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Original Article

Institutional Form for Effective and Efficient Urban Transport Management in Makassar, Indonesia

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Abstract *- The Makassar urban mobility is experiencing a row of challenges related to the low patronage of the existing transport systems, excessive reliance on personal cars, fragmented institutional structures, and stresses on the environment, which are increasing. The paper will take the form of focusing on how Makassar city should be well structured and provided with public transport at the city level from the stakeholders' perspective, the influencing factors, the nature of user demand, trends, and limitations of the governance. The information collected on the research was through the studies of policy documents, interviews conducted with stakeholders such as the Department of Transportation, Baddeda, the public works office, the private operators, and technical agencies, and secondary transport statistics. The Badan Usaha Milik Daerah (BUMD), Badan Layanan Umum Daerah (BLUD), and Public-Private Partnerships (PPP) are compared against the benchmarks of the effectiveness of governance, financial sustainability, the ability to integrate, political feasibility, user orientation, and environmental commitment. Results showed that after 25 semi-structured interviews, there were similar themes in institutional issues such as fragmentation between the provincial and the city governments, low financial abilities, and the lack of inter-mode integration. The announcement of the central subsidy cuts reflected in the reductions of Trans Mamminasata (limited to Koridor 5: Fakultas Teknik Unhas Gowa – Unhas Tamalanrea via Mall Panakkukang) was accentuated by stakeholders as opposed to the provincial introduction of Trans Sulsel in July 2025 (Koridor 1: Makassar– Takalar; Koridor 2: Unhas Tamalanrea–Bandara-Mandai), which portends more potential regional coordination.*

Keywords *- Governance, Institutional Reform, Public transport, Sustainability, Makassar.*

1. Introduction

Good urban transport systems are of great importance in determining mobility and patterns, ease of congestion, and alleviation of adverse effects on the environment due to greenhouse gas emissions [1]. Properly planned systems improve the quality of living, help spread the chances equally, and reduce the use of private vehicles. Nevertheless, the cross-city integration is in several cities still difficult because of the uneven institutional set-ups and the lack of coordination in the planning, regulation, and operation.

The international experiences depict a variety of institutional strategies regarding the management of public transport. As an example, Transport for London is a semi-autonomous agency with many effective multimodal service integrations, whereas Singapore has competitive relationships with its private partners to realize high efficiency and service quality [2, 3].

Generalized, however, are the indispensable challenges of institutionalized fragmentation, infrastructural inadequacies, and monetary limitations that plague several maturing cities, such as those in Indonesia, including Jakarta and Mumbai [4].

The transport governance in Indonesia is national, provincial, and local, which is complicated due to the decentralization policies that have been in place since the beginning of the 2000s. Local governments are in charge of services in the urban area, but that tends to bring about non-consistent coordination, disparate service quality, and scattered route planning [5]. These inequalities further widen access disparities in resource-endowed and capacity-constrained areas [6].

The issue of these challenges in a developing nation is acutely represented in Makassar, a booming metropolitan center in the eastern part of Indonesia. The city boasts of high economic activity as a result of trade and services, with the population numbering over 1.5 million in a compact urban region of about 176 km 2 [7]. The modal share is dominated by the use of private vehicles (motorcycles), with low patronage of public transportation (estimated to be more than

70 percent of daily trips) [8]. Pete-pete is an example of traditional paratransit modes that have lost their ridership because of old, outdated fleets and because of ride-hailing technology. During the same period, the Trans Mamminasata bus system, projected as a correlation with several corridors, suffered deep cuts: by early 2025, sleeve 5 (between the Unhas campuses in Tamalanrea and Gowa) would be their only Metropolitan subsidizer, while the others would be terminated due to fiscal constraints. As a reaction, provincial government initiated Trans Sulsel in July 2025 that introduced 27 new buses that traffic two key routes (Makassar-Takalar and Unhas Tamalanrea to Mandai through the airport) to enhance regional connectivity. These problems are exacerbated by institutional fragmentation, in which provincial agencies manage the large bus services; city-level authorities more or less lack power over integration, harmonization of fares, and service quality. Such an arrangement discourages coordinated policies and drives inhabitants to personal modes, and escalates congestion and pollution [2]. Whereas institutional models in Java-based cities (e.g., BLUD in TransJakarta or PPP in Jakarta MRT) have been studied, there is a lack of research on non-Java ones, such as Makassar. The most notable weaknesses are the distinct provincial-city system of governance after the post-decentralization process, the effects of recent service cuts (e.g., Trans Mamminasata cuts), and how the increasing provincial projects adapt to the national objectives of electrifying its services (e.g., Trans Sulsel). The current literature fails to address the importance of stakeholder views on the practicality of eastern Indonesia metros that have financial limitations.

