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Investigating Regulatory Compliance with Road Setback Requirements in Developmental Activities in the Anambra Capital Territory

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ABSTRACT

This paper examined the essence of setbacks in sitting structures and buildings in Anambra Capital Territory (ACT). The aim is achieved through the objective, to determine the essence of setbacks in developmental projects in Anambra Capital Territory. As a result of non-compliance with road setbacks for development, ACT had become characterized by inadequate and deteriorated road network, walkways, unregulated building patterns, poor sanitation, uncontrolled street trading, mountains of garbage and chaotic transport system creating traffic and human congestion, noise pollution and overcrowding, among others. This work intends to address these issues and educate the citizens how road setbacks are essential. To achieve the stated aim, the study determined the essence of the sited structures to set standards in ACT. The foremost causes of non- compliance with road setbacks in ACT approved by professionals and non- professionals were also identified. The findings conclude that since there is a severe environmental effect in ACT, there is need for environmental education and awareness in the area, to educate the public on the importance of implementing road setbacks. When people understand the reasons for urban planning, they will be far less likely to violate the legal construction standards and will likewise make objections known.

Keywords: Sustainable, Development, Non-compliance, Road and Setbacks

INTRODUCTION

In land use planning, a setback is the distance which a building or other structure is meant to leave from a street or road, a river or other stream, a shore or flood plain, or any other place which is deemed to need protection. Depending on the jurisdiction, other things like fences, landscaping, septic tanks, and various potential hazards or nuisances might be regulated (Nwakwekwe et al., 2024; Okeagu et al., 2024). Setbacks are generally set in municipal ordinances or zoning regulators. Setbacks along state, provincial, or federal highways may also be set in the Laws of the State or province, or the Federal Government (Okpala et al., 2024; Vitalis et al., 2024).

Today many jurisdictions rely on urban planning regulations, such as zoning ordinances, which use setbacks to make sure that streets and yards are provided more open space and adequate light and air. For example, in high density districts, such as Manhattan in New York, front walls of buildings at the street line may be limited to a specified height or number of stories. Above that height, the buildings are required to set back behind a theoretical inclined plane, called sky exposure plane, which cannot be penetrated by the building's exterior wall. For the same reason, setbacks may also be used in lower density districts to limit the height of perimeter walls above which a building must have a pitched roof or be set back before rising to the permitted height (Okpala et al., 2025; Igbokwe et al.,

2024). The Malloch Building in San Francisco is stepped back along the contour of the steep side of Telegraph Hill.

Realistically, large metropolitan regions lack the resources, citizen support, and ultimately the space to provide for uncongested automobile travel. About half of congestion delay occurs in areas where demand has reached or exceeded capacity; the other half is due to incidents including weather, accidents, stalled vehicles and roadside distractions (Ezeanyim et al., 2025; Nwamekwe et al., 2024; Nkemakonam et al 2025).

These and many more have been responsible for violation into well-known road setbacks. From the residential building perspective, the poverty-stricken set of the masses most times tend to be seeking to build any shelter in warner without considering whether they obeyed the established planning standards or not, thus the emergence of slums and urban sprawl (Okafor, 2018; U-Dominic et al., 2025) The Awka Capital Territory under study has established road setbacks for each of trunk's A, B and C roads passing through the area. The trunk A are federal highway roads with 45.72meters as the established setback; trunk B being the State roads with setback of 30.0meters and trunk C being the Local Government roads with setbacks of 25.0meters - ACTDA, 2014 (Chidiebube et al., 2025; Emeka et al., 2025; Igbokwe et al., 2025). The main problem facing this stipulation is implementation, as the informal workers and developers always try to maximize utility of their plots of land, thereby encroaching into the setbacks and when they are being apprehended, they cut corners to have their way.

According to the Nigeria Bureau of Statistics (2006) the population of Anambra State grew astronomically from 12percent to 48percent within a space of 12years. Anambra, thus, became one of the most rapidly growing States east of the River Niger. This type of growth also came with its attendant consequences; the most significant being non- compliance with road setbacks, in the siting of structures in the State (Ezeanyim et al., 2025; Okpala et al., 2025; Nwamekwe & Igbokwe, 2024).

