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Indonesian Bus Stations: Mixed-Use, Government Capital Funding, and Its Determinants and Impact

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ABSTRACT
The main issues of this research are the determinants and impact of the government capital funding on mixed-use bus station. These issues raise research objectives about the definition of mixed-use bus station, the determinants of government capital funding on bus station, and its impact to bus station production. To achieve the objectives, two methods are employed. The first is the description method that applies Cartesian Diagram to define mixed-use bus station. The second is the association methods that applies the government capital funding determinants and impact econometric models. The variables for the first method are passengers and buses arrived at and departed from monitored bus station during 2023 Eid Al-Fitr holidays, while the variables for the second method are government capital funding on bus station, bus station production, bus station usage partnership, type of bus station, and local economy. The results show that twenty-four bus stations are mixed-use bus station, the determinants of government capital funding are mixed-use type and bus station usage partnership, and the impact of government capital funding is bus station production that is suffered by local economy.

INTRODUCTION

Indonesian government has spent funding to rehabilitate, renovate, and build the attractive bus stations. The purpose is to strengthen connectivity among Indonesian places. Road connectivity to Indonesian borders, tourism places, and cities are easier to reach if a comfortable bus station is available.

On the other hand, this development raises issues regarding to the mixed-use bus station as an alternative for the usual bus station development. The new perspective means that bus station does not only serve as a node for passengers' land transportation but also has a business function and supports local economy. Furthermore, this development opens an opportunity for the bus station to contribute to the government non-tax revenue.

However, limited studies discussed the meaning of the mixed-use bus station, funding, and its impact to bus station. To the best of our knowledge, no Indonesian government decree that regulate the mixed-use bus station. The Indonesian Ministry of Transportation decree number 132/2015 states that the type A bus station is managed by the central government through the ministry of transportation. Meanwhile, the decree number 109/ 2019 and 150/2020 determine the type A bus station throughout Indonesia. In addition, only two studies discussed Indonesian mixed-use bus station. Oktayasa S and Zetha Rahman [1] studies issues and potential of the Type A bus station to be developed as a mixed-use bus station and Rustiandi, Permana, and Haq [2] studies architecture design of a mixed-use bus station.

It is very essential to study the meaning of the mixed-use bus station, government funding on bus station, and its relationship to bus station production. The study can differentiate the mixed-use from the usual bus station and explain the relationship among bus station mixed-use pattern, government funding, and production. Moreover, some alternatives can be offered to develop the mixed-use bus station. Therefore, the purpose of this study is to define the mixed-use bus station, determine factors affecting government funding on bus station, and the impact of the funding.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Mixed-use construction is familiar in the infrastructure development. The reason is local participations increasing such as local regulations supporting, local financing availability, and local market interest [3]–[5]. Other things that support mixed-use infrastructure is the world expectation [6], [7]. Furthermore, it is characterized by sustainable, green, transit-oriented development, efficient, and has bilevel impact [8]–[11].

Bus station also develops a mixed-use orientation. The reason is supporting transportation and mobility [12] and concerning to attractiveness [13]. The essential things for the mixed-use bus station are potential, location, design, and macroeconomic impact. [1], [2], [14]–[21].

Another discussion is funding and financing problem. Funding problem is caused by expensive cost of mixed-use construction [22]. The funding problem is solved by government or partnership funding [23]–[27]. The funding decision is determined by internal factors such as infrastructure user, width, budget, and efficiency [28], [29] and infrastructure monitoring, and e-government availability [30], [31]

The financing problem is the problem to finance the mixed-use bus station funding. All of funding should be covered and returned. This is can be done by innovative and creative financing [24], [25].

Focusing on government capital funding on the mixed-use bus station, three important questions are raised. They are the mixed-use bus station definition, determinants of government capital funding, and the impact of government capital funding. To answer the questions, three conceptual frameworks are built.