This paper focuses on filling these gaps by examining the existing institutional arrangements on urban public transport in Makassar, analyzing the influencing factors through the perspectives of stakeholders, and comparing three models, such as Badan Usaha Milik Daerah (BUMD), Badan Layanan Umum Daerah (BLUD), and Public-Private Partnerships (PPP). These aims are to: (1) determine the most important governance issues and market features; (2) test the suitability of the model in relation to its efficiency, financial sustainability, potential to integrate, and environmental appropriateness; (3) prescribe an institutional form supporting an efficient, inclusive, and sustainable mobility within a changing Makassar context.

2. Literature Review

This paper began by analyzing the existing literature pertaining to the topic of the study in order to form a background that could be used in further research.

2.1. Typical Institutional Form Used in Indonesia as Public Transport Management Tools/Actors

Indonesian public transport is based on a hodgepodge of various systems, each of which was established to accommodate the money, the regulations, and the local conditions. On the local level, which in this case refers to cities or regencies, there is Badan Layanan Umum Daerah (BLUD). It is a semi-autonomous agency that combines business thinking and the actual drive to make services affordable and readily available. This arrangement means that certain operators, such as Trans Jakarta and Trans Metro Bandung, are in charge of their own cash, charge prices, and reinvest profits back into the system, and still receive government subsidies to make rides inexpensive. Meanwhile, one more big part in the larger, more visible projects goes to the Public-Private Partnerships (PPP), particularly in the mass transit among urban centers. The government partners with private investors, who share risks and work together. That is how projects such as the Jakarta MRT and the Palembang LRT began.

However, the deal does not always run well-acquired, such agreements may become complicated, and it is difficult to determine even a long-term strategy or foresee the number of individuals who will actually consume the service. The figures simply do not add up sometimes, the way everyone hopes they will [9]. Along with these semi-commercial and collaborative setups, the old-type bureaucracy is also felt, especially in the case of Unit Pelaksana Teknis Daerah, or UPTD. These groups are the lowest in rank below the local transport departments. They tend to regulate aspects such as terminal management or survey local fleets. They are more or less faithful to local policy goals, and this is desirable; however, to be honest, they do not have a fiscal range and thus are not able to be inventive or react quickly. The giants are Go national and state-owned enterprises (Badan Usaha Milik Negara, or BUMN). They include Think PT Kereta Api Indonesia operation of trains, PT ASDP Indonesia Ferry operation of ferries, and DAMRI operation of long-distance buses. These companies are difficult to support when they continue to make money and serve the people. For example, regional is Badan Usaha Milik Daerah (BUMD), a local company, which is involved in local infrastructure and services. They are likely to explore hybrid business models simply to familiarize themselves with urban life, yet this is also with practical issues that face short capacity and complicated governance [10]. At the other end of the spectrum, cooperatives are also relevant to the running of paratransit, notably as micro buses and motorcycle taxi (ojek) cooperatives. Where connectivity is limited, these locally-led organizations can offer much-needed connectivity with little access; however, they may struggle to update large fleets and integrate services, and meet regulations.

However, besides formal actors, there also exist other classes of actors, which play their role albeit less evidently but no less important: non-governmental and community organizations. Organizations such as ITDP Indonesia and those specializing in advocacy on the rights of people with disabilities, through research, advocacy, and outreach, including towards inclusion, influence the design of policy, as well as policy implementation, pushing those that are more

accessible and sustainable. The combination of these types of institutions demonstrates the variety and penetration of the Indonesian terrain of public transport governance, the interaction of formal institutions, commercial enterprises, community organizations, and intermediate forms of manifestation. Although both of them possess their advantages and disadvantages, the very existence in which they co-exist implies that Indonesian urban mobility is disjointed (both positively and negatively), and the ongoing pursuit of superior and more holistic ways to manage. The recent tendencies confirm the importance of hybrid schemes (using national electrification plans) that would introduce sustainability goals. An illustration is the BLUD models, including TransJakarta, which have gone electric by 2025, and PPPs can hardly afford the cost of financing electric projects in projects like Jakarta MRT.