As a result, ACT had become characterized by inadequate and deteriorated road network, walkways, unregulated building patterns, poor sanitation, uncontrolled street trading, mountains of garbage and chaotic transport system creating traffic and human congestion, noise pollution and overcrowding, among others (Okpala et al., 2025; Onyeka et al., 2024; Nwamekwe et al., 2025). It is because of these problems that the study develops a workable template and modified framework for solving the problems of non-compliance with road setbacks as well as achieving sustainable urban environmental socio-economic development in Awka Capital Territory of Anambra State (Nwamekwe & Nwabunwanne, 2025).

METHODS

The study was conducted by mainly through the survey method and interview of Professionals and non- professionals in ACT, Awka in Nigeria. Secondary data were obtained through books, journals, and internet. Empirical works of other scholars were consulted. A simple size of 400 was obtained from the population of 778,061 at 5% error tolerance and 95% degree of freedom using Yamane's statistical formula 385(96.3%) of the questionnaires distributed were returned while 15(3.7%) of the questionnaires distributed were not returned. The questionnaire was designed in Likert scale format. The researchers conducted a pre-test on the questionnaire to ensure the validity of the instrument. Data were collected using relevant techniques (survey design, field measurements, ARC GIS 10.4 software, and Maps). Simple linear regression test was used to test this hypothesis, the measured structures in ACT were compared to set standards to know if they complied with standard or not (Nwamekwe et al., 2020).

RESULTS AND DISCUSSION

There is a significant essence of setbacks in developmental projects in Anambra Capital Territory. The hypothesis postulated was tested with test statistics aided by computer applied Statistical Package for Social Sciences (SPSS: 20.00s version) of Microsoft environment. Simple linear regression test was used to test this hypothesis, the measured structures in ACT were compared to set standards to know if they complied with standard or not.

Table 1: Descriptive Statistics

	Mean	Std. Deviation	N
Essence of setbacks	1.7766	.51738	385
Developmental project	3.4727	.85386	385

Table 2: Correlations

		Essence of setbacks	Developmental projects
Pearson Correlation	Essence of setbacks	1.000	.682
	Developmental Project	.682	1.000
Sig. (1-tailed)	Essence of setbacks	.	.000
	Developmental Project	.000	.
N	Essence of setbacks	385	385
	Developmental Project	385	385

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.682a	.465	.463	.37899	.064

a. Predictors: (Constant), Essence of setbacks
b. Dependent Variable: Developmental Project

Table 4: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	47.778	1	47.778	332.632	.000a
	Residual	55.012	302	.144		
	Total	102.790	303			

a. Predictors: (Constant), Essence of setbacks
b. Dependent Variable: Developmental Project

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.342	.081		14.223	.000
	Essence of setbacks	.413	.023	.682	18.238	.000

R = 0.682
R2 = 0.465
F = 332.632
DW = .064

The regression sum of squares (47.778) is less than the residual sum of squares (55.012), which indicates that more of the variation in the dependent variable is not explained by the model. The significance value of the F statistics (0.000) is less than 0.05, which means that the variation explained by the model is not due to chance.

R, the correlation coefficient which has a value of 0.682, indicates that there is a positive relationship between the essence of setbacks and developmental projects. R square, the coefficient of determination, shows that 46.5% of the variation is explained by the model.

With the linear regression model, the error of estimate is high, with a value of about 0.37899. The Durbin Watson statistics of .064, which is not tends to 2 indicates there no is autocorrelation.

The organizational enabler coefficient of 0.682 indicates a positive significance between Essence of setbacks and developmental projects, which is statistically significant (with t = 14.223). Therefore, the null hypothesis should be rejected and the alternative hypothesis accordingly accepted.

From the findings the hypothesis was tested with simple linear regression to determine the essence of setbacks in developmental projects in Anambra Capital Territory. With a computed result ($r = 0.682$; $F= 332.632$; $t= 14.223$; $p < 0.05$). The alternate hypothesis was accepted resulting in the conclusion that there is a significant essence of setbacks in developmental projects in Anambra Capital Territory.

