not very confident	Count	3	2	10	15
		% within National Building Code of the Philippines	20.0%	13.3%	66.7%	100.0%
		% within Which applies to you?	6.4%	1.4%	4.7%	3.8%
	Very confident	Count	12	21	62	95
		% within National Building Code of the Philippines	12.6%	22.1%	65.3%	100.0%
		% within Which applies to you?	25.5%	15.2%	29.2%	23.9%
Total		Count	47	138	212	397
		% within National Building Code of the Philippines	11.8%	34.8%	53.4%	100.0%
		% within Which applies to you?	100.0%	100.0%	100.0%	100.0%

Following Table no. 3, 49.16% and 23.9% of the sample population for the survey responded that they are confident that they observed using the National Building Code of the Philippines for their respective projects and their experience and involvement. Only a margin of the sample population, which is 3.8%, responded that they

are not very confident about applying the National Building Code of the Philippines to their projects and involvement, which indicates that the majority of the sample population and their response are substantial.

Table 4: Cross-tabulation of Architecture Practitioners and their confidence in applying the Manila Zoning Ordinance to their projects and similar/relevant experiences

			Which applies to you?			Total
			Architecture Graduate	Architecture Student	Registered and Licensed Architect	
Manila Zoning Ordinance	Confident	Count	17	63	95	175
		% within Manila Zoning Ordinance	9.7%	36.0%	54.3%	100.0%
		% within Which applies to you?	36.2%	45.7%	44.8%	44.1%
	Neither	Count	10	40	46	96
		% within Manila Zoning Ordinance	10.4%	41.7%	47.9%	100.0%
		% within Which applies to you?	21.3%	29.0%	21.7%	24.2%
	Not confident	Count	8	22	40	70
		% within Manila Zoning Ordinance	11.4%	31.4%	57.1%	100.0%
		% within Which applies to you?	17.0%	15.9%	18.9%	17.6%
	Not very confident	Count	5	6	13	24
		% within Manila Zoning Ordinance	20.8%	25.0%	54.2%	100.0%
		% within Which applies to you?	10.6%	4.3%	6.1%	6.0%
	Very confident	Count	7	7	18	32
		% within Manila Zoning Ordinance	21.9%	21.9%	56.3%	100.0%
		% within Which applies to you?	14.9%	5.1%	8.5%	8.1%
Total		Count	47	138	212	397
		% within Manila Zoning Ordinance	11.8%	34.8%	53.4%	100.0%
		% within Which applies to you?	100.0%	100.0%	100.0%	100.0%

Table no. 4 shows that, unlike the National Building Code of the Philippines, half of the sample population is not entirely confident that they applied the Manila Zoning Ordinance to their project, which raises the question of why such outcomes are generated since the Manila Zoning Ordinance is more stringent.

Table 5: Cross-tabulation of Architecture Practitioner's Confidence on the Significance and Relevance of the National Building Code of the Philippines to the Society

			National Building Code of the Philippines					Total
			Confident	Neither	Not confident	Not very confident	Very confident	
Society	Confident	Count	68	12	8	1	30	119
		% within Society	57.1%	10.1%	6.7%	0.8%	25.2%	100.0%
		% within National Building Code of the Philippines	34.5%	23.1%	21.1%	6.7%	31.6%	30.0%
	Neither	Count	33	17	6	2	13	71
		% within Society	46.5%	23.9%	8.5%	2.8%	18.3%	100.0%
		% within National Building Code of the Philippines	16.8%	32.7%	15.8%	13.3%	13.7%	17.9%
	Not confident	Count	63	13	14	2	21	113
		% within Society	55.8%	11.5%	12.4%	1.8%	18.6%	100.0%
		% within National Building Code of the Philippines	32.0%	25.0%	36.8%	13.3%	22.1%	28.5%
	Not very confident	Count	13	5	7	9	6	40
		% within Society	32.5%	12.5%	17.5%	22.5%	15.0%	100.0%
		% within National Building Code of the Philippines	6.6%	9.6%	18.4%	60.0%	6.3%	10.1%
	Very confident	Count	20	5	3	1	25	54
		% within Society	37.0%	9.3%	5.6%	1.9%	46.3%	100.0%
		% within National Building Code of the Philippines	10.2%	9.6%	7.9%	6.7%	26.3%	13.6%
Total		Count	197	52	38	15	95	397
		% within Society	49.6%	13.1%	9.6%	3.8%	23.9%	100.0%
		% within National Building Code of the Philippines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Since most of the sample population is confident regarding their compliance and adherence to the National Building Code of the Philippines, their experience regarding how it is applied to the study area must be understood. Table no. 5 shows that half, approximately 43.6% of the sample population, still thinks and has confidence that

the National Building Code of the Philippines and its policies are still relevant to the Society, which is concerned with people's safety, welfare, and well-being.