The Definition of the Mixed-use Bus Station

There is no clear definition of the mixed-use bus station. The definition is very essential as a base to differentiate from the usual one and to fund the bus station development. The number of arrival-departure passenger and bus can be used to define the mixed-use bus station. The reason is arrival-departure passenger and bus are recognized by

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Indonesian government as bus station production and output. Another reason is to strengthen previous studies that characterize mixed-use bus station based on potential and impact. [1], [20], [21]. Imposing Cartesian Diagram into the number of passenger and bus provides bus station grouping where the first quadrant is a mixed-use bus station.

The Determinants of Government Capital Funding

Two reasons are behind the hypotheses of the determinants of government capital funding on the mixed-use bus station development. The first is the funding is government capital funding to renovate, rehabilitate, and build a mixed-use bus station. The second is internal factors as determinants [28], [29]. However, it is the mixed-use bus station internal factors that consist of its width, mixed-use type, and partnership pattern. Therefore, the hypotheses are bus station width, mixed-use type, and partnership pattern positively influence government capital funding.

The Impact of Government Capital Funding

Several studies discuss the impact of government capital funding. They explain bilevel impact and macroeconomic impact caused by transportation infrastructure development. [20], [21], [32]. The mixed-use bus station potential [1] in term of its production can be an alternative to explain the impact of government capital funding. In addition, macroeconomy can be placed as another factor that affects the mixed-use bus station production. Therefore, the hypotheses are government capital funding and local economy has a positive impact to the mixed-use bus station production.

RESEARCH METHODS

The method in this research was the description and association methods. The description method was used to define the mixed-use bus stations and the association model was to build econometric models that showed factors affecting government funding on bus station and factors that affecting bus station production.

The description method applied Cartesian Diagram approach. Bus stations that involved in the first quadrant of the Diagram were defined as mixed-use bus stations. The first quadrant was quadrant that showed a higher-than-average value on the horizontal and vertical axes of the diagram (See Figure 1).

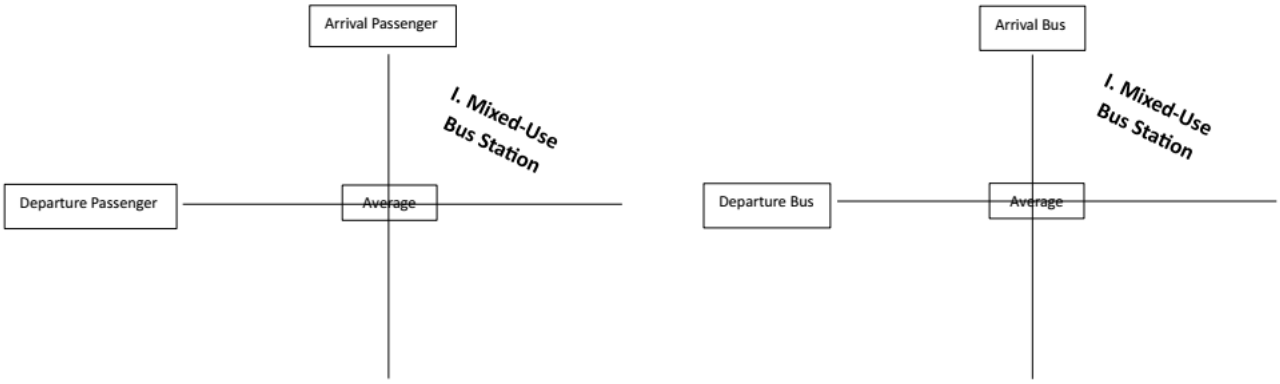

Figure 1. Cartesian Diagram on Passenger and Bus Arrival and Departure

Two Cartesian Diagrams were applied. The first was the Cartesian Diagram on arrival and departure passenger. The second was the Cartesian Diagram on arrival and departure bus. The mixed-use bus stations were bus stations that listed in the first quadrant of arrival-departure passenger and bus Cartesian Diagram.

The Cartesian Diagram applied fourth stages. The first was calculating the arrival and departure passenger and bus average scores. The second was calculating the bus station relative score by subtraction between the existing and average scores. The third was grouping bus stations based on the relative score. The fourth was defining as mixed-use all bus stations that was grouped in the first quadrant.