Okapla et al. (2025) studied bluff erosion of Lake Superior at Madison-Wisconsin using both experimental and field survey methods. Considering the reasons for setback requirements, he stated that Lake Superior bluff shorelines have been eroding for thousands of years and will continue to do so. Because the erosion is often episodic, land owners may not observe bluff recession over periods of a few years. There may be periods of ten or more years with little or no erosion followed by several years of rapid erosion. To protect a structure from this erosion and resulting bluff retreat, it is necessary to have sufficient building setbacks to account for this continuing process. This will minimize the future chances of a building having to be moved or even destroyed because of an unsafe location at the top of the bluff (Nwamekwe & Igbokwe, 2025; Okpala et al., 2024).

Nwamekwe and Chikwendu, (2025) assessed the impacts of on-street parking on commercial activities in Auchi and identified the characteristic of on-street parking which are noted to be the nature of parking which affects the street based on the nature of the environment. He observes that in developed countries like Europe and America, majority of the vehicle owners in a commercial area parked their cars in accordance with the parking principles and guideline. This is because there are provisions of parking space that are enough for both the users of the spaces and those residing within the area. This was as a result of planning with the inclusion of parking facilities to discourage any obstruction on the streets. The various characteristics that are linked with street parking are advantageous due to monitoring and control of street parking in the developed nations of the world. In the African context, the nature of street parking is different from the way it is in developed nations as non- compliance with the parking lots provisions abounds. In some areas within the continent, roads are being constructed without provision of or adherence to any setback, walkways, and other necessary components of the road (Nwameke et al., 2025).

In the work of Onyeka et al, (2025) on Parking Management for policy makers in developing cities, he noted that the construction of new roads, the expansion of existing roads, the building of parking lot requires the acquisition of part of the exchange space. The more space allocated to transport, the greater the requirement for more traffic space. According to him automobile has an insatiable appetite for space, it uses space at home, at work, shopping and even when some spaces are empty, they are tied up or reserved for the automobile. Automobiles do not only have exclusive space for moving, they also have a" zone of influence" which expands as the speed and quantity of traffic increases, thus reducing the effectiveness of exchange space and the level of interaction. Nwamekwe et al, (2025) studied cost of getting to work in New York City noted that private Meanwhile, on-street parking in most cases results into chaotic traffic due to parked cars along the road and this has led to large amount of traffic circulating looking for a parking space, thus contributing to congestion and pollution.

Nwamekwe et al, (2025) assessed the level of public compliance to space standards for urban development in Lagos State using field survey (questionnaire survey and interview methods). He found that from evidence on ground many parts of the state is besieged with the issue of none observance of set environmental development policies and laws, some of the common contraventions identified include: Encroachment on public rights of way and open spaces, Buildings spring up under high-tension lines with their roofs a few metres below the lines, General violation of urban and regional planning laws in most states of the federation and construction of properties on public utility setback. He stated that this occurrence has caused the purpose of establishing these laws and policies which is sustainable development to be partially defeated or relegated to the background. Nwamekwe and Chikwndu, (2025), studied the challenges of on-street parking in Nigerian cities' transportation routes using questionnaire survey method. They observed categories of space in urban centres to include exchange space and movement space, which related to motor park, interchange point, etc. As city transportation system expands, it takes up more spaces. They also noted that one of the major goals of transportation planning, especially in the provision of adequate road infrastructures, walkways, setbacks, etc; is to ease the movement of passengers and goods on urban roads. There is therefore need for extensive walkways and setbacks in the design of any road network as there may be need for expansion with time Igbokwe et al, (2025) assessed on-street parking in Lokoja Nigeria, using questionnaire survey and field observation methods. In his findings he stated that in most of the cities in developing countries the planning of road networks lacks the provision of the entire basic infrastructure to be provided for the safe and orderly movement of vehicles. An ideal road network should have exclusive lanes to segregate fast moving and slow-moving vehicles, cycle lanes, exclusive bus bay, service lanes and extensive walkways and setbacks. When all these are not strictly adhered to, there is bound to be problems with time like road failure, traffic congestion, accidents and subsequent loss of lives and property through demolition processes in the bid to expand the existing roads.