Table 6: Cross-tabulation of Architecture Practitioner's Confidence on the Significance and Relevance of the National Building Code of the Philippines to the Economy

			National Building Code of the Philippines					Total
			Confident	Neither	Not confident	Not very confident	Very confident	
Economy	Confident	Count	53	11	5	1	25	95
		% within Economy	55.8%	11.6%	5.3%	1.1%	26.3%	100.0%
		% within National Building Code of the Philippines	26.9%	21.2%	13.2%	6.7%	26.3%	**23.9%**
	Neither	Count	44	21	6	0	17	88
		% within Economy	50.0%	23.9%	6.8%	0.0%	19.3%	100.0%
		% within National Building Code of the Philippines	22.3%	40.4%	15.8%	0.0%	17.9%	**22.2%**
	Not confident	Count	66	13	18	5	25	127
		% within Economy	52.0%	10.2%	14.2%	3.9%	19.7%	100.0%
		% within National Building Code of the Philippines	33.5%	25.0%	47.4%	33.3%	26.3%	**32.0%**
	Not very confident	Count	19	5	7	8	8	47
		% within Economy	40.4%	10.6%	14.9%	17.0%	17.0%	100.0%
		% within National Building Code of the Philippines	9.6%	9.6%	18.4%	53.3%	8.4%	**11.8%**
	Very confident	Count	15	2	2	1	20	40
		% within Economy	37.5%	5.0%	5.0%	2.5%	50.0%	100.0%
		% within National Building Code of the Philippines	7.6%	3.8%	5.3%	6.7%	21.1%	**10.1%**
Total		Count	197	52	38	15	95	397
		% within Economy	49.6%	13.1%	9.6%	3.8%	23.9%	100.0%
		% within National Building Code of the Philippines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

In contrast to Table no. 5, Table no. 6 shows that almost half, approximately 43.8% of the sample population thinks and is not confident that the National Building Code of the Philippines and its policies are still relevant to the economy, which concerns the built environment and people's productivity, resources, and opportunities.

Table 7 Crosstabulation of Architecture Practitioner's Confidence on the Significance and Relevance of the National Building Code of the Philippines to the Environment

			National Building Code of the Philippines					Total
			Confident	Neither	Not confident	Not very confident	Very confident	
Environment	Confident	Count	42	13	6	1	24	86
		% within Environment	48.8%	15.1%	7.0%	1.2%	27.9%	100.0%
		% within National Building Code of the Philippines	21.3%	25.0%	15.8%	6.7%	25.3%	**21.7%**
	Neither	Count	45	12	4	1	16	78
		% within Environment	57.7%	15.4%	5.1%	1.3%	20.5%	100.0%
		% within National Building Code of the Philippines	22.8%	23.1%	10.5%	6.7%	16.8%	**19.6%**
	Not confident	Count	68	19	20	2	22	131
		% within Environment	51.9%	14.5%	15.3%	1.5%	16.8%	100.0%
		% within National Building Code of the Philippines	34.5%	36.5%	52.6%	13.3%	23.2%	**33.0%**
	Not very confident	Count	20	4	6	10	11	51
		% within Environment	39.2%	7.8%	11.8%	19.6%	21.6%	100.0%
		% within National Building Code of the Philippines	10.2%	7.7%	15.8%	66.7%	11.6%	**12.8%**
	Very confident	Count	22	4	2	1	22	51
		% within Environment	43.1%	7.8%	3.9%	2.0%	43.1%	100.0%
		% within National Building Code of the Philippines	11.2%	7.7%	5.3%	6.7%	23.2%	**12.8%**
Total		Count	197	52	38	15	95	397
		% within Environment	49.6%	13.1%	9.6%	3.8%	23.9%	100.0%
		% within National Building Code of the Philippines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Similar to Table no. 6, almost half, approximately 45.8% of the sample population thinks and is not confident that the National Building Code of the Philippines and its policies are still relevant to the environment, which concerns the natural environment, its preservation, rehabilitation, and livability associated to well-being and good quality of life in the study area. However, not much of the sample population is confident, which gives the study

the assumption that a third of the sample population cannot determine whether the National Building Code of the Philippines is still relevant to the environment.

Table 8: Cross-tabulation of Architecture Practitioner's Confidence on the Significance and Relevance of the Manila Zoning Ordinance to the Society

| | | | Manila Zoning Ordinance | | | | | Total |
			Confident	Neither	Not confident	Not very confident	Very confident	
Society	Confident	Count	27	10	7	2	9	55
		% within Society	49.1%	18.2%	12.7%	3.6%	16.4%	100.0%
		% within Manila Zoning Ordinance	15.4%	10.4%	10.0%	8.3%	28.1%	13.9%
	Neither	Count	43	30	11	3	1	88
		% within Society	48.9%	34.1%	12.5%	3.4%	1.1%	100.0%
		% within Manila Zoning Ordinance	24.6%	31.3%	15.7%	12.5%	3.1%	22.2%
	Not confident	Count	77	34	34	6	13	164
		% within Society	47.0%	20.7%	20.7%	3.7%	7.9%	100.0%
		% within Manila Zoning Ordinance	44.0%	35.4%	48.6%	25.0%	40.6%	41.3%
	Not very confident	Count	25	17	14	13	5	74
		% within Society	33.8%	23.0%	18.9%	17.6%	6.8%	100.0%
		% within Manila Zoning Ordinance	14.3%	17.7%	20.0%	54.2%	15.6%	18.6%
	Very confident	Count	3	5	4	0	4	16
		% within Society	18.8%	31.3%	25.0%	0.0%	25.0%	100.0%
		% within Manila Zoning Ordinance	1.7%	5.2%	5.7%	0.0%	12.5%	4.0%
Total		Count	175	96	70	24	32	397
		% within Society	44.1%	24.2%	17.6%	6.0%	8.1%	100.0%
		% within Manila Zoning Ordinance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 9: Crosstabulation of Architecture Practitioner's Confidence on the Significance and Relevance of the Manila Zoning Ordinance to the Economy

