European Proceedings of
Social and Behavioural Sciences
EpSBS

www.europeanproceedings.com
e-ISSN: 2357-1330

DOI: 10.15405/epsbs.2023.11.02.58

ICMC 2023
The 3rd International Conference on Management and Communication

INFRASTRUCTURE DEVELOPMENT IN MALAYSIA: HOW PLANNING SYSTEM REGULATES LOCAL INFRASTRUCTURE PROVISION?

Dani Salleh (a)*, Noni Harianti Junaiadi (b)
*Corresponding author

(a) Universiti Utara Malaysia, 06010, Sintok, Kedah, Malaysia, dani@uume.du.my
(b) Universiti Teknologi MARA, Sarawak, Malaysia, noniharianti@yahoo.com

Abstract

In Malaysia, due to limited financial resources, local governments can no longer act as the sole providers of local infrastructure. Therefore, the study explores the shift in Malaysia's infrastructure provision, transitioning from public sector dominance to increased private sector involvement. However, as urban growth surged, and with financial constraints evident, there emerged a pressing need for alternative strategies. Currently, infrastructure provision is a joint responsibility between public and private sectors. A consistent challenge has been the non-standardized conditions imposed by local authorities. The findings of the study proposes enhancing the current system by integrating efficient negotiation framework into the planning approval process and diversifying infrastructure delivery methods. Infrastructure delivery methods, such as BOT, PPP, and PFI, are suggested to diversify the approach. The Integrated Planning Approval System could lead to a more equitable infrastructure cost distribution. The role of the private sector in enhancing efficiency in local infrastructure development is becoming more pronounced, offering potential enhancements to community living standards. The paper warns of the current model's shortcomings, which may deplete resources for other vital community needs. Key proposed solutions include leveraging the current planning framework to recuperate costs from beneficiaries, focusing on privatization schemes, and emphasizing policies ensuring efficiency and environmental considerations in infrastructure projects. The ultimate objective is to establish a model balancing efficiency, acceptability, and feasibility in local infrastructure provision. The discussion concludes by suggesting local authorities consider privatization schemes for financial relief and efficiency, emphasizing pricing policies that cover full costs and account for environmental impacts.

Keywords: Infrastructure Provision, Sustainable Local Development and Planning Approval

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

1. Introduction

The New Economic Policy (NEP, 1970-1990) established a well-conceptualized framework for land-use planning in the country, aligning physical development strategies with broader socio-economic goals. Over the past thirty years, Malaysia has seen substantial urban growth. Despite this, cities largely evolved in an ad hoc manner, guided mainly by market forces and economic viability, except for some basic infrastructure provisions in resource-rich areas. During this time, Peninsular Malaysia's urban population swelled to 1.66 million, accounting for 26.5% of the overall population. This surge in urban living led to the creation of local governing bodies to manage the delivery of organized urban services. With the implementation of basic infrastructure, zoning regulations, and intra-city connectivity, urban areas started to exhibit more structured and planned development (see Table 1).

Table 1. Distribution projection of urban population in Peninsular Malaysia, 1911-2020

Year	Total Population	Urban Population	Rural Population	Urban %	Rural %
1911	2,339,000	250,273	2,088,727	10.7	89.3
1921	2,906,691	406,936	2,399,755	14.0	86.0
1931	3,787,758	570,513	3,217,245	15.1	84.9
1947	4,908,086	929,928	3,978,158	18.9	81.1
1957	6,267,955	1,666,969	4,600,986	26.6	73.4
1970	8,819,928	2,662,787	6,157,141	30.2	69.8
1980	11,426,613	4,182,759	7,243,854	36.6	63.4
1991	14,127,556	7,676,486	6,541,070	54.3	45.7
2000	16,884,000	10,838,000	6,046,000	64.2	35.8
2010	20,582,000	14,40 ,700	6,174,300	70.0	30.0
2020*	25,088,000	20,070,400	5,017,600	80.0	20.0

Note: *Projected figures
Source: Federal Department of Town Planning, Malaysia (2019).