The operational variables for this method were passengers and buses arrived at and departed

from monitored bus station during 2023 *Eid Al-fitr* holidays. The data was available on the Sistem Informasi Angkutan dan Sarana Transportasi of Indonesian Ministry of Transportation (Siasati) at https://siasati.dephub.go.id/.

The association method consisted of two econometrics models. The first was the government capital funding on bus station model. The second was bus station production model. The equations were

$$LnY_1 = \alpha_0 + \alpha_1 LnX_1 + \alpha_2 X_2 + \alpha_3 X_3 + m \quad (1)$$
$$LnY_2 = \alpha_6 + \alpha_4 LnX_4 + \alpha_5 LnX_5 + e \quad (2)$$

Where Y_1 and X_4 is government capital funding on bus station, Y_2 is bus station production, X_1 is bus station width, X_2 is bus station usage partnership, X_3 is type of bus station, X_5 is local economy, αs were constant and coefficients, m is the error disturbance of the first equation, e is the error disturbance of the second equation, Ln is the natural logarithm transformation. The operational variables and data sources can be shown in Table 1.

Table 1
Variables, Symbol, Operating Variables, Unit, and Data

Variables and Symbol	Operating Variables	Unit	Data Source
Variables and Symbol	Operating Variables	Unit	Data Source
Government Capital Funding on Bus Station (Y1 or X4)	Governmental Funding on Bus Station Building, Revitalization, and Rehabilitation from 2017 until 2022	Rupiah	OpenTender.net (https://opentender.net/).
Y2 (Bus Station Production)	Number of Arrival Passenger during 2022 Iad Al-Fitr holidays	People	Sistem Informasi Angkutan dan Transportasi Indonesia (Siasati: https://siasati.dephub.go.id/).
X1 (Bus Station Width)	2022 Bus Station Width	Meter per square	Lampiran F.8 – Terminal Yang Statusnya sudah BMN, Laporan Keuangan Kementerian Perhubungan tahun 2022.
X2 (Bus Station Usage Partnership)	Categorical data of Bus Station Usage Partnership	0: No Partnership, 1: Rent, 2: Other partnership	Lampiran F.8 – Terminal Yang Statusnya sudah BMN, Laporan Keuangan Kementerian Perhubungan tahun 2022.
Bus Station Type (X3)	Dummy variable of Bus Station type	0: Usual type, 1: Mixed-use type	Lampiran F.8 – Terminal Yang Statusnya sudah BMN, Laporan Keuangan Kementerian Perhubungan tahun 2022.

This method involved some tests to ensure that the models are the appropriate models. The tests were the normality, multicollinearity, heteroskedasticity, and best specification tests. The normality test was by the Jarque-Bera test, the multicollinearity test was by the Variance Inflation Factor (VIF) test, the heteroscedasticity test was by the Breusch-Pagan test, and the best specification test was by the Ramsey RESET test. Failure in a test is resolved with a remedial measure.

RESULTS AND DISCUSSION

The first quadrant of Cartesian Diagrams on passenger and bus arrival-departure shows that Indonesian long-distance bus stations are colored by mixed-use bus stations. There are 24 bus stations that their passenger and bus arrival-departure are higher than average passenger and bus arrival-departure and categorized as mixed-use bus stations (See Table 2). The Indonesian mixed-use bus station confirms conceptual framework of mixed-use bus station such as combination of mobility and attractiveness [12], [13] and passenger as potential elements of mixed-use bus station. [1]

Table 2
Indonesian Mixed-Use Bus Stations

Provincial BPTD	Bus Stations Name
Banten Second Class BPTD	Merak and Pakupatan
West Java second class BPTD	Guntur Melati
Central Java second class BPTD	Bawen, Giri Adipura, Ir. Soekarno, Jati, Kebumen, Purwokerto, Tidar, Tingkir, and Tirtonadi
Jogyakarta third class BPTD	Giwangan
East Java second class BPTD	Arjosari, Banyuangga, Gayatri, Kambang Putih, Kertonegoro, Patria, Purabaya, Purboyo, Selo Aji, and Tamanan
South Kalimantan second class BPTD	Gambut Barakat

BPTD: Balai Pengelola Transportasi Darat

The econometric models passed all tests, except the data distribution test. The models do not face multicollinearity, heteroskedasticity, and miss-specification problems, but encounter the abnormal data distribution. The Jarque-Bera test shows that the p-value of the Jarque-Bera scores for the two models are lower than 0.05. A remedial measure should be run to solve the problem.