| | | | Manila Zoning Ordinance | | | | | Total |
			Confident	Neither	Not confident	Not very confident	Very confident	
Economy	Confident	Count	28	11	7	1	9	56
		% within Economy	50.0%	19.6%	12.5%	1.8%	16.1%	100.0%
		% within Manila Zoning Ordinance	16.0%	11.5%	10.0%	4.2%	28.1%	14.1%
	Neither	Count	44	35	11	4	3	97
		% within Economy	45.4%	36.1%	11.3%	4.1%	3.1%	100.0%
		% within Manila Zoning Ordinance	25.1%	36.5%	15.7%	16.7%	9.4%	24.4%
	Not confident	Count	81	28	35	5	12	161
		% within Economy	50.3%	17.4%	21.7%	3.1%	7.5%	100.0%
		% within Manila Zoning Ordinance	46.3%	29.2%	50.0%	20.8%	37.5%	40.6%
	Not very confident	Count	18	19	13	13	4	67
		% within Economy	26.9%	28.4%	19.4%	19.4%	6.0%	100.0%
		% within Manila Zoning Ordinance	10.3%	19.8%	18.6%	54.2%	12.5%	16.9%
	Very confident	Count	4	3	4	1	4	16
		% within Economy	25.0%	18.8%	25.0%	6.3%	25.0%	100.0%
		% within Manila Zoning Ordinance	2.3%	3.1%	5.7%	4.2%	12.5%	4.0%
Total		Count	175	96	70	24	32	397
		% within Economy	44.1%	24.2%	17.6%	6.0%	8.1%	100.0%
		% within Manila Zoning Ordinance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Similar to the National Building Code of the Philippines, more than half of the sample population who are confident regarding their compliance and adherence to the Manila Zoning Ordinance showcased approximately 59.9% and 57.5% non-confidence regarding the relevance of the Manila Zoning Ordinance to Society and Economy respectively as shown on Tables no. 8 and 9. This is despite the idea that the Manila Zoning Ordinance is deemed more stringent as an urban development regulation than the National Building Code of the Philippines.

Table 10: Crosstabulation of Architecture Practitioner's Confidence on the Significance and Relevance of the Manila Zoning Ordinance to the Environment

| | | | Manila Zoning Ordinance | | | | | Total |
			Confident	Neither	Not confident	Not very confident	Very confident	
Environment	Confident	Count	25	12	8	1	8	54
		% within Environment	46.3%	22.2%	14.8%	1.9%	14.8%	100.0%
		% within Manila Zoning Ordinance	14.3%	12.5%	11.4%	4.2%	25.0%	13.6%
	Neither	Count	39	27	6	4	2	78
		% within Environment	50.0%	34.6%	7.7%	5.1%	2.6%	100.0%
		% within Manila Zoning Ordinance	22.3%	28.1%	8.6%	16.7%	6.3%	19.6%
	Not confident	Count	76	32	36	3	13	160
		% within Environment	47.5%	20.0%	22.5%	1.9%	8.1%	100.0%
		% within Manila Zoning Ordinance	43.4%	33.3%	51.4%	12.5%	40.6%	40.3%
	Not very confident	Count	29	20	16	15	5	85
		% within Environment	34.1%	23.5%	18.8%	17.6%	5.9%	100.0%
		% within Manila Zoning Ordinance	16.6%	20.8%	22.9%	62.5%	15.6%	21.4%
	Very confident	Count	6	5	4	1	4	20
		% within Environment	30.0%	25.0%	20.0%	5.0%	20.0%	100.0%
		% within Manila Zoning Ordinance	3.4%	5.2%	5.7%	4.2%	12.5%	5.0%
Total		Count	175	96	70	24	32	397
		% within Environment	44.1%	24.2%	17.6%	6.0%	8.1%	100.0%
		% within Manila Zoning Ordinance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