CONCLUSION

Based on the findings, the following conclusions were drawn: there is massive incidence of non-compliance with road setbacks in ACT and the major causes of it are the corruption of planning authority and failure of law enforcement agents. Due to the low level of compliance to the ACTDA standard, it is also concluded that there is high rate of non-compliance with road setbacks in siting of structures in ACT.

The Built environment in Nigerian cities was on the available spaces on land not in the air, if those illegal structures are built in discriminately on available spaces by the landowners and developers. Where were planning authorities and law enforcement agents then? Were they not the same people that allowed them abolition to encroach into the road setbacks and were they not the same that demolish those illegal structures in the same urban areas? It is therefore noteworthy that the corruptions among planning authorities and failure of law enforcement agents are the brain behind the causes and environmental implications respectively on non-compliance with roads setbacks in the siting of structures in a given urban environment. Why cannot you comply fully with road setback regulations and enjoy with your future generations hence sustainable development.

REFERENCES

Chidiebube, I. N., Nwamekwe, C. O., Chukwuemeka, G. H., & Wilfred, M. (2025). Optimization Of Overall Equipment Effectiveness Factors In A Food Manufacturing

Small And Medium Enterprise. Journal Of Research In Engineering And Applied Sciences, 10(1), 836-845.

Emeka, U. C., Okpala, C., & Nwamekwe, C. O. (2025). Circular Economy Principles'implementation In Electronics Manufacturing: Waste Reduction Strategies In Chemical Management. International Journal Of Industrial And Production Engineering, 3(2), 29-42.

Ezeanyim, O. C., Ewuzie, N. V., Aguh, P. S., Nwabueze, C. V., And Nwamekwe, C. O. (2025). Effective Maintenance Of Industrial 5-Stage Compressor: A Machine Learning Approach. Gazi University Journal Of Science Part A: Engineering And Innovation, 12(1), 96-118. Https://Dergipark.Org.Tr/En/Pub/Gujsa/Issue/90827/1646993

Ezeanyim, O. C., Nwabunwanne, E. C., Igbokwe, N. C., & Nwamekwe, C. O. (2025). Patient Flow And Service Efficiency In Public Hospitals: Data-Driven Approaches, Strategies, Challenges, And Future Directions. Journal Health Of Indonesian, 3(02), 104-124. Https://Doi.Org/10.58471/Health.V3i02.228

Igbokwe, N. C., Christiana, C., Nweke, C. O. N., & Onyeka, C. (2025). Data-Driven Solutions For Shuttle Bus Travel Time Prediction: Machine Learning Model Evaluation At Nnamdi Azikiwe University. African Journal Of Computing, Data Science And Informatics (Ajcdsi), 1(1), 31-55.

Igbokwe, N. C., Emmanuel, U. N., & Nwamekwe, C. O. (2025). Advances In Post-Harvest Fish Processing: An Appraisal Of Traditional And Modern Smoking Techniques For Improved Quality And Efficiency. Jurnal Integrasi Dan Harmoni Inovatif Ilmu-Ilmu Sosial 5 (9):1-13. Https://Philpapers.Org/Rec/Igbaip

Igbokwe, N. C., Okeagu, F. N., Onyeka, N. C., Onwuliri, J. B., & Godfrey, O. C. (2024). Machine Learning-Driven Maintenance Cost Optimization: Insights From A Local Industrial Compressor Case Study. Jurnal Inovasi Teknologi Dan Edukasi Teknik, 4(11), 2.

Nkemakonam Chidiebube Igbokwe, Charles Onyeka Nwamekwe, Patrick Sunday Aguh. Predictive Modeling Of Manufacturing Defects Using Machine Learning: A Comparative Performance Study In A Manufacturing Sme. African Journal Of Advances In Engineering And Technology (Ajaet), 2025, 01 (02), Pp.93-115. ⟨10.31920/2978-3224/2025/V1n2a5⟩. ⟨Hal-05377373⟩