The remedial measure removes the outlier data from the model. The data decreases from 64 to 53 bus stations. After the second remedial measure, the second model have no outlier data. However, the first model provides the p-value that is still lower than 0.05. Fortunately, this model provides more significant independent variables (See Table 3 and

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4). Therefore, the best first model is the after second remedial measure model and the best second model is the after first remedial measure model.

The coefficients of determination are relatively small. The coefficient for the first model is around 0.19, whilst for the second model is 0.15. However, these coefficients do not indicate any problem in the model as indicated by the categorical type of data (Table 1) and increasing coefficients of determination after remedial measures (Table 4).

Table 3
The p-Value of the Jarque-Bera Coefficient

Models	p-Value of the Jarque-Bera Test		
	Remedial Measure		
	Before	First	Second
First Model (Dependent variable: Government Funding on Bus Station)	0.0128	0.0618*	
Second Model (Dependent variable: Bus Station Production)	0,0230	0,0373	0,0337

***Data distribution is significantly normal**

The after second remedial measure of the first model shows that the determinants of the capital funding on bus station are significantly the bus station usage partnership and the mixed-use type. The higher the bus station partnership pattern, the higher is the capital funding. In addition, the government capital funding for the mixed-use bus station is more expensive than the usual bus station (See Table 4).

This result confirms two essential things. The first is the government capital funding to renovate, rehabilitate, and build a mixed-use bus station confirms studies about the government funding on mixed-use bus station [23], [26]. The second is the significant of the mixed-use type and partnership pattern confirm internal factors [28], [29].

The first remedial measure of the second model explains that bus station production is affected significantly by the government bus station capital financing and local economy. One percent bus station capital financing increasing causes 0.23 percent increasing in bus station production. While one percent increasing in local economy, causes 0.71 percent decreasing in bus station production (See Table 4).

These results offer a different perspective from previous studies. The result that the government capital funding has an internal impact is different from bilevel and macroeconomic impacts [20], [21], [32]. The result about the role of local economy places macroeconomy as the independent variable together with the government capital funding. This result is different from previous study that place macroeconomy as the dependent variable [20], [21].

Table 4
First and Second Econometric Models

Variables		Coefficient, Standard Error, and Significancy	Before Remedial Measure Equation	After First Remedial Measure Equation	After Second Remedial Measure Equation
Dependent	Independent				
LnY1 (Government Expenditure on Bus Station)	Constant	Coefficient	22.42	20.89	21.10
		Standard error	1.55	1.65	1.61
		t value	14.51*	12.59*	13.09*
	LnX1 (Bus Station Width)	Coefficient	0.04	0.18	0.15
		Standard error	0.16	0.17	0.17
		t value	0.25	1.03	0.89
	X2 (Usage Partnership)	Coefficient	0.08	0.30	0.35
		Standard error	0.22	0.21	0.20
		t value	0.37	1.43	1.7***
	X3 (Mixed-use Type)	Coefficient	0.92	0.80	0.88
		Standard error	0.43	0.40	0.39
		t value	2.15**	2.01***	2.26**
	Coefficient of Determination		0.11	0.22	0.25
	Observed Object		62	54	53
LnY2 (Bus Station Production)	Constant	Coefficient	7.00	6.36	
		Standard error	3.09	2.96	
		t value	2.26**	2.32**	
	LnX4 (Government Expenditure on Bus Station)	Coefficient	0.22	0.23	
		Standard error	0.13	0.12	
		t value	1.71*	1.92***	
	LnX5 (Local Economy)	Coefficient	-0.68	-0,71	
		Standard error	0.29	0.25	
		t value	-2.36**	-2.80***	
	Coefficient of Determination		0.12	0.18	
	Observed Object		62	54	

All results indicates that a mixed-use bus station has a big opportunity to develop their business sides that support the transportation focus. The opportunity is rent and non-rent bus station usage partnership that is formed in the mixed-use type of bus station. Government capital funding on the mixed-use bus station realizes the opportunity by rehabilitates and revitalizes bus station into interesting buildings.