2. Infrastructure Provision in Malaysia: A Review

2.1. Introduction

In Malaysia, the responsibility for enhancing and providing infrastructure within the domain of local councils is distributed among multiple ministries, departments, and the local authorities themselves for funding these initiatives (Nong, 1990). Given the constraint of limited resources, it's imperative for local governments to strategically execute their infrastructure projects. This careful planning is essential for fostering targeted urban development and for preventing the allocation of funds to less crucial projects.

2.2. The location of Malaysia

Situated in Southeast Asia, Malaysia spans an area of 329,758 square kilometers and is divided into two primary regions: East Malaysia, which includes Sabah and Sarawak, and West Malaysia, also

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

known as Peninsular Malaysia. The peninsula covers an area of 131,598 square kilometers and is composed of one Federal Territory, Kuala Lumpur, along with 11 states. Sabah and Sarawak, located on the northern part of the Island of Borneo, occupy an area of 198,160 square kilometers and lie more than 650 kilometers east across the South China Sea. As of the year 2000, the country had a total population of 22.2 million and a population density of 65.7 per square kilometer. Of this, 17.8 million people resided in Peninsular Malaysia, where on average, 80 percent of the nation's total population lives. However, generally Peninsular Malaysia is more developed compared with East Malaysia. In terms of distribution of population, Malaysia was a multi-ethnic group with different religions, languages, cultures and social customs. The main ethnic groups are Malays, Chinese, Indians and the indigenous people of Sabah and Sarawak. In percentage, 62 percent of them were Malay1, 27 percent Chinese, 7.6 percent Indian and 3.4 percent are other ethnic (Dani & Asan, 2001).

2.3. Issues in local infrastructure provision

In Malaysia, the swift pace of urbanization has heightened the need for sufficient and effective infrastructure and public amenities. This trend is not unique to Malaysia; globally, the public sector often spearheads the development of key local facilities, ranging from public spaces and roads to dams, water treatment plants, and airports. Ensuring the availability of such infrastructure is critical not just for community well-being but also for local economic development. Traditionally, local authorities in Malaysia have borne the brunt of these infrastructure responsibilities, which has imposed a substantial financial burden on them. To mitigate these financial challenges, there's a pressing need to reform existing practices and explore alternative funding avenues for necessary infrastructure. Under the current planning system, local authorities are expected to be forward-thinking in managing incremental growth within their jurisdictions. Existing legislation empowers these authorities to regulate development and compel private developers to contribute financially and provide necessary facilities before obtaining planning permissions. For example, Section 133 of the Street, Drainage and Building Act 1974 requires developers in certain instances to fund infrastructure elements like sewerage and road improvements (Dani & Asan, 2001).

However, there are pressing questions about the financial feasibility of this model. Given their limited revenue streams, most local authorities find it challenging to finance all the needed urban infrastructure and services. Some even spend more than two-thirds of their annual revenue on repaying loans for sewerage systems. Only a few local authorities have the financial capacity to shoulder such massive infrastructure investments. Another significant issue is maintenance. Any investment in local infrastructure like roads and sewerage systems could be rendered worthless without proper upkeep. For example, poor maintenance has led to the virtual collapse of investments made in sewerage systems in the past. This lack of maintenance not only has adverse effects on public health, as evidenced by the rise in waterborne diseases, but also results in considerable waste, like water leakage from aging reticulation piping systems.

[1] Malay was the major ethnic in Malaysia.

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

In terms of maintenance funding, a study by the Public Works Department showed that less than 1% of the budget is allocated for this crucial area. This amount is clearly insufficient, indicating a systemic neglect of maintenance by local authorities and other governmental agencies. There's an urgent need for more substantial budget allocation for maintenance to ensure the sustainability of infrastructure investments.

2.4. Urbanisation and local infrastructure

As forecasted in the Eighth Malaysia Plan (8MP, 2001-2005), the country was expected to see a significant urbanization rate of 66.9%. However, the data reveals that more developed states, as indicated in Table 2, had urbanization rates ranging from 50% to 100%. On the other hand, less developed states experienced rates between 33% and 50%. Notably, developed states on the west coast of Peninsular Malaysia exceeded the national average, with an urbanization rate of about 77.7%. This higher rate can be attributed to two main factors: the growth of the modern sector in existing urban areas and an increased rate of migration from rural to urban settings. These trends are likely to continue shaping the pace of urbanization in the future. Correspondingly, individual cities and towns in Malaysia are also evolving rapidly, in sync with the national trajectory.