Nwamekwe C. O., And Nwabunwanne E. C. (2025). Circular Economy And Zero-Energy Factories: A Synergistic Approach To Sustainable Manufacturing. Journal Of Research In Engineering And Applied Sciences (Jreas), 10(1), 829-835. Https://Qtanalytics.In/Journals/Index.Php/Jreas/Article/View/4567

Nwamekwe C. O., Ewuzie Nnamdi Vitalis, Igbokwe Nkemakonam Chidiebube, & Nwabueze Chibuzo Victoria. (2025). Evaluating Advances In Machine Learning Algorithms For Predicting And Preventing Maternal And Foetal Mortality In Nigerian Healthcare: A Systematic Approach. International Journal Of Industrial And Production Engineering, 3(1), 1-15. Https://Journals.Unizik.Edu.Ng/Ijipe/Article/View/5161

Nwamekwe C. O., Ezeanyim O. C., And Igbokwe N. C. (2025). Resilient Supply Chain Engineering in the Era of Disruption: An Appraisal. International Journal of Innovative Engineering, Technology and Science (Ijiets), 9(1), 11-23. Https://Hal.Science/Hal-05061524/

Nwamekwe, C. O., & Chikwendu, O. C. (2025). Circular Economy Strategies in Industrial Engineering: From Theory to Practice. International Journal of Multidisciplinary

Research and Growth Evaluation, 6(1): 1773-1782. Https://Www.Allmultidisciplinaryjournal.Com/Uploads/Archives/20250212103754_Mge-2025-1-288.1.Pdf

Nwamekwe, C. O., & Chikwendu, O. C. (2025). Machine Learning-Augmented Digital Twin Systems for Predictive Maintenance in Highspeed Rail Networks. International Journal of Multidisciplinary Research and Growth Evaluation, 6(1), 1783-1795. Https://Www.Allmultidisciplinaryjournal.Com/Uploads/Archives/20250212104201_Mge-2025-1-306.1.Pdf

Nwamekwe, C. O., & Nwabunwanne, E. C. (2025). Immersive Digital Twin Integration in Metaverse For Supply Chain Resilience and Disruption Management. Journal Of Engineering Research and Applied Science, 14(1), 95-105.

Nwamekwe, C. O., And Igbokwe, N. C. (2024). Supply Chain Risk Management: Leveraging AI for Risk Identification, Mitigation, And Resilience Planning. International Journal of Industrial Engineering, Technology & Operations Management, 2(2), 41–51. Https://Doi.Org/10.62157/Ijietom.V2i2.38

Nwamekwe, C. O., Chidiebube, I. N., Godfrey, O. C., Celestine, N. E., & Sunday, A. P. (2025). Resilience And Risk Management in Social Robot Systems: An Industrial Engineering Perspective. Culture Education and Technology Research (Cetera), 2(2), 1-12.

Nwamekwe, C. O., Chidiebube, I. N., Godfrey, O. C., Celestine, N. E., & Aguh, P. S. (2025). Human-Robot Collaboration In Industrial Engineering: Enhancing Productivity and Safety. Journal Of Industrial Engineering & Management Research, 6(5), 1-20.

Nwamekwe, C. O., Chinwuko, C. E. & Mgbemena, C. E. (2020). Development And Implementation of a Computerised Production Planning and Control System. Unizik Journal of Engineering and Applied Sciences, 17(1), 168-187. Https://Journals.Unizik.Edu.Ng/Ujeas/Article/View/1771

Nwamekwe, C. O., Ewuzie, N. V., Okpala, C. C., Ezeanyim, C., Nwabueze, C. V., Nwabunwanne, E. C. (2025). Optimizing Machine Learning Models for Soil Fertility Analysis: Insights from Feature Engineering and Data Localization. Gazi University Journal of Science Part A: Engineering and Innovation, 12(1), 36-60. Https://Dergipark.Org.Tr/En/Pub/Gujsa/Issue/90827/1605587

Nwamekwe, C. O., Ewuzie, N.V., Igbokwe, N. C., Nwabunwanne, E. C., & Ono, C. G. (2025). Digital Twin-Driven Lean Manufacturing: Optimizing Value Stream Flow. Letters In Information Technology Education (Lite), 8 (1), Pp.1-13. Https://Hal.Science/Hal-05127340/

Nwamekwe, C. O., Okpala, C. C., & Nwabunwanne, E. C. (2025). Design Principles and Challenges in Achieving Zero-Energy Manufacturing Facilities. Journal Of Engineering Research and Applied Science, 14(1), 1-21.