2.2. Market Characteristics of Public Transport in Makassar

The reason is that Makassar is the provincial capital of South Sulawesi, which has a special topography where it is possible to analyze the market of the urban public transport. It accommodates more than 1.4 million people, and there are very few lands of less than 176 km, implying that its population density and level of the rates of economic development are very high because of the availability of trade and services. Despite this situation, the popularity of using the state transportation has decreased, and the ownership of personal vehicles (in particular, motorcycles) has replaced the daily mobility. It has routinely been a regular backbone of Petepete-minibuses, which operate on various routes that are fixed, and later increased with the implementation of the Trans Mammasata system under the national Buy The Service (BTS) Teman Bus program [11]. On the one hand, Petepete can afford loose and regionally oriented services, but on the other hand, old-fashioned fleets and the decline in competitiveness with ride-hailing applications such as Gojek and Grab are becoming a challenge. The Trans Mamminasata system, which initially provided several corridors under the national Buy-the-Service program, was dramatically cut: by 2025, all but one corridor (which was Koridor 5 - linking Fakultas Teknik Unhas Gowa with Koridor 5 to Unhas Tamalanrea) had been closed as a consequence of national restrictions on central subsidies. The provincial government countered this with the release of Trans Sulsel in July 2025, which will serve two key corridors (Koridor 1: Makassar-Takalar; Koridor 2: Unhas Tamalanrea-Bandara-Mandai) with new buses to enhance the connectivity of the region; this will consist of sidewalks, bus shelters, and passenger information systems [12]. Table 1 presents the various types of transport services that the residents of Makassar have.

Table 1. Available public transport modes in makassar

Mode	**Description**	**Key Examples/Details**	**Organizer**
Paratransit(Petepete)	Flexible paratransit for short, local trips; operates on fixed routes with on-demand stops.	17 routes (e.g., A, B, C, D); rubber-tired vehicles; serves intra-city mobility.	Cooperatives (e.g., Koperasi Angkutan Kota); Local Transport Agency (Dinas Perhubungan)
City Bus)	Higher-capacity system with dedicated lanes, basic shelters, and scheduled services for longer routes.	Trans Mamminasata; 11 corridors; part of the national BTS Teman Bus program.	BLUD (PT Transportasi Mamminasata); Ministry of Transportation (BTS program)
Ride-Hailing & *Ojek*	App-based motorcycle and car services for on-demand, point-to-point trips; competes with traditional modes.	Gojek, Grab, and motorcycle taxis for quick urban travel; popular for flexibility.	Private Companies (Gojek, Grab)
Ferries	Inter-island connections; limited relevance for intra-city commuting, but support regional mobility.	Port-based services connecting Sulawesi to nearby islands.	BUMN (PT ASDP Indonesia Ferry)
Bicycle-Sharing	Emerging eco-friendly option for short trips; limited adoption due to infrastructure gaps.	Pilot programs in urban areas, aimed at students and short-distance commuters.	NGOs (e.g., ITDP Indonesia); Local Government (pilot initiatives)
Becak (Cycle Rickshaw)	Traditional, human-powered transport for short distances; declining but still used in some areas.	Non-motorized; serves markets and low-income neighborhoods.	Individual Operators; Informal Cooperatives

Services at the supply side are poor and do not connect with minimal convergence across modes, either in fare or routes. Lack of good infrastructure is also another demotivating aspect to the masses, as most of the destinations are inaccessible on foot and are inconvenient or unsafe to visit. Work, education, and shopping commuting occupy a higher fraction of the daily commuting in the demand side, yet most residents commute using motorcycles and personal vehicles

[1]. Individual mobility as such is linked to the sense of greater reliability and convenience, but also with the ineffectiveness of the mass system, the overcrowding of the shared lanes, and the substandard quality of services. Subsidies are maintained to maintain the fare- currently the cost of the bus service amounts to 4,600-/per ride, but performance in terms of schedule, topography, and dependency on government subsidies remains low [13]. The problems of penetrating the market are augmented by the struggles of the public and private modes. In particular, the motorcycles use an enormous fraction of the trips and avoid short routes that the bus or paratransit can serve. Although ride-hailing services contribute to increased accessibility and flexibility, they also contribute to the increase in traffic volume, eroding the market share of traditional operators and making them more difficult to regulate. Low-density urban growth also influences the demand distribution: horizontal development in Makassar was linear and polycentric, which is incapable of facilitating mass transit development [9]. The level of available literature focuses on institutional models of cities with Java-based characteristics, such as BLUD in TransJakarta or PPP in Jakarta MRT. However, they often neglect other, less Java-like locations like Makassar, where the jurisdiction of provinces and cities is shared, where financial constraints and recent shocks (e.g., the 2025 Trans Mamminasata cutbacks and the Trans Sulsel rollout) introduce special problems. The study meets this gap in the research because it evaluates the use of BUMD, BLUD, and PPP models in the neighborhood of the Met Swap contracts through stakeholder prisms in Makassar, changing metropolitan context through the lens of broader debates over the governance and sustainability of the urban transport system.