In growing economies, heightened urbanization often places a substantial burden on local infrastructure to keep up with the expansion. As a result, it becomes imperative for local governments to develop effective strategies for providing the necessary infrastructure. The focus at the local level is on planning and executing urban development in a way that fosters economic growth within the community. For this study, multiple research papers were examined to explore potential ways of involving private developers in infrastructure development. Most existing studies have taken a broad approach, often overlooking the need for local infrastructure resulting from the impact of new developments. Other research has indicated that there's limited understanding of how private sector developers perceive their role in infrastructure provision during the planning approval process (cited works include Claydon & Smith, 1997; Ennis, 1997; Healey, 1991; Marvin & Guy, 1997). These studies unanimously point out the importance of private sector involvement as a way for local governments to secure local infrastructure benefits from approved development projects.

The method applied for collecting data in this study is based by Healey et al.'s 1995 study on negotiating infrastructure and community impacts, as well as Bunnell's 1995 work on the use of planning agreements to secure infrastructure commitments from the private sector during the planning approval stage. The studies consists of two main phases: the first involves reviewing pertinent data from relevant departments, and the second entails structured interviews with planning officials, private developers, and local council members.

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

Table 2. Urbanisation rate by state in Malaysia (1995, 2000 and 2005)

State	Urbanisation Rate			Average Annual Growth Rate of Urban Population (%)	
	1995	2000	2005	7MP	8MP
More Developed States	66.5	73.4	77.7	4.9	3.8
Johor	54.4	63.9	69.1	5.7	3.8
Melaka	49.5	67.3	75.3	7.5	3.2
Negeri Sembilan	47.3	55.0	58.2	4.4	2.3
Perak	56.2	59.5	65.3	1.9	3.0
Pulau Pinang	77.0	79.5	83.3	2.7	3.1
Selangor[1]	80.8	88.3	92.7	7.3	5.0
Wilayah Persekutuan Kuala Lumpur	100.0	100.0	100.0	2.0	2.2
Less developed States	37.4	42.1	45.9	4.7	3.9
Kedah	35.1	38.7	43.3	3.9	3.9
Kelantan	33.5	33.5	36.7	0.5	2.8
Pahang	35.0	42.1	44.0	5.2	2.2
Perlis	29.6	33.8	38.9	3.5	3.7
Sabah[2]	39.8	49.1	53.2	7.7	4.9
Sarawak	41.8	47.9	54.6	4.4	4.8
Terengganu	46.6	49.4	50.1	2.7	1.6
Malaysia	55.1	61.8	66.9	4.8	3.8

Source: Eight Malaysian Plan (8MP, 2001-2005)

To proceed with, this research aims to first evaluate the existing landscape of planning approvals and infrastructure provisions within local authorities. This step is essential for understanding the current state of development approvals and infrastructure delivery. To do so, a fieldwork survey involving two distinct sample groups; local authorities and private developers in order to gain insights into current local infrastructure practices. The second phase will involve outlining the procedures and observational frameworks to be employed in data collection. During this stage, both the kinds of data to be collected and the methodologies for gathering it will be specified. This is crucial for establishing the conceptual framework for the research. Lastly, the study will explore the financial challenges and issues encountered by local authorities in delivering infrastructure amenities. The third stage will focus on identifying the perspectives of both developers and local authorities in relation to the planning approval process. This will provide a deeper understanding of the obstacles and issues surrounding local infrastructure provisions.

3. Framework of Local Infrastructure Development: Planning Approval System

3.1. Planning approval system and infrastructure provision

The planning system should play a crucial role in optimizing land use. Structure plans and local plans, which guide land-use planning, need to be both pragmatic and future-oriented to ensure that urban

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

areas remain appealing places to live (Morgan, 1988). Various elements influence urban development, and understanding the interplay between these factors is essential. Economic, social, and technological considerations should be periodically reviewed and integrated into land-use planning decisions. To keep pace with emerging trends in land-use demand, existing development plans should incorporate both flexibility and forward-thinking. These plans, which include structure and local plans, should feature economic considerations to establish a robust framework for future development needs.