Nwamekwe, C. O., Okpala, C. C., And Okpala, S. C., (2024). Machine Learning-Based Prediction Algorithms for the Mitigation of Maternal and Fetal Mortality in the Nigerian Tertiary Hospitals. International Journal Of Engineering Inventions, 13(7), Pp: 132-138. Https://Www.Ijeijournal.Com/Papers/Vol13-Issue7/1307132138.Pdf

Nwamekwe, C., Ewuzie, N., Igbokwe, N., Okpala, C., & U-Dominic, C. (2024). Sustainable Manufacturing Practices In Nigeria: Optimization and Implementation Appraisal. Journal Of Research In Engineering and Applied Sciences, 9(3). Https://Qtanalytics.In/Journals/Index.Php/Jreas/Article/View/3967

Okafor, B.N (2018). Compliance With Road Setbacks Standards in Siting of Structures in Awka Capital Territory: Implications For Environmental Management. Unpublished Postgraduate PhD Research in Environmental Management: Submitted To The Department of Environmental Management, Faculty of Environment Sciences, Nau Awka Nigeria.

Okeagu, F., Nwamekwe, C., & Nnamani, B. (2024). Challenges and Solutions of Industrial Development In Anambra State, Nigeria. Iconic Research and Engineering Journals, 7(11), 467-472. Https://Www.Irejournals.Com/Formatedpaper/1705825.Pdf

Okpala C. C., Chukwudi Emeka Udu, & Charles Onyeka Nwamekwe. (2025). Sustainable Hvac Project Management: Strategies for Green Building Certification. International Journal of Industrial and Production Engineering, 3(2), 14-28. Https://Journals.Unizik.Edu.Ng/Ijipe/Article/View/5595.

Okpala, C. C., Ezeanyim, O. C., & Nwamekwe, C. O. (2024). The Implementation of Kaizen Principles in Manufacturing Processes: A Pathway to Continuous Improvement. International Journal of Engineering Inventions, 13(7), 116-124. Https://Www.Ijeijournal.Com/Papers/Vol13-Issue7/1307116124.Pdf

Okpala, C. C., Udu, C. E., & Nwamekwe, C. O. (2025). Artificial Intelligence-Driven Total Productive Maintenance: The Future of Maintenance in Smart Factories. International Journal of Engineering Research and Development (IJERD), (21)1, 68-74. Https://Www.Ijerd.Com/Paper/Vol21-Issue1/21016874.Pdf

Okpala, C. C., Udu, C. E., & Nwamekwe, C. O. (2025). Sustainable Hvac Project Management: Strategies for Green Building Certification. International Journal of Industrial and Production Engineering, 3(2), 14-28. Https://Journals.Unizik.Edu.Ng/Ijipe/Article/View/5595

Onyeka, N. C., Vitalis, E. N., Chidiebube, I. N., U-Dominic, C. M., & Chibuzo, N. (2024). Adoption Of Smart Factories in Nigeria: Problems, Obstacles, Remedies and Opportunities. International Journal of Industrial And Production Engineering, 2(2), 68-81. Https://Journals.Unizik.Edu.Ng/Ijipe/Article/View/4167

U-Dominic, C. M., Orji, I. J., Nkemakonam, C. I., Onyeka, N. C., & Nwufo, M. A. (2025). A Decision Methodology for Six-Sigma Implementation in the Nigerian Small and Medium Scale Enterprise (Sme). Unizik Journal of Technology, Production and Mechanical Systems, 5(1), 186-202.

Vitalis, E. N., Nwamekwe, C. O., Chidiebube, I. N., Chibuzo, N., Nwabunwanne, E. C., & Ono, C. G. (2024). Application Of Machine-Learning-Based Hybrid Algorithm for Production Forecast in Textile Company. Jurnal Inovasi Teknologi Dan Edukasi Teknik, 4(12), 1-9.