Table 2. Demand and usage trends in makassar's public transport

Aspect	Description	Key Metrics	Recent Condition/Challenges
Demand Drivers	Urban mobility is shaped by daily commuting linked to strong economic activity in trade and services.	Annual economic growth around 8%; density of 8,246 people/km²; more than 2 million registered vehicles (2024).	Congestion intensifies travel demand, resulting in fuel waste and productivity losses; while growth in vehicle ownership has slowed, it remains upward (avg. 31% annually, 1990–2021).
Usage Patterns	Public transport attracts relatively few riders, with most residents relying on private vehicles.	Average bus load: 25 passengers; 77% of riders use buses once daily; 92% prefer private modes in 2025.	Service decline continues outside Jakarta; in Makassar, usage remains marginal with seasonal downturns (e.g., February 2025 national dip).
Trends	Policy direction emphasizes affordability and greener systems, supported by government subsidies and network integration.	Network expansion underway; surveys show over 70% willingness to shift from motorcycles.	Reforms progress slowly due to bureaucratic complexity and operator opposition; participatory, community-based initiatives are gaining momentum in 2025.
Modal Share / Private Vehicle Preference	Private vehicles, especially motorcycles, dominate daily trips compared to public transport.	Motorcycles account for 30–60% of trips; 92% of residents still choose private vehicles.	Aging infrastructure reinforces private vehicle dependence; limited modal share of public systems hampers productivity in 2024–2025.
User Perceptions and Satisfaction	Service quality—particularly safety, convenience, and affordability—plays a key role in passenger decisions.	Persistent dissatisfaction with bus operations; fare affordability remains a key attraction.	Perceptions of unreliability remain widespread in 2025; female riders in particular highlight safety and comfort as unmet needs.
Impact of Ride-Hailing	App-based services reshape commuting choices, often drawing users away from traditional modes.	A survey of 270 respondents shows a preference for ride-hailing due to flexibility.	Integration with formal systems remains weak; ride-hailing contributes to congestion but fills gaps in underserved corridors (2024 data).
Environmental and Emission Trends	Heavy private vehicle use drives pollution and greenhouse gas output from transport.	Transport-related CO_2 emissions reached 149,538 thousand tonnes in 2023 (22% of the national total).	Electrification programs were launched in 2025, yet the sector continues as a major emitter with escalating public health costs.

Gen-Z Specific Patterns	Younger cohorts demonstrate higher mobility needs and growing interest in sustainable travel options.	High daily mileage recorded; latent potential for eco-friendly modes, contingent on infrastructure quality.	Despite environmental awareness, Gen-Z commuters continue to rely heavily on motorcycles; structural limits restrict sustainable adoption (2024–2025).
Walking Accessibility	Limited pedestrian facilities discourage walking to and from public transport stops.	Walking distances frequently exceed 400m, lowering user willingness.	Poor-quality sidewalks and a lack of amenities weaken access, particularly in Makassar's polycentric urban layout.
Future Projections / Reforms	Authorities plan to expand BRT and mass transit corridors to match urban growth.	Six metropolitan areas, including Makassar, are targeted for development; the aim is to reduce reliance on private modes.	IMTPSP program struggles with financial and coordination barriers; 2025 policy commitments stress modernization to avert worsening transport crises.

Recent reforms in Makassar include an example of the tendency towards a more sustainable transport system. Electrification projects are underway, the distribution of fare subsidies, and the modernization of the fleets are real efforts to increase efficiency and serve the environment, which is being rolled out in the city. But here trouble always seems to intervene. Agencies do not work together all the time, and people just do not have that much faith in the system to exploit it. The public transport here is at a crossroads. The city is getting bigger and more and more people need to move around, yet private cars continue to dominate the roads. Though there are plans and promises, one of the most real challenges is to make more people use public transit [14].

2.3. Opportunities and Challenges

Both challenges and opportunities associated with the organization of city-scale public transport in Makassar are closely connected to the rapid demographic and economic transformation. With a population density of more than 8,246 people per square kilometer and an average of 8 percent economic growth per annum, population mobility has remained very high, and the demand has not been adequately met by the available provision of means of transport that are efficient and economical [15]. The current ridership stands at 25 passengers per trip, and the average bus occupancy of 80 percent indicates it is low. A major percentage of inhabitants (majority) travel in personal vehicles, and 30-60 percent occupy the top spot as the number one mode of travel (in urban trips) [16]. This imbalance has only increased congestion, fuel use, and environmental impacts, with the transport industry generating 149,538 thousand tonnes of CO2 in 2023, or 22 percent in Indonesia [1]. It is through the local institutional models that the reform opportunities are met, such as the regionally owned enterprises (BUMD), local service agencies (BLUD), or even the collaboration between the state and commercial firms (PPP). These models are able to facilitate the development of the transport networks by the city which have the traditional transport systems like Petepete with the BRT corridors, decrease the walking distance (longer than 400 meters), and improve their safety, which may be of special interest to women who make up more than half of their users and will never disregard the question of security and price. The national plans, such as the BTS scheme, the Indonesian Mass Transit Program Support Project (IMTPSP), also expand the possibilities of Makassar to receive subsidies, technical know-how, and infrastructure support funding, and further include it in more national schemes such as e-bus [17]. But structural and institutional impediments to these opportunities exist. An example is that municipal authorities, because of their fiscal capacities and lack of technical skills, are ill equipped to operate complex integrated transport systems. In addition, they tend to conflict with the province and country due to duplication of jurisdictions. One such scenario is where an institution like the Ministry of Transportation still uses Perum DAMRI to run bus services hence creating governance tensions. Local reform struggles are reflected by resentment by the existing operators, most particularly the informal sector operators who are resisting the reforms at the national level where bureaucratic inertia and vested interests have been dragging the implementation process down. Notable is the fact that bad sidewalks, lack of live passenger tracking, and frailty of interstate linkages that have been enabling the populace to use motorcycles and ride-hailing applications such as Gojek and Grab have also contributed to these governance problems.