Most research indicates that sufficient infrastructure is not only crucial for urban development but also a prerequisite for sustained economic growth (Bunnell, 1995; Choguill, 1997; Claydon & Smith, 1997; Ennis, 1997; Gomez-Ibanez, 1993; Healey et al., 1995; Keogh, 1985; Kaplinsky, 1999). However, escalating costs and limited public expenditure budgets have strained local authorities' ability to provide the same level of infrastructure as before. This necessitates that local governments improve revenue collection methods, diversify income sources, and refine development control strategies to facilitate infrastructure development.

According to Chung (1986), the evolving role of urban planning in the context of community development could focus on five key specializations: i) Development planning; ii) Socio-economic planning; iii) Civic design; iv) Infrastructure planning; and v) Advocacy planning. Infrastructure planning isn't merely about allocating land for various uses; it also encompasses the forms that development and redevelopment will take. The challenges surrounding physical development often involve intricate investment decisions across a broad range of policy areas, including infrastructure planning.

In this context, the planning approval system can serve as a tool for fostering urban growth, beyond its traditional role of improving environmental quality. An effective strategy within the existing planning approval framework needs to be developed to achieve this aim. This would require a comprehensive review of the current state of local infrastructure and an understanding of the country's planning control systems. The focus of this paper aims to examine the current landscape of local infrastructure provision and how local authorities can secure necessary facilities through the planning approval framework.

3.2. How planning system regulates local infrastructure provision?

The development plans include policies that outline the need for specific facilities and amenities in certain locations. These policy statements strongly emphasize improving existing infrastructure in three key ways: i) enhancing the quality of current facilities; ii) bettering access and circulation around existing amenities; and iii) strategically siting new development projects for accessibility. When large-scale residential projects are undertaken, they usually involve negotiations between public entities and private developers to secure necessary infrastructure before planning permission is granted. These discussions often impact the financial feasibility of the proposed developments (see Figure 1).