In contrast to Society and Economy, the confidence response of the sample population regarding the relevance of the Manila Zoning Ordinance to the Environment accounted for 61.7% of the respondents, expressing non-confidence, with 19.6% answering neither as an answer which may or may not lead to additional loss of confidence to the Manila Zoning Ordinance and its relevance to the Environment, its protection, and rehabilitation towards a livable and high-quality urban development.
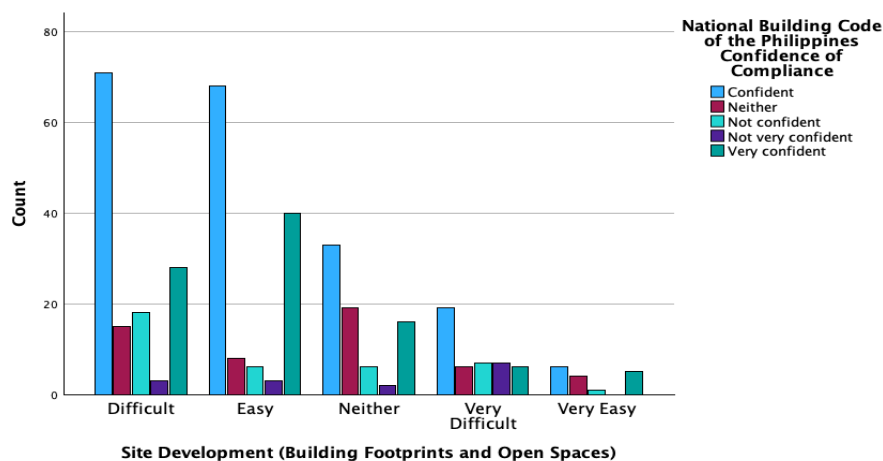
Figure 7: Degree of Difficulty in Applying the National Building Code of the Philippines' Site Development Regulations of Respondents
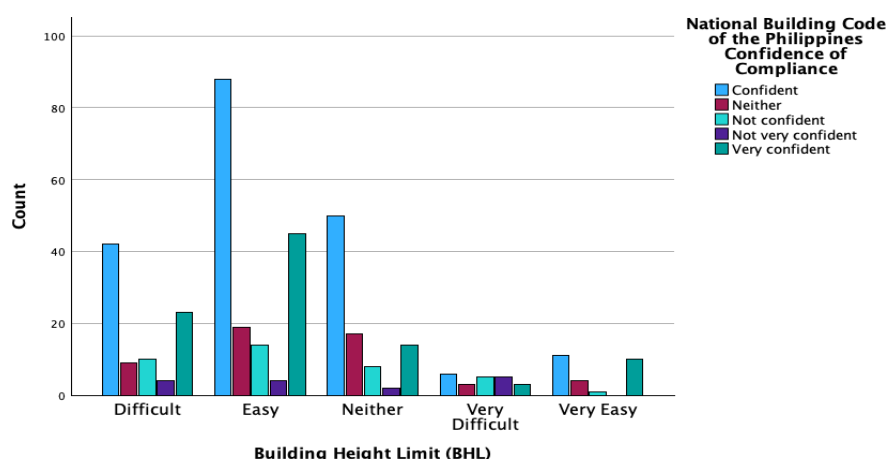
Figure 8: Degree of Difficulty in Applying the National Building Code of the Philippines' Building Height Limit Regulations of Respondents
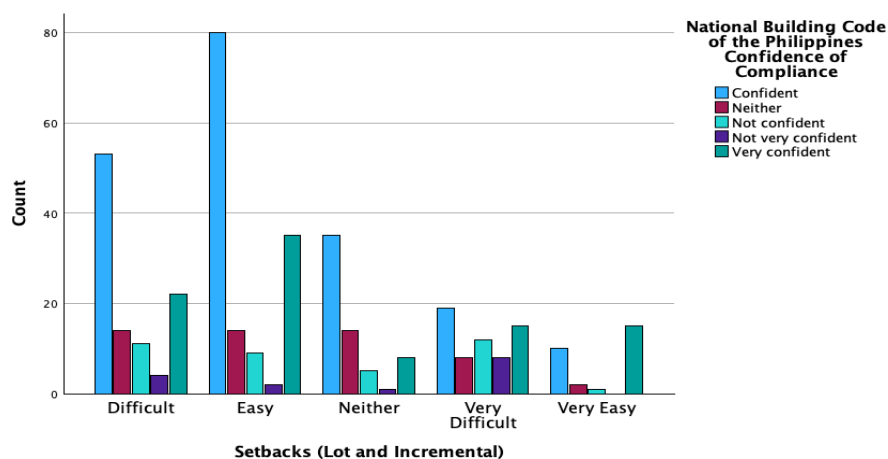
Figure 9: Degree of Difficulty in Applying the National Building Code of the Philippines' Setback Regulations of Respondents
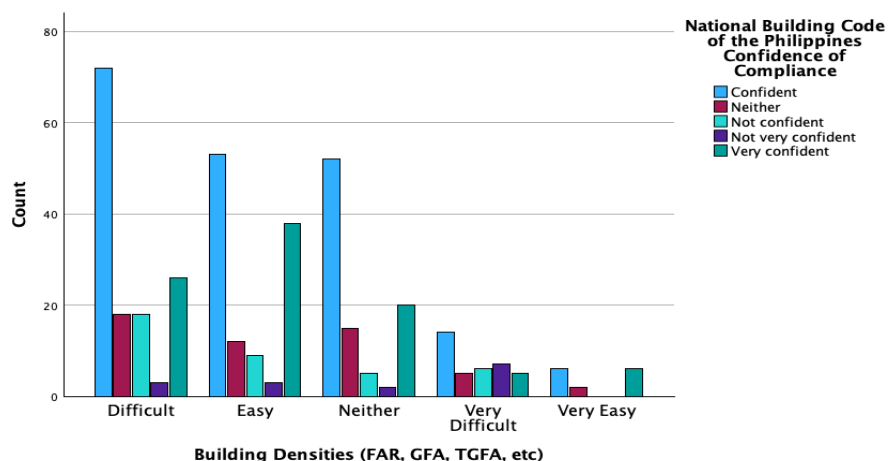

Figure 10: Degree of Difficulty in Applying the National Building Code of the Philippines' Building Density Regulations of Respondents
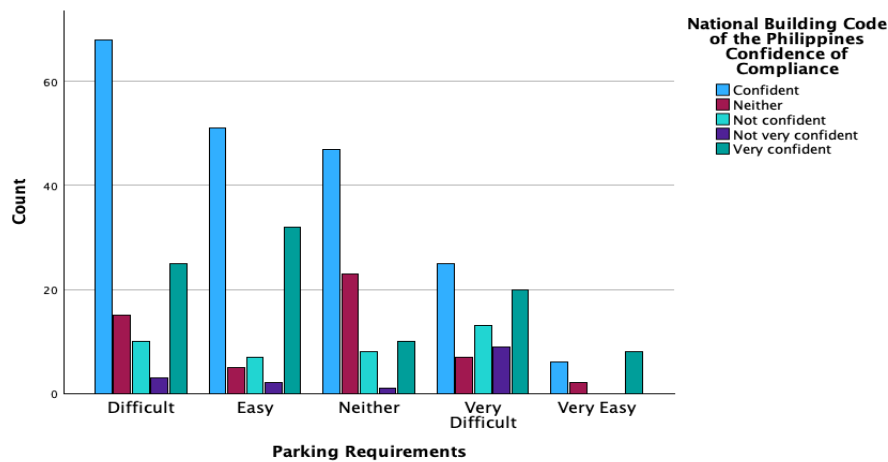
Figure 11: Degree of Difficulty in Applying the National Building Code of the Philippines' Parking Regulations of Respondents

Following Figures no. 10 to 14, Confident to Very Confident users and respondents of the sample population of the National Building Code of the Philippines found that the Site Development, Building Densities, and Parking Requirements are the most challenging policies to comply with in terms of designing the public and private realm, despite having the expertise and comprehension of the said policies. Unsuspectedly, those who are Not Confident to Not Very Confident also showcase a similar case regarding adherence to the guidelines prescribed by the National Building Code of the Philippines.