Also, another difficult hurdle to be overcome is social perception. Based on the questionnaires filled out, 77 percent of the interviewees only ride the buses once a day, with current dissatisfaction levels in terms of safety, timing, and comfort hindering trust [18]. On a bigger scale, utilizing personal cars as the primary means will not only damage the economic development of the nations, but it will also pose an immediate danger to the environment by adding costs of pollution and road accidents to the list. Consequently, the success of city-scale reform in that case will only occur when there will not only be a local authority that carries innovative institutions and of a higher order, but also coordinated national assistance, involvement of the stakeholders, and a willingness to re-earn the trust of people in collective mobility [19].

3. Methodology

3.1. Research Design

This study employed a qualitative approach with elements of comparative analysis. Data were collected through policy document reviews, secondary transport statistics (ridership and modal share data from 2020-2025), and semi-structured interviews with key stakeholders.

3.2. Sampling and Stakeholder Selection

Purposive sampling was used to select stakeholders based on their direct involvement in urban transport governance and operations in Makassar. A total of 25 interviewees were selected, comprising: 6 officials from Dinas Perhubungan Kota Makassar and Provinsi Sulawesi Selatan, five private operators (including Pete-pete cooperatives and ride-hailing representatives), four representatives from technical agencies (e.g., Bappeda, Public Works), five academics/NGOs (e.g., ITDP Indonesia affiliates and university experts), and five users/community representatives. This selection ensured diverse perspectives on governance, operations, and demand.

3.3. Data Collection and Interview Protocols

Interviews were conducted within the range between June and December 2025 using a semi-structured protocol that included questions of 15 -20 open-ended covering the issues of institutional challenges and deciding factors (governance, financial, political), model of institutional preference (BUMD, BLUD, PPP), and sustainability recommendation (e.g., integration with electrification). The tapes were recorded with consent, and the transcripts of the interviews are transcribed as they are. Other sources included policy documents (ex, RPJMN 2025-2029, local regulations) and recent statistics of Trans Mamminasata (since reduced to Koridor 5 in 2025), and Trans Sulsel (which began in July 2025).

3.4. Data Analysis

Thematic analysis was applied to interview transcripts, involving manual coding to identify recurring themes (e.g., fragmentation, feasibility). SWOT analysis was conducted for each institutional model (BUMD, BLUD, PPP) based on stakeholder inputs, triangulated with document reviews and secondary data for validation. Model comparison used six criteria: governance effectiveness, financial sustainability, integration capacity, political feasibility, user orientation, and environmental commitment. Qualitative scoring and ranking were derived from aggregated stakeholder views, with cross-verification through follow-up discussions (member-checking) for reliability.

Table 3. Comparative benchmarking of institutional models

Model	Example City	Key Strengths	Challenges in Context	Relevance to Makassar
BLUD	Jakarta (TransJakarta)	High ridership, electric fleet expansion (2024-2025), flexible finance	Heavy subsidy dependence	Suitable for integration amid fiscal limits
PPP	Jakarta (MRT)	Private investment, technical expertise	Risk allocation issues, high costs	Less feasible due to Makassar's constraints
BUMD	Surabaya/Semarang	Local control, hybrid operations	Capacity limitations	Potential but governance risks

4. Results and Discussion

To examine the most suitable institutional structure to support the activity of public transportation in the city of Makassar, a set of methodological steps was adopted, which is described in the following sections.

4.1. Perspective of Stakeholders

Stakeholders' views in Makassar have given a mix of the various but also interconnected perspectives on what types of institutional arrangements are needed to manage the public transport system in the city. The officials of the Department of Transportation are quite categorical about the necessity to possess a city-level authority capable of centralizing not only planning but also regulation and monitoring abilities. As they currently perceive it, this has led to a lack of transparency and absence of accountability since agencies share areas of overlap, and no one is held responsible. In their opinion, a specially structured municipal institution can integrate the whole system of transport and network the various modes, particularly the traditional paratransit service (Petepete), the Trans Mamminasata bus service, and the proposed bus rapid transit system. Conversely, the Regional Development Planning Agency (Bapeda) is more concerned with the alignment of transport governance alongside other priorities of urban development. They also add that institutional structure changes need not solely co-exist with land-use plans, economic growth plans, and environmental goals, but they caution that they will not be able to address the mobility problems that are intersected by other organizational sectors. As this continues, the Public Works Department expresses its concerns regarding the incorporation of the infrastructural aspect of the problem. In their opinion, the institution design must be connected to the availability of quality roads, terminals, and pedestrian facilities. In addition, they make it a requirement that the selected form of governance should be endowed with the power as well as the financial resources that