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

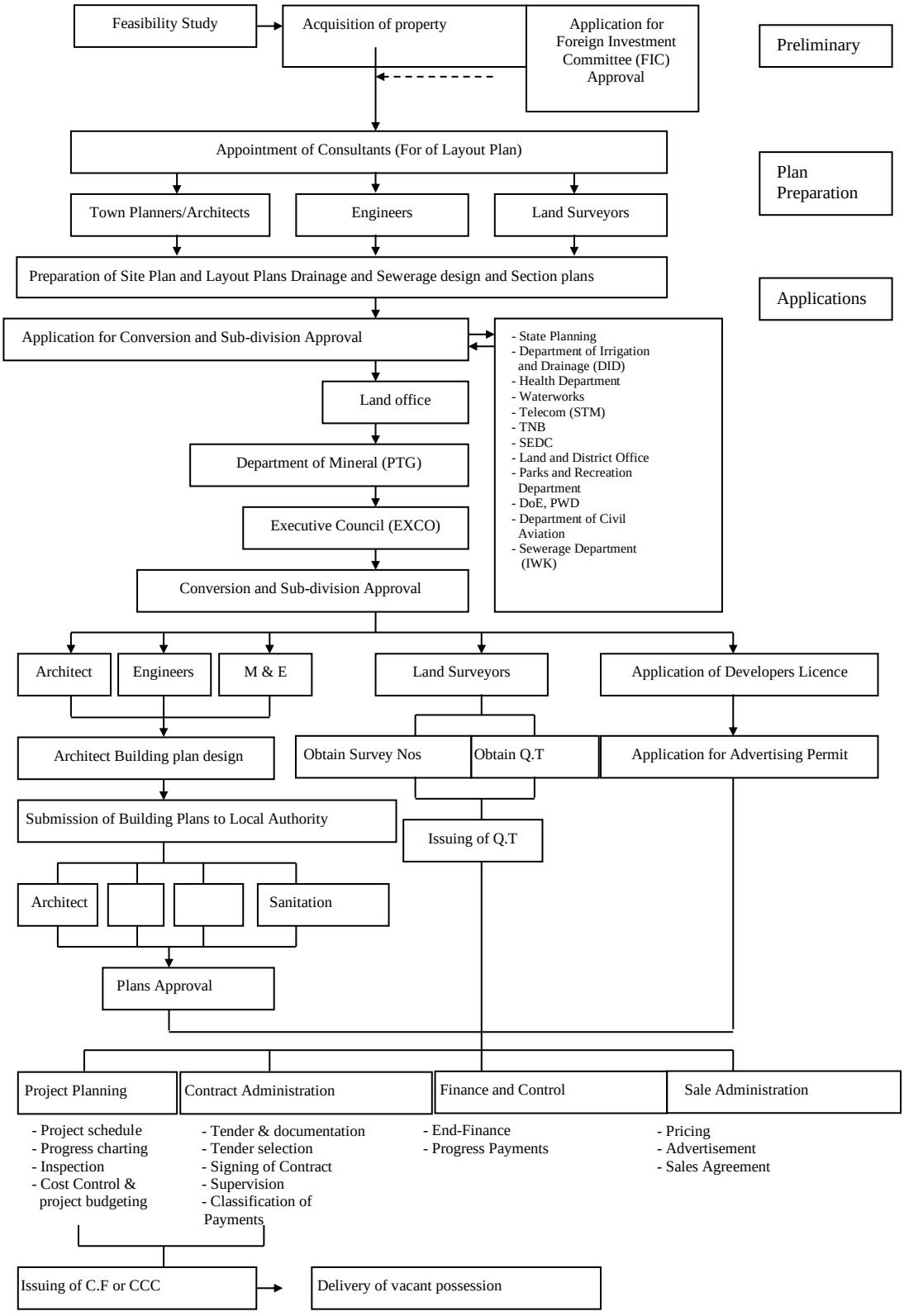

Figure 1. Development Process in Malaysia (Source: Adopted from Salleh & Asan, 2001)

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

According to Goh (1991), planning approval systems in the country actually predate the establishment of formal planning institutions. In Peninsular Malaysia, two significant fire incidents—one in Georgetown in 1813 and another in Kuala Lumpur in 1881—prompted the implementation of development control measures in the form of by-laws. These by-laws empowered local authorities to zone land for specific uses and restrict certain construction materials, like timber, in designated areas. Development control systems generally fall into three categories: i) a discretionary system, influenced by British planning traditions; ii) a heavily regulated, rigid system as practiced in French and American planning; and iii) a hybrid system, combining elements of both.

In the Malaysian context, local authorities have the power to either grant or deny planning permissions within their jurisdictions. Applications for planning permissions are reviewed by the local authority based on existing Local Plans, if available. In the absence of a Local Plan, decisions are made on an ad-hoc basis. The Planning Department assesses the application and recommends approval, denial, or conditional approval to the planning committee. However, the decision-making process is not standardized across different local authorities due to variations in their size and scope. The approval process for buildings or land subdivisions is often time-consuming, as multiple departments both within and external to the local authority must be consulted.

4. How Local Authority Mobilise Finance Source For Infrastructure?

In this country, there are 145 local authorities spread across various states and federal territories. They generate revenue, primarily spent on staff salaries, road maintenance, existing infrastructure, and new development projects. The estimated annual revenue collection amounts to around RM11.92 billion, while expenditures reach approximately RM13.2 billion. By referring to Table 3 and Table 4, the local authorities' total revenue, comprising assessment rates, trading licenses, parking fees, and state government grants, makes up about 11.3% of the general government's estimated revenue of RM105.5 billion for 2003. It's worth noting that local councils' general revenue surpasses the combined revenue of all state governments, as the Constitution entitles them to significant tax sources like personal and corporate taxes.