To summarize, Site Development, Building Densities, and Parking Requirements are certain sections where the prospective Urban Design Guideline should focus on achieving an inclusive and achievable but comprehensive and well-justified policy. Also, these policies need to be paralleled with the success indicators of a TOD since it is the development direction of the study area.
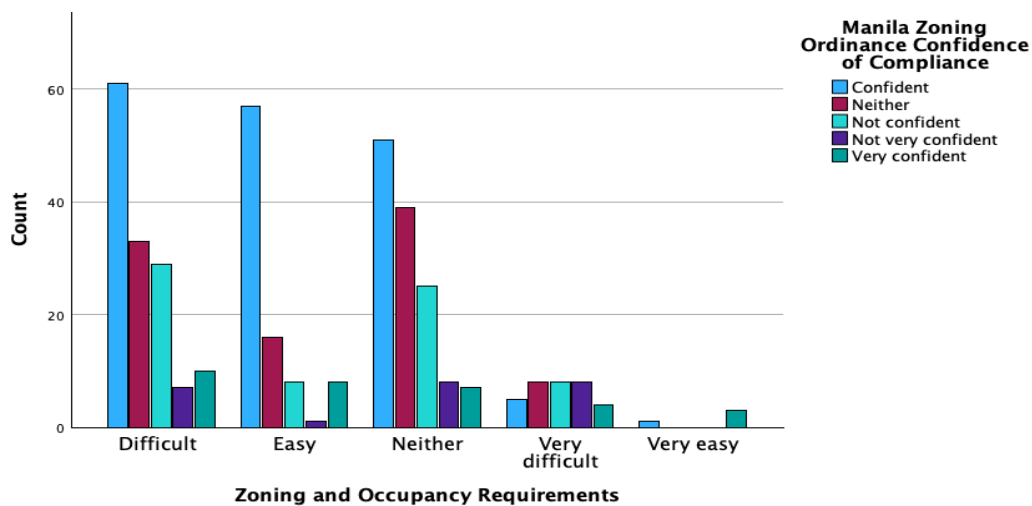
Figure 12: Degree of Difficulty in Applying the Manila Zoning Ordinance's Zoning and Occupancy Regulations of Respondents
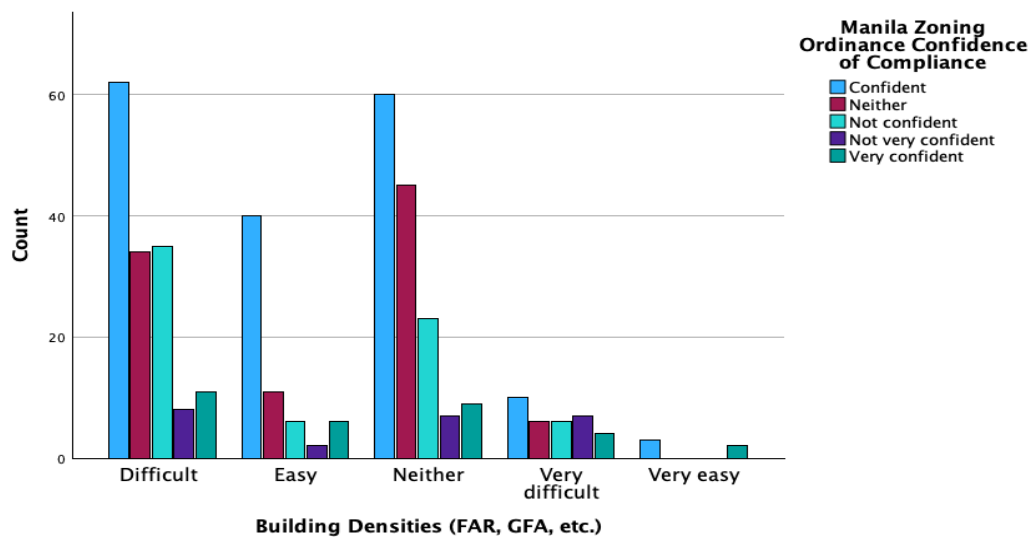
Figure 13: Degree of Difficulty in Applying the Manila Zoning Ordinance's Building Density Regulations of Respondents
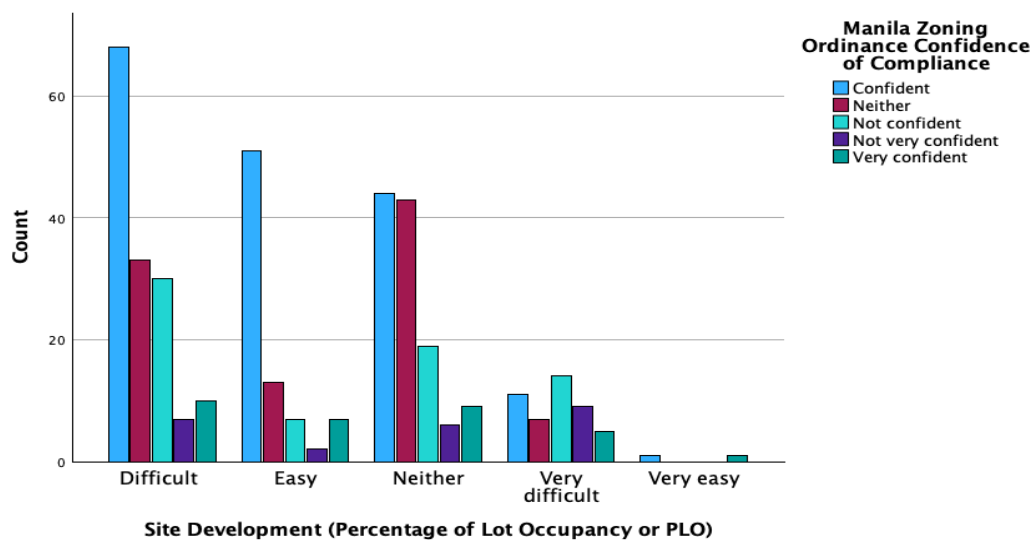
Figure 14: Degree of Difficulty in Applying the Manila Zoning Ordinance's Site Development Regulations of Respondents