are required to not only oversee the infrastructure development, but also undertake it jointly with the service operations. Various opinions are voiced among other stakeholders, including the representatives of the local legislators and the representatives of the transport operators. Legislators discuss the political practicability of a new municipal organization, and inquire about budgeting and inter-governmental coordination, and operators fear potential impositions on their lifestyle and disciplinary equilibrium. It is, however, a broad consensus on these various points that the existing state of affairs is not able to sustain the amount of mobility demands in Makassar and that it is mandatory and indispensable to transform the institutions. All these ways of thinking indicate how complicated it is to develop an institutional design that will result not only in improved efficiency and integration but also in receiving legitimation and approval among those who must implement it. The views of several stakeholders in the development of public transport are summarised in Table 4.

Table 4. Stakeholder perspectives

Stakeholder	Main Perspective	Concerns / Challenges	Opportunities / Expected Role
Department of Transportation (Dishub)	Advocates for a dedicated city-level authority to centralize planning, regulation, and monitoring.	Current fragmentation creates overlapping responsibilities and weak accountability.	Ensure integration across *Petepete*, Trans Mamminasata, and future BRT systems.
Regional Development Planning Agency (Bappeda)	Emphasizes alignment with broader urban development, land use, and environmental goals.	The risk is that a narrowly transport-focused body neglects the cross-sectoral mobility challenge.	Institutional reforms can support integrated urban growth strategies.
Public Works Department (Dinas PU)	Highlights infrastructural requirements as key to integration.	Limited authority/resources could hinder road, terminal, and pedestrian facility improvements.	Governance reform could strengthen synergy between infrastructure and service operations.
Local Legislators (DPRD)	Focus on political feasibility and intergovernmental coordination.	Concerns about budget allocation, legitimacy, and institutional overlaps.	Provide legal backing and oversight for sustainable governance reform.
Private Operators (*Petepete*, ride-hailing, bus companies)	Worry of losing autonomy and income under a centralized authority.	Fleet modernization costs and stricter regulations may disrupt livelihoods.	Potential for subsidies, formal contracts, and more predictable revenues.
Technical Agencies & Project Implementers (e.g., IMTPSP, consultants)	Stress the importance of technical capacity and financial sustainability in institutional design.	Past governance fragmentation delayed BRT investments and policy consistency.	A new institutional form can enable digital ticketing, electrification, and modernized operations.

The overall institutional reform debate has a different spin taken by the private operators, especially those who run Petepete and ride-hailing services. Many of the conservative operators are concerned that a central city government might eat into their autonomy and reduce their revenues, particularly when the new system causes them to modernize their cars or be subject to stricter regulations. On the other hand, it is a silver lining for some of the larger players. Reorganization could allow them to formalize partnerships, secure subsidies, or participate in contract-based service arrangements that will guarantee a more stable income.

In the meantime, the technical staff, including urban transport projects management units, consultants, and those involved in the Integrated Mass Transit System Project, continue to reiterate that they need an institution that is not only well organized but also has actual technical expertise and a sound financial foundation. They claim that the existing patchwork of governance slows investment in the bus rapid transit and population transport policies, which become fragmented and haphazard each time a new ruling party is put in charge.

On their part, the solution lies in an organization that, in fact, can control things and the expertise to operate them and ensure that planning, construction, and operation of the services all come together, and can keep up with technological transformations such as using digital ticketing or replacing all fleet lives with electric vehicles.

All these feelings taken together, we see that it is no mere playing cards to reform the Makassar institutions. It is not an easy task and involves the government departments, the operators, and engineers to sit down, sort out the issues, and ensure that the final product is, in fact, put to use and operates to the benefit of both the city and those who use it day to day.

4.2. Determinant Factors to Proper Public Transport Services and Management

This is because the success of the Makassar public transport system can be said to be through a series of issues that are related to the operations of the service, as well as the governance, finances, infrastructure, and the behaviour of the users. The analysis will be done on the perspectives of the stakeholders, the empirical information regarding the market characteristics, and the current developments on the local and national levels. It can be identified that throughout the meetings, there is the prevailing theme of institutional fragmentation being that primatise constitutes the most vital barrier ever to efficiency coupled with the fact that the Department of Transportation has placed an emphasis on the need to have an overall centralized power to do away with overlaps of responsibilities and to be able to integrate all the components of the mechanism.