Infrastructure needs, as set forth in the development plans by Local Planning Authorities (LPAs) like Structure Plans, tend to be quite general. These plans serve as a foundation for relevant organizations to develop infrastructure programs and guide private developers in meeting local authority requirements for their proposed projects. In Malaysia, the focus of infrastructure provision mainly involves the public sector, which undertakes a variety of projects including agriculture, communications, public amenities, highways, dams for power generation, water treatment plants, and airports. Despite the wide array of infrastructure needs, there is no single entity tasked with coordinating and overseeing the provision and financing of such projects. Instead, multiple ministries and departments are responsible for planning and executing infrastructure programs at different stages.

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

Table 3. Municipal council of Penang Island financial statement for 2007-2010

Types of expenditures	Real (*RM million*)			
	2007	2008	2009	2010
Income				
Income from council	78.33	85.58	95.39	82.51
Federal Government Grant	1.89	1.89	1.89	1.89
Total income	80.22	87.47	97.28	84.40
Expenditure				
Administration & general expenses	31.13	32.40	42.49	42.89
Maintenance	32.75	30.83	36.49	44.64
Special Expenditure	2.22	3.41	4.69	4.29
Capital Expenditure (Infrastructure)	4.16	3.60	11.60	30.38
Total expenditure	70.26	70.24	94.78	122.20
Surplus/Deficit	9.96	17.23	2.50	(37.80)

Source: Municipal Council of Penang Island, Malaysia 2010.

The existing approach has financial implications for local authorities, making it imperative to find alternative solutions to alleviate the financial strain. A more effective development control system, as practiced by Local Planning Authorities (LPAs), could offer alternative avenues for securing necessary infrastructure projects. Given this context, it's evident that the current legislative framework for planning control in Malaysia has several constraints that restrict the ability of local authorities to adequately provide infrastructure for their communities. A similar situation exists in many local authorities in New Zealand, as noted by McKinlay (1996). These constraints hinder participation from entities other than local authorities, whether it be through Public-Private Partnerships, privatization, or joint-venture projects. Such limitations exist largely because current legislation often assumes that local authorities will be the sole owners, providers, and regulators of these services. Conversely, in the UK, the development control system has proven to be an effective tool for local authorities to meet their infrastructure needs.

Table 4. Local infrastructure expenditures in Municipal Council of Penang Island Financial 2007-2010

Type of Services	Expenditures RM			
	2007	2008	2009	2010
Roads Maintenance	6,554,383.00	8,382,517.00	9,750,876.00	11,690,556.00
Road-surface Maintenance	3,325,373.00	3,542,472.00	4,526,449.00	4,721,820.00
Drainage System Maintenance	427,965.78	846,549.31	1,137,786.60	1,921,421.70
Road-Side Maintenance	136,139.68	251,562.51	266,194.48	1,179,299.24
Road Furniture Maintenance	200,619.48	402,869.81	160,445.30	208,014.51
Upgrading Traffics system	543,340.00	104,743.00	358,494.00	600,000.00
Street Lighting System Maintenance	2,464,285.00	3,339,063.00	3,660,000.00	3,660,000.00
Traffic-Light System Maintenance	274,678.00	247,444.00	330,000.00	340,000.00
Villages Development Schemes	116,004.00	52,069.00	133,811.04	250,000.00
Maintenance of Sewerage Pipe-Lines System	1,365,177.00	1,566,617.00	2,912,671.00	2,704,789.00
Total	8,853,581.94	10,353,389.63	13,485,851.78	15,585,344.45

Source: Department of Engineering, Municipal Council of Penang Island (MPPP), 2010.

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

5. Private Involvement in Infrastructure Development

A decade ago, infrastructure development in Malaysia was largely the domain of the public sector, with the private sector playing a relatively minor role. As highlighted by Yaacob and Naidu (2000), the government once believed that the nature of infrastructure economics was characterized by natural monopolies, economies of scale, and externalities which made it more suitable for public rather than private provision. However, this landscape has undergone a significant transformation over the past decade, largely due to liberalization and privatization initiatives. Today, the private sector has a much broader role in infrastructure, encompassing sectors such as ports, roads, power, telecommunications, urban facilities, water supply, sewage treatment, and even hydroelectric power generation. The country is increasingly viewed as a corporate entity where the government creates a conducive environment through infrastructure provision, deregulation, and macroeconomic policies, while the private sector acts as the primary engine of growth.