Unlike the National Building Code of the Philippines, the survey outcomes regarding the difficulty of application and compliance from Very Confident to Not Very Confident respondents of the sample population express difficulty in applying and complying with Building Densities regulations and policies. In contrast, Zoning and Occupancy and Site Development policies expressed diverse insights regarding the difficulty of application and compliance. One possible assumption is that some Zoning and Occupancy and Site Development urban development regulations and guidelines are more straightforward to comply with. However, as a prospective project or development grows more complex, the policy becomes more complicated to comply with. Hence, it is safe to assume that these urban development regulations and policies vary depending on building type and location, requiring additional inquisition for future studies to create an Urban Design Guideline that is comprehensive yet relevant and applicable.

4. DISCUSSION

For this section, the researcher will contextualize the survey's findings, what potentially causes it, and why an Urban Design Guideline is deemed necessary for the University Belt.

4.1 Summary of Survey Findings

The study validates the urban development conditions of the University Belt by surveying architecture practitioners who are tasked with designing public and private realms. The survey, conducted through stratified random sampling, found that 77.1% of respondents have experience and involvement in the University Belt and Manila.

Most respondents are confident in using the National Building Code of the Philippines for their projects, with only 3.8% who found themselves not very confident. However, half of the sample population is not fully confident in applying the Manila Zoning Ordinance to their projects, raising questions about its relevance to Society, the economy, and the environment. Most respondents still believe that the National Building Code and its policies are relevant to Society but not the environment and economy.

The study also found that Site Development, Building Densities, and Parking Requirements are the most complex policies to comply with when designing the public and private realm. These policies need to be comprehensive, well-justified, and aligned with the success indicators and parameters of a TOD, as it is the development direction of the study area. The survey results also indicate that some urban development regulations and policies are more straightforward to comply with. Still, as a prospective project grows more complex, the complexity of these regulations increases.

Given these outcomes, the researcher also asked the following questions regarding their opinion and/or insights about the said urban development control policies: If the National Building Code of the Philippines needs to be updated, and if the Manila Zoning Ordinance also needs to be updated.
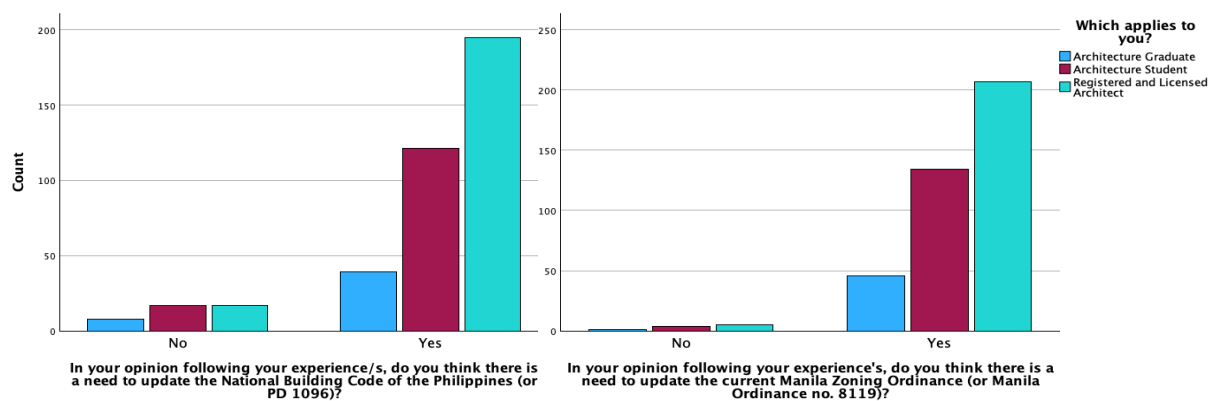

Figure 15: Respondents and their answer to the question about the National Building Code of the Philippines and the Manila Zoning Ordinance need to be updated.

Following their confidence and experience using the National Building Code of the Philippines, approximately 89% of the respondents underscored the need for its update, while 97% called for the update of the Manila Zoning Ordinance. From these outcomes, the study can confidently assume that these governing urban development controls need to be updated to gain and establish directly proportional confidence and relevance of using and upholding these urban development controls. The discussion section will analyze the background and status of the governing urban development controls to understand further where these policies are coming from.

4.2 The Governing Urban Development Controls in Question

Given the summary of the survey findings, which argues that the governing urban development controls are outdated and need to be updated, this research looks into the National Building Code of the Philippines and the Manila Zoning Ordinance and why such outcomes were identified. The National Building Code of the Philippines was already deemed outdated by many lawmakers, hence resulting in the creation of House Bill no. 8500, also

known as the Philippine Building Plan, in replacement of the 50-year-old building code, which is nationally observed and considered as a referral code (Lalu, 2023). With these impending bills, the legislative house of the Philippines already highlighted the National Building Code of the Philippines as an immediate concern for updating, especially since the Philippines is frequented and vulnerable to various natural hazards (Lalu, 2023).