The issue is echoed by Baddeda, saying that reforms in transport must be laced with urban objectives with regard to land-use planning, economic development, and environmental sustainability, and that the mobility issues are intersectoral in character. The infrastructural aspect is also important, and the Public Works Department concludes that they cannot be discussed without the institutional design. Integration between different media, such as Petepete, Trans Mamminasata buses, and the new BRT services can not be achieved without synchronous investment in the road networks, terminals, and walkways.

The gaps, the mean walk distance of more than 400 metres, and the lack of adequate pavements are aspects that are directly associated with the poor progress to avail oneself of public transport, wherein, in a bus ride, the occupancy is low by only 25 individuals, and 92 per cent of the travels are by cars or vehicles. This imbalance is not merely congested but heavily at a social and economic price in terms of delays in travel, inefficiencies in fuel, and growing pollution. Financial sustainability is another factor.

The local legislators will never cease to whine about the budgetary allocations and the political viability, and the private operators will fear the decrease in revenues in the event that an expensive fleet upgrade will be required due to the tightening of the regulations. Current fare of 2,000-6,000 is very dependent on subsidies that have been exhausted by a 59 percent reduction in the program budget of the BTS, 2025.

Without reliable finances, modernization, i.e., national priorities, e-buses, and digital ticketing, can simply grind to a halt, which will ultimately hurt user trust and system stability. Stakeholder engagement and inclusiveness are the key to eradicating these financial and political challenges. To illustrate, the operators of Petepete are concerned about whether they will lose control, but they know that the reorganization of the institutions would enable them to receive subsidies or contractual relations that would stabilize the revenues.

The exclusivity is also weakened by the fact that 52.5 percent of the passengers are women and 42 percent are young people, and both are the target customers who care about affordable prices, safety, and reliability. The remedy to these requirements should be the inclusion of equity in the reform via a user-centric design.

New ideas and technical skills are also most important. Those in charge of the IMTPSP and other projects, including agencies and individuals who are involved with such projects, claim that it is essential to establish a professional set-up that is capable of addressing the need to go digital, monitor services in real-time, and consume more electricity.

We previously discussed that when various sections of government do not cooperate effectively, it withholds funds from BRT routes. It would just go to prove that a solution to the way things are run would have to be accompanied by improved management and technical skills. There is surely a need to correct the manner of running things to overcome government roadblocks and accelerate investment in BRT routes. It must, however, be incorporated in a larger plan.

Ultimately, the movement of people about a city cannot be decoupled from both the environmental well-being and its development. It would require us to have an all-round approach that aligns travel plans with long-term city development and a healthy environment. In 2023, the transport pollution in Indonesia reached 149,538 thousand tonnes of CO_2. That was 22% of all pollution. Makassar was a large constituent of that, primarily because so many people work on their own vehicles.

Youths are beginning to adopt a more environmentally friendly mode of transport. Therefore, electric features, easier walking, and smart city design will not only reduce and decrease health issues but also environmental issues as well. They will also keep the system prepared for what people will need in the future.

Table 5 gives an overview of the factors influencing, extracted by this study, with their terms, supporting data, and implications of management and service delivery.

Combined together, such elements indicate that any successful public transportation transformation in Makassar must not be reduced to administrative changes alone but rather will require an institutional structure that is adaptable, participatory, and economically resilient, and which integrates the infrastructures with the needs of its customers and sustainability goals.

Table 5. Determinant factors for public transport services and management in makassar