This shift is particularly noticeable in how infrastructure projects are financed. Until the Fourth Malaysia Plan (1981-1985), infrastructure investment was exclusively funded by the public sector. However, this has changed dramatically. Between 1991 and 2000, which spanned the Sixth and Seventh Malaysian Plans, the public sector continued to lead in infrastructure investment, allocating RM38,034.20 billion (ringgit) for various projects. Yet, private funding for infrastructure has grown so significantly that the public sector's investment during the Eighth Malaysian Plan (2001-2005) was expected to be around RM27 billion. To enhance efficiency in local urban management, many components of local infrastructure, both economic and social, have been transferred to centralized agencies or privatized to companies selected by local authorities. This privatization has resulted in more effective urban infrastructure management and has contributed to the overall development of both urban and rural areas within the jurisdiction of local authorities (see Table 5).

Table 5. Development Expenditure and for infrastructure development in Malaysia, 1991-2005

Sector	Expenditure*		
	6MP *Expenditure*	7MP *Expenditure*	8MP *Allocation*
Transport	**11,594.7**	20,484.2	**21,222.1**
Roads*	7,572.6	12,269.5	14,002.6
Rail	1,735.4	404.0	705.6
Ports	410.9	5,450.3	4,081.0
Airports	1,780.6	1,089.2	1,500.0
Urban transport	95.2	1,271.2	932.9
Utilities	**2,796.7**	**3,048.0**	**5,549.9**
Water Supply	2,671.9	2,382.7	3,966.3
Sewerage	124.8	665.3	1,583.6
Communications	**71.0**	**39.6**	**228.0**
Telecommunications and postal services	39.6	4.1	146.7
Meteorological services	31.1	35.5	81.3
Grand Total	**14,462.4**	**23,571.8**	**27,000.0**

*. Excludes local roads in regional development areas, some local authorities and agriculture roads, which have been allocated RM700 millions. Source: Eight Malaysia Plan (8MP, 2001).

https://doi.org/10.15405/epsbs.2023.11.02.58
Corresponding Author: Dani Salleh
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

6. Conclusions

The study indicates that the public sector has historically been the primary provider of infrastructure, while the private sector's involvement has been largely limited to large-scale developments. Nowadays, the responsibility for local infrastructure provision is a shared duty between the public and private sectors. Development plans have emerged as critical tools for coordinating new projects with the necessary off-site infrastructure. The willingness of the private sector to contribute to local infrastructure provision often hinges on the developmental costs involved. A key challenge arises from the inconsistent conditions set by local authorities for mandating local infrastructure requirements. The study recommends that these practices should be more clearly defined and standardized.

Further research is needed to specify the framework and structure for negotiations between the private and public sectors. The study suggests that the current system could be enhanced by incorporating negotiation elements into the planning approval process. Additionally, the study advocates diversifying the methods of infrastructure delivery to include options like Build, Operate, and Transfer (BOT), Public-Private Partnerships (PPP), and Private Finance Initiatives (PFI). To formalize private sector contributions, a well-defined basis should be established. Local authorities could benefit from implementing an Integrated Planning Approval System, which would facilitate a more equitable distribution of infrastructure costs among potential users.

Based on the earlier discussion, it's evident that the role of the private sector in local infrastructure development is rapidly globalizing with the primary objective of enhancing efficiency. Involving the private sector in these endeavors can potentially elevate the community's standard of living. The paper also highlights that the current model for local infrastructure provision, if left unmodified, will increasingly drain governmental resources needed for other critical social programs and local investments. One of the most pressing challenges surrounding local infrastructure is the scarcity of adequate funding. Given the multifaceted nature of these issues, any proposed solution must account for a range of significant factors for successful infrastructure provision. A model to address these concerns was thus proposed, featuring the development control system as its core component. Key aspects of the model include:

i. Utilizing the existing legislative framework for planning (development control system) to recoup direct costs from direct beneficiaries, such as private property developers, instead of relying on generalized town-wide taxation.

ii. Striving to maximize cost recovery from beneficiaries, while remaining within affordable and socially acceptable limits.