For the Manila Zoning Ordinance, there is no existing Comprehensive Land Use Plan (CLUP) being used in the city of Manila (Clemente, 2017), which can result in vulnerability to disaster hazards and climate change impacts, expanded urban sprawl, shortage or modifications in open space, and increased public service expenses in less densely populated areas (Santos et al., 2016);(Heimlich & Anderson, 2001). This finding is ironic since, by definition, a Zoning Ordinance is an implementing tool of a CLUP, and implementing a zoning ordinance without a land use plan can cause inconsistencies between regulations and long-term goals. Hence, the comprehensive land use plan should align with the zoning ordinance to ensure allowable land uses coincide with the general plan's objectives (Mandelker, 1976). The zoning ordinance's mere presence and availability without a CLUP deems it questionable or somewhat outdated if made from previous CLUP versions. Hence, the zoning ordinance is doubtful and does not offer Manila a justifiable urban development regulation and policy. In summary, as shown in Table no. 11, the study can confidently say that the National Building Code of the Philippines is outdated, and the Manila Zoning Ordinance is questionable, especially since there is a prospective TOD.

Table 11: Summary of Governing Urban Development Controls in the Study Area

DEVELOPMENT CONTROLS	STATUS/CONDITION		SOURCE
	National	Local	
National Building Code of the Philippines	Outdated	Not Applicable	House Bill no. 8500, also known as the Philippine Building Act, is a house bill under senate reading to replace the National Building Code of the Philippines but is yet to be enacted (Lalu, 2023).
Comprehensive Land Use Plan	Not Applicable	None	The Department of Human Settlements and Urban Development flagged the city of Manila for not having any Comprehensive Land Use Plan (Clemente, 2017).
Manila Zoning Ordinance	Not Applicable	No Basis	There is an existing local ordinance; however, it has questionable roots since there is no Comprehensive Land Use Plan in Manila (Mandelker, 1976).

4.3 Transit Oriented Development and The University Belt

In this section, the researcher will discuss the urban design targets of a TOD as an urban development planning concept from various literature and scholarly articles since a TOD is expected to manifest within the University Belt with the LRT-2 Legarda Station as its Main Transit Node. There are many policies and guidelines for planning and designing a TOD, but physically, a TOD should have a roadway network that covers 30% of the land area, accommodating 150 people per hectare or 15,000 per square kilometer. 40% of land should be used for economic purposes and 20% for public spaces (HLURB, 2017). Its Land Parcels should host a mix of land uses, shifting the road-based zoning approach to prioritizing public transportation and consolidating dense but not congested communities and activities near the station to create vibrant, diverse, and livable communities (Kidokoro, 2020).

Buildings should promote high densities and compact building designs and facilitate convenient access to public transportation to ensure the accessibility and availability of local services within the neighborhood. They must also include culturally sensitive housing developments that consider diverse cultural needs and values, which can be made possible through proper land use planning, zoning, urban regeneration, and urban design (Global Platform for Sustainable Cities World Bank, 2018).

Table 12: Baseline CriterCriteria Successful TransiTransit-Orientedopment

	Baseline Criterions	Policy Conditions from the TOD Implementation Resources and Tools by World Bank
TOD Planning	Density	*Optimize residential and employment densities along a transit corridor or station to encourage walking and transit use, considering non-motorized and transit infrastructure bearing capacities.*
	Transit Accessibility	*Advocate for street design that ensures safe access for all users, including pedestrians, cyclists, motorists, and transit riders, and integrate smart technologies in TOD projects to enhance public transit services.*
	Pedestrian Friendliness	*Safe speed measures, traffic demand management, and reduced parking demand promote sustainable mobility options and emphasize the need for a continuous, optimized, and network-like pedestrian environment*
Station Area Development	Connectivity to Surrounding Neighborhood	*Ensure the smooth integration of transit modes, systems, and routes, considering the need for efficient connections to and from the station for all users, abilities, and access modes.*
	Livable Public Space	*Create open spaces within a five-minute walking radius, promoting community activities through inclusive architecture and landscaping and identifying high-risk areas for TOD projects considering climate change and environmental variations.*
	Development Surrounding the Station Area	*Foster pedestrian-oriented landscaping and building design, promoting active street life and high-quality station architecture sensitive to the built context and include amenities for a comfortable commuter experience.*
	Affordable Housing and Accessible Living	*Promote the establishment of equitable TODs by ensuring a range of housing options within a ten-minute walking distance from a transit station, which should encompass a variety of types, designs, price points, and tenures.*
	Mixed Uses and Form	*Encourage more efficient land use patterns by providing residents with automobile-free access to recreational facilities, retail establishments, commercial and civic services, and employment.*

Some references also cite that a series of baseline parameters for a successful TOD should be met to achieve a successful TOD. As listed in Table no. 12, these baseline parameters should be present within the neighborhood to be deemed a Good Transit Oriented Development.

5.   CONCLUSION

Looking at the discussion, this paper underscored several points that support the idea of the University Belt, the need for an Urban Design Guideline, and its importance. This paper identified significant points subdivided into four (4): Compatibility, Frequency, Specificity, and Harmony. Compatibility, in general, argues the need for and importance of an urban design guideline due to the questionable reliability, validity, and consistency of governing urban development controls. Frequency underscores the importance of time as a resource and it being of the essence. Specificity highlights the need for an urban development guideline due to the study area's unique structure, development direction, and requirement, whereas in this case, the site is a TOD, and Harmony is putting all these together systematically, comprehensively, and orderly.