However, the mixed-use bus station raises a new challenge and problem. The mixed-use bus station successfully attracts more passengers, but does not successfully attract local economy and business. It means that mixed-use bus station needs smart efforts to increase local economy activities in the mixed-use bus stations.

Assuming the relationship from mixed-use, government capital funding, and bus

station production, the base for the efforts is Fisher Separation on the funding and financing. Government provides a capital funding for the mixed-use bus station development. Including in this effort is managing and monitoring the capital funding (See blue boxes of Figure 2 for the assumption and upper right of Figure 2 for funding side).

In the other side, the mixed-use bus station finances the capital funding. The mixed-use bus station creates creative financing to attract businesses and investors in the form of partnership pattern. This effort is also in order the partnership has a positive impact to the local economy and mixed-use bus station production (See bottom side of Figure 2).

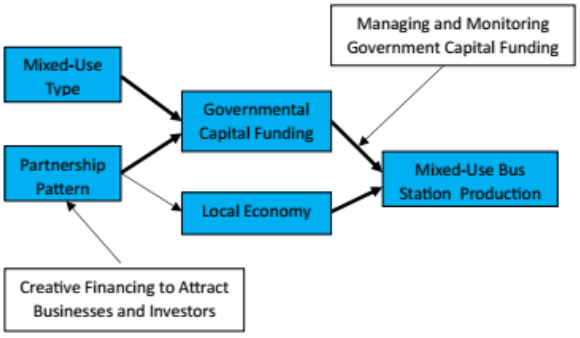

Figure 2
Fisher Separation Model to Face Mixed-Use Bus Station Challenge and Problem

Utilizing online system in these efforts are essential. For example, the mixed-use bus station develops the Creative Financing Online System to attract businesses and investors. The online system provides business and investments opportunities and regulation information that can be accessed easily by local businesses and investors.

CONCLUSION

Some Indonesian bus stations are mixed-use bus stations that concern to land transportation and non-transportation activities especially business activities. The government capital funding challenges and attracts them do business partnership and to increase the bus station production. However, they are suffered by the unsupported local economy.

To solve the problem, it is recommended to apply Fisher Separation model based on online system. The central government and BPTD can manage and monitor in the real time that government capital funding and other fundings increase bus station production. In the other side, the mixed-use bus station management provides accessible essential information that can attract local businesses and investors.

Some studies should be done to support the Fisher Separation application. They are the role of Indonesian cooperation to strength creative financing, the role of BPTD to manage and monitor capital, human capital, and non-capital funding, and the role of the Creative Financing System to support creative financing, government funding, and Fisher Separation application.

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REFERENCE

[1] M. Oktayasa S and H. Zetha Rahman, "IDENTIFIKASI POTENSI PENGEMBANGAN KONSEP MIXED USE PADA RENCANA TERMINAL TIPE A SINGKAWANG (Identification Of Potential Development of Mixed Use Concept In Singkawang Type A Terminal Plan)," *J. Artesis*, vol. 1, no. 2, pp. 199–206, 2021.

[2] F. D. P. Rustiandi, A. Y. Permana, and R. M. Al Haq, "Design of Mixed-Use Area in Leuwi Panjang Bus Terminal Based on Transit-Oriented Development (TOD), Bandung City, Indonesia," *J. Dev. Integr. Eng.*, vol. 1, no. 1, pp. 47–57, 2021, [Online]. Available: https://ejournal.upi.edu/index.php/JoDiE/article/view/35857.

[3] J. Metzinger, "Differences in Experiences With the Development of Mixed-Use Projects From 2004 and 2017," *Front. Built Environ.*, vol. 7, Sep. 2021, doi: 10.3389/fbuil.2021.734149.

[4] H. Kong, D. Z. Sui, X. Tong, and X. Wang, "Paths to mixed-use development: A case study of Southern Changping in Beijing, China," *Cities*, vol. 44, pp. 94–103, 2015, doi: 10.1016/j.cities.2015.01.003.