Local authorities should seriously consider adopting one of the suggested privatization schemes. Experience has shown that such schemes not only alleviate the financial burden on local authorities regarding infrastructure but also, in some instances, generate substantial revenue. Therefore, privatization should be integrated into the proposed financial model. Pricing policies should aim to improve efficiency by covering both capital and operational costs while also accounting for the environmental impacts of

infrastructure projects. These policies should significantly contribute to the financing, operation, maintenance, and renewal of local infrastructure.

References

Bunnell, G. (1995). Planning gain in theory and practice-Negotiation of agreements in Cambridgeshire. *Progress in Planning, 44*(1), 1-113. https://doi.org/10.1016/0305-9006(95)00001.d

Choguill, C. L. (1997). Issues in urban development: Case studies from Indonesia. *Cities, 14*(1), 45-46. https://doi.org/10.1016/s0264-2751(97)89323-7

Chung. (1986). *The Role of Town Planning in National Development*. A paper presented at National Seminar in Planning, organised by ITM.

Claydon, J., & Smith, B. (1997). Negotiating Planning Gains through the British Development Control System. *Urban Studies, 34*(12), 2003-2022. https://doi.org/10.1080/0042098975196

Dani, S., & Asan, A. G. H. (2001). Urbanisation and Development: *The Role of Development Planning In Malaysia. A paper presented at Planning Research Conference*. Organised by Liverpool University And Liverpool John Moores University.

Ennis, F. (1997). Infrastructure Provision, the Negotiating Process and the Planner's Role. *Urban Studies, 34*(12), 1935-1954. https://doi.org/10.1080/0042098975150

Goh, B. L. (1991). *Urban Planning in Malaysia: History, Assumptions and Issues.* Tempo Publishing (M) Sdn. Bhd.

Gomez-Ibanez, J. A. (1993). Does development pay its own way?. In, A. A. Altschuler (Ed.), *Regulation for Revenue: The Political Economy of Land Use Exactions*. *Brookings Institution*.

Healey, P. (1991). Models of the development process: A review. *Journal of Property Research, 8*(3), 219-238. https://doi.org/10.1080/09599919108724039

Healey, P., Purdue, M., & Ennis, F. (1995). Negotiating Development: *Rationales and Practice for Development Obligations and planning gain*. E & FN Spon.

Kaplinsky, E. S. (1999). *An Evaluation of Development Charges and their Alternatives in Israel and in Ontario*. [Master Thesis, University of Toronto, Canada].

Keogh, G. (1985). The economics of planning gain. In S. Barrett and P. Healey (Eds.), *Land Policy Problems and Alternatives* (pp. 203-228). Gower Publishing Co. Ltd. Aldershot, Hants.

Marvin, S., & Guy, S. (1997). Infrastructure Provision, Development Processes and the Co-production of Environmental Value. *Urban Studies, 34*(12), 2023-2036. https://doi.org/10.1080/0042098975204

McKinlay, D. (1996). *Liberalising the Regulation of Governments' Infrastructure: An Issues Paper*.

Morgan, D. (1988). *Repeat Focus Group Discussions as a Tool for Strengthening of Management Capacity in a Community Development Project in Western China,* Focus Groups as Qualitative Research. Sage Publications.

Nong, M. (1990). Financing urban infrastructure: Trends and issues, a paper presented at *National Planning Conference*. Jointly organised by MIP and JPBD.

Salleh, D., & Asan, A. H. (2001). *Urbanisation and Development: The Role of Development Planning in Malaysia*, A papers presented at The International Planning Research Conference 2001, Co-Organised by Liverpool University and Liverpool John Moores University, 2001.

Yaacob, Y., & Naidu, G. (2000). Contracting for private provision of infrastructure: The Malaysian experience. In K. Harinder, M. Ashoka, & W. Michael (Eds.), *Choices for Efficient Private Infrastructure Provision in East Asia.* The World Bank, Washington, D.C.