Determinant Factor	Description	Supporting Evidence	Implications for Services and Management
Institutional Structure and Governance	Establishing a centralized municipal authority (e.g., BUMD or BLUD) to manage planning, regulation, and monitoring, thereby reducing fragmentation.	Dishub highlights the need for centralization; current arrangements dominated by provincial-private models are ineffective; BTS Teman Bus reforms emphasize strengthening sub-national institutions.	Improves accountability and efficiency; prevents low ridership and inconsistent policy outcomes.
Integration of Modes and Infrastructure	Coordinating Pete-Pete, BRT, ride-hailing, and pedestrian facilities for seamless connectivity.	PU stresses infrastructure-service synergy; Trans Mamminasata and pete-pete show poor integration; walking distances >400m; average bus occupancy 25; 92% private vehicle preference.	Enhances accessibility and user satisfaction; reduces congestion and supports Makassar's polycentric structure.
Financial Sustainability and Resources	Ensuring adequate funding, subsidies, and revenue streams through models such as PPPs.	DPRD raises budgetary concerns; operators fear modernization costs; fares Rp. 2,000–6,000 dependent on subsidies; 2025 BTS budget cut by 59%.	Secures long-term viability; allows modernization and supports electrification by 2030.
Political Feasibility and Intergovernmental Coordination	Strengthening legitimacy through laws, oversight, and coordination between the city, province, and national levels.	DPRD emphasizes coordination; history of jurisdictional overlaps; 2025 protests linked to economic and transport inefficiencies.	Ensures funding and legitimacy; enables BRT expansions in 20 priority cities, including Makassar.
Stakeholder Engagement and Inclusivity	Balancing the needs of agencies, operators, and users to build legitimacy and reduce resistance.	Operators fear autonomy loss but see opportunities for subsidies/contracts; 52.5% users are female, 42% youth, prioritizing safety and affordability.	Promotes equity and acceptance; ensures reform is socially inclusive.
Technical Capacity and Innovation	Developing professional institutions capable of adopting digital ticketing, electrification, and data-driven planning.	IMTPSP emphasizes technical capacity; fragmented governance slowed BRT investments; national programs push for e-buses and digital systems.	Increases efficiency and service reliability; supports modernization and emission reduction.
Alignment with Urban Development Goals	Linking transport governance with land-use, economic growth, and environmental strategies.	Bappeda highlights the risk of a narrow focus; transport demand tied to 8% economic growth; 2025 reforms link transport with sustainability.	Provides holistic solutions; connects mobility to urban development priorities.
User-Centric Design and Accessibility	Designing services that prioritize safety, comfort, reliability, and affordability.	77% daily users are dissatisfied with timeliness and safety; poor pedestrian facilities limit access.	Boosts ridership and reduces reliance on private vehicles.
Environmental and Sustainability Focus	Integrating electrification and green initiatives to cut emissions and improve public health.	CO_2 emissions 149,538 thousand tonnes in 2023 (22% total); Gen-Z shows preference for sustainable modes; e-bus transitions ongoing in 2025.	Reduces pollution, aligns with NDC goals, and appeals to younger users.

4.3. Analysis for a Suitable Institutional Form as a Public Transport Provider in Makassar City

The evaluation of appropriate institutional form to run the public transport in Makassar has shown that there are three substantial decisions, Badan Usaha Milik Daerah (BUMD), Badan Layanan Umum Daerah (BLUD) and Public-Private Partnerships (PPP) and each of them was rated on the background of the key factors, such as the governance

structure, financial capacity, political feasibility, and technical resources, user needs, and environmental priorities (Table 6).

As shown in the analysis, Makassar needs an institutional form that can assist in addressing the structural problems of unremitting fragmentation in planning and operation, low ridership on the public transport mode (the average bus occupancy is 25 passengers), and excessive dependence on personal vehicles (30-60 percent of trips) and achieve the sustainability goals of fleet electrification and emissions reduction.

Table 6. Suitability matrix

Determinant / Stakeholder Perspective	BUMD (Regionally Owned Enterprise)	BLUD (Regional Public Service Agency)	PPP (Public–Private Partnership)
Dishub (Department of Transportation) – need for centralization & accountability.	Strong authority and centralized control, reducing fragmentation, but it requires large political and financial backing.	Provides a unified yet flexible city-level authority, less bureaucratic than current arrangements, and feasible for immediate needs.	Requires strong contractual design; risks fragmentation if oversight is weak.
Bappeda – cross-sectoral alignment with land use and development goals	Can integrate transport planning with broader development, but corporate orientation may prioritize revenue.	Supports integration with urban, environmental, and economic planning while maintaining public focus.	Can align with development strategies through private investment, though profit motives may divert attention from cross-sectoral goals.
Dinas PU – infrastructure and service synergy	Capable of coordinating infrastructure with services, but dependent on large capital allocations.	Ensures collaboration with PU for affordable improvements (e.g., sidewalks, terminals), well-suited for gradual upgrades.	Allows private funding for infrastructure but requires strict regulation to maintain public interest.
DPRD – budgetary and political feasibility	High capital requirement may strain city finances; it is vulnerable to political interference.	Lower initial costs, more politically acceptable under current fiscal constraints.	Complex approval process and risk of political resistance due to profit-sharing mechanisms.
Private Operators – livelihood and autonomy	Potentially threatens operator autonomy; opportunities exist if engaged through contracts.	Provides space for cooperatives and service contracts, ensuring predictable income while reducing conflict.	Direct inclusion of operators is possible, but there is a risk of unequal benefits and resistance from traditional stakeholders.
Technical Agencies / IMTPSP – expertise and innovation	Corporate structure can adopt modern practices, but local technical capacity is limited.	Flexible enough to adopt innovations (digital ticketing, e-buses) with external technical support.	Strong potential for innovation through private expertise, though the city must safeguard equity and continuity.
Users – affordability, safety, reliability	Possible improvements in quality, but affordability depends on subsidies; risk of fare increases.	Strong alignment with public welfare, affordable fares, and safety for students, women, and low-income users.	It can improve reliability