5.1   Compatibility

Architecture practitioners in the area, despite having relevant experience working with built environments in the university belt and having knowledge and confidence of the National Building Code of the Philippines and the Manila Zoning Ordinance, have unresolved confidence and relevance issues in observing the governing urban development control policies in the University Belt.

The National Building Code of the Philippines is considered outdated and borderline irrelevant to the current needs of Society, economy, and environment. The Manila Zoning Ordinance, being in effect but not anchoring to any Comprehensive Land Use Plan to which it should confide since it is considered its implementing tool, makes the said policy with no scientific and logical basis. This leaves their end users questioning its reliability, validity, consistency, and confidence to observe and follow its provisions to achieve its objectives for the University Belt.

Some existing provisions of the National Building Code of the Philippines and the Manila Zoning Ordinance have been raised in the survey to be challenging to comply with and observe, such as Site Development, Building Densities, and Parking Requirements as urban development control policies. These need to be reviewed to improve their utilization by their end users and ease their applicability to the University Belt to achieve a high-quality environment.

5.2 Frequency

Typically, laws take a lot of time to be passed or rectified as they have to go through a series of readings, approvals and disapprovals, amendments, and consensus when elevated to the country's legislative house.

Enacting an ordinance, however, is faster. Still, in the case of the Zoning Ordinance, a Comprehensive Land Use Plan, which is not yet available in Manila, also takes time, effort, and cost to create. Making a Comprehensive Land Use Plan requires tedious internal coordination with experts and stakeholders along with a series of public consultations as its scope is for the whole city itself

Enacting an Urban Design Guideline as an ordinance specifically for the University Belt, a special district in Manila, is faster and easier since it only deals with experts and stakeholders within an identified and specific neighborhood.

The urban design guideline will benefit the impending TOD and future CLUPs and Zoning Ordinances. This is because there are other present and prospective transit hubs and railway alignments in the city of Manila in addition to Legarda Station.

5.3 Specificity

Aside from the governing government urban development controls in the University Belt and the City of Manila, the neighborhood centered along the LRT-2 Legarda Station is a prospective TOD. Unlike any other Planned Unit Development, a TOD has specific requirements and parameters that need to be achieved. Some of which are listed in Section 4.3 of this paper.

The forthcoming implementation of the TOD in the area intends to improve the urban development of the University Belt. However, if the implementation is confined to regulations without clear guidelines, it will confuse the idea and hinder its effective implementation. Therefore, creating an Urban Design Guideline that aligns with the upcoming TOD concept in the area is necessary.

5.4 Harmony

Given the situation of the governing urban development controls, the existing condition of the University Belt, and the prospective TOD happening in the University Belt, a harmonious synthesis of various urban development issues needs to be addressed and consolidated into one unified document, which is the Urban Design Guideline.

The urban design guideline specific to the university belt should address the barriers of the governing urban development controls discussed in section 4.1 of this paper. It should also supersede the outdated National Building Code of the Philippines and the baseless Manila Zoning Ordinance governing the University Belt because the study area is rapidly urbanizing. It should also incorporate a TOD's basic physical planning requirements, as mentioned in section 4.3 of this paper, to achieve a successful TOD. The Urban Design Guideline should be synthesized and unified into one binding document.

The Urban Design Guideline will help shape future developments in the area and potentially revitalize the urban fabric of the University Belt. The aim is to create a high-quality, livable urban environment that benefits students, employees, and locals.

Implementing an Urban Design Guideline will create a set of detailed policies for developers to follow. This guideline will have specific principles that address different laws, ordinances, and policies. It aims to create a livable, high-quality environment in the district and city.

An Urban Design Guideline will provide developers with clear and specific development control policies that are easy to understand and follow. This guideline will consist of focused principles that address relevant laws, ordinances, and policies to create a livable and high-quality environment in the district and city.

Regarding the feasibility and acceptance of the Urban Design Guideline, the sample population in the survey was also asked about their insights on having a site-specific Urban Design Guideline, particularly for the

University Belt. The answer stands in unison, with 99% of the respondents agreeing to have an Urban Design Guideline specifically for the University Belt, as shown in Figure 19.
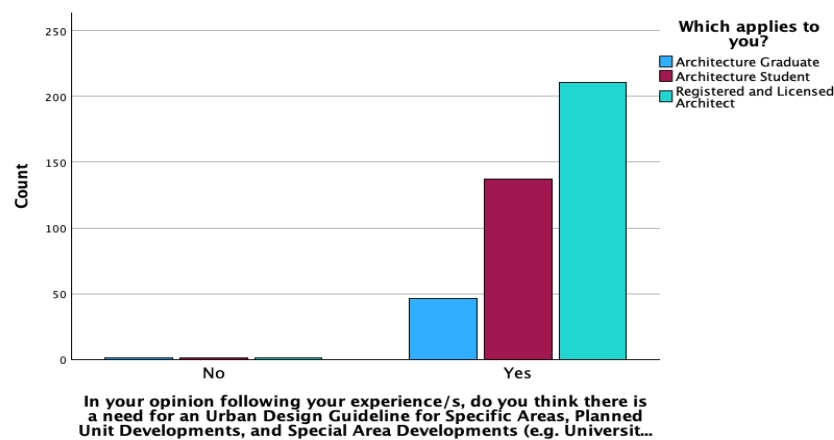

Figure 16: Respondents' insights regarding the necessity of an Urban Design Guideline specific to the University Belt

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