[5] A. V. Vorontsova, V. L. Vorontsova, and D. V. Salimgareev, "The Development of Urban Areas and Spaces with the Mixed Functional Use," in *Procedia Engineering*, 2016, vol. 150, pp. 1996–2000, doi: 10.1016/j.proeng.2016.07.277.

[6] X. Liu *et al.*, "Characterizing mixed-use buildings based on multi-source big data," *Int. J. Geogr. Inf. Sci.*, vol. 32, no. 4, pp. 738–756, 2018, doi: 10.1080/13658816.2017.1410549.

[7] H. Buldeo Rai *et al.*, "'Proximity logistics': Characterizing the development of logistics facilities in dense, mixed-use urban areas around the world," *Transp. Res. Part A Policy Pract.*, vol. 166, pp. 41–61, 2022, doi: 10.1016/j.tra.2022.10.007.

[8] J. P. Batchelor, D. Biancavilla, I. Hegemann, and C. D. Woodbury, "Green infrastructure and transit-oriented mixed use development: The Alewife area of Cambridge, Massachusetts," *J. Green Build.*, vol. 11, no. 1, pp. 1–22, 2016, doi: 10.3992/jgb.11.1.1.1.

[9] S. F. Salami, A. D. Isah, and I. B. Muhammad, "Critical indicators of sustainability for mixed-use buildings in Lagos, Nigeria," *Environ. Sustain. Indic.*, vol. 9, p. 100101, Feb. 2021, doi: 10.1016/j.indic.2021.100101.

[10] H. E. Ilgın, "A study on space efficiency in contemporary supertall mixed-use buildings," *J. Build. Eng.*, vol. 69, 2023, doi: 10.1016/j.jobe.2023.106223.

[11] P. L. Ginny, "Analisis Strategi Bersaing Perusahaan Yang Bergerak Dibidang Logistik Di Jakarta," *Primanomics J. Ekon. Bisnis*, vol. 17, no. 2, p. 107, 2019, doi: 10.31253/pe.v17i2.172.

[12] J. L. Anta Félez, "Movilidad, sujeto y práctica social. Observaciones en una estación de autobuses," *Disparidades. Rev. Antropol.*, vol. 76, no. 1, p. e011, Jul. 2021, doi: 10.3989/dra.2021.011.

[13] N. C. Hacini, "Bus Stations in Annaba between Mobility and Attractiveness," *Civ. Eng. Archit.*, vol. 10, no. 3, pp. 1201–1211, May 2022, doi: 10.13189/cea.2022.100335.

[14] M. H. Zamanian and F. Peiravian, "Multi-Step Heuristic Method for Bus Terminal Location Problem," *Transp. Res. Rec. J. Transp. Res. Board*, vol. 2673, no. 10, pp. 361–369, Oct. 2019, doi: 10.1177/0361198119849402.

[15] T. I. Hutasuhut, "Perancangan Terminal dalam Kawasan Pembangunan Berorientasi Transit: Studi Kasus Terminal Pinang Baris Medan," *J. Arch.*, vol. 3, no. 5, pp. 15–23, 2016.

[16] T.-K. Kim and W.-H. Yang, "The Necessity and Feasibility for the Mixed-use Development of Bus Depots in Urban Residential Area," *J. Korean Hous. Assoc.*, vol. 24, no. 6, pp. 81–92, Dec. 2013, doi: 10.6107/JKHA.2013.24.6.081.

[17] B. E. T. Yeoh, R. Powell, and C. Kusumo, "Revitalising an Urban Centre: Reviving Klang Bus Terminal as a Centrifugal Force in Central Klang," *nternational Trans. J. Eng.*, vol. 10, no. 13, pp. 1–13, 2019,

[Online]. Available: https://tuengr.com/V10A/10A13A.pdf.

[18] C. Li, "Landscape design of the urban bus station based on the urban characteristics and ecological environment of Smart City, China," *Fresenius Environ. Bull.*, vol. 29, no. 4, pp. 3300–3307, 2020.

[19] I. Makarova, K. Shubenkova, and L. Gabsalikhova, "Analysis of the city transport system's development strategy design principles with account of risks and specific features of spatial development," *Transport Problems*, vol. 12, no. 1. pp. 125–138, 2017, doi: 10.20858/tp.2017.12.1.12.

[20] E. Kim and Y. N. Samudro, "Reducing Fuel Subsidies and Financing Road Infrastructure in Indonesia: A Financial Computable General Equilibrium Model," *Bull. Indones. Econ. Stud.*, vol. 57, no. 1, pp. 111–133, 2021, doi: 10.1080/00074918.2019.1643824.

[21] J. Y. Kim, "Reducing Fuel Subsidies and Financing Road Infrastructure in Indonesia: A Financial Computable General Equilibrium Model," *J. Korean Soc. Surv. Geod. Photogramm. Cartogr.*, vol. 38, no. 5, pp. 455–465, 2020, doi: 10.7848/ksgpc.2020.38.5.455.

[22] H. J. Kim, Y. C. Seo, and C. T. Hyun, "A hybrid conceptual cost estimating model for large building projects," *Autom. Constr.*, vol. 25, pp. 72–81, 2012, doi: 10.1016/j.autcon.2012.04.006.

[23] J. Beecher, "Funding and Financing to Sustain Public Infrastructure: Why Choices Matter," *SSRN Electron. J.*, 2021, doi: 10.2139/ssrn.3766953.

[24] T. Kapesa, G. Mugano, and H. Fourie, "Innovative financing of public infrastructure in Zimbabwe: Status vs. potential," *Invest. Manag. Financ. Innov.*, vol. 19, no. 1, pp. 225–235, 2022, doi: 10.21511/imfi.19(1).2022.17.

[25] Y. Geva and M. Siemiatycki, "Finding Mutual Benefit in Urban Development: Lessons From Toronto's Creative Mixed-Use Real Estate Partnerships," *J. Am. Plan. Assoc.*, 2023, doi: 10.1080/01944363.2023.2170908.

[26] R. Huan, R. Tang, and J. Zhang, "Analyze the Problem of Investment and Financing for Building Urban Bus Station," in *CICTP 2012*, Jul. 2012, pp. 1442–1448, doi: 10.1061/9780784412442.147.

[27] Mou-Chung Tseng and Chien-Wen Peng, "Public-Private Partnership Model Used in the Taipei Central Station Project Research," *J. Psychol. Res.*, vol. 8, no. 7, pp. 345–354, Jul. 2018, doi: 10.17265/2159-5542/2018.07.005.

[28] M. L. Delgado Jalon, M. A. Sanchez de Lara, and V. Gelashvili, "Explanatory Factors for Public Transportation Financing Needs in Spain," *J. Adv. Transp.*, vol. 2019, pp. 1–12, Jun. 2019, doi: 10.1155/2019/1837628.

[29] C. Chen, "Maximizing Efficiency in State Infrastructure Finance: The Role of Competition, Citizen Monitoring Capacity, and Institutions," *Am. Rev. Public Adm.*, vol. 48, no. 8, pp. 915–928, 2018, doi: 10.1177/0275074017746755.

[30] P. Afieroho, R. Perkins, X. (Thomas) Zhou, B. Hoanca, and G. Protasel, "Adopting e-government to monitor public infrastructure projects execution in Nigeria: The public perspective," *Heliyon*, vol. 9, no. 8, 2023, doi: 10.1016/j.heliyon.2023.e18552.

[31] P. Adjei-Bamfo, T. Maloreh-Nyamekye, and A. Ahenkan, "The role of e-government in sustainable public procurement in developing countries: A systematic literature review," *Resour. Conserv. Recycl.*, vol. 142, pp. 189–203, 2019, doi: 10.1016/j.resconrec.2018.12.001.

[32] M. Pang, C. Chen, and L. Ma, "Bilevel Mixed Land Use–Transportation Model Based on Urban Road Network Balance," *J. Urban Plan. Dev.*, vol. 147, no. 4, 2021, doi: 10.1061/(asce)up.1943-5444.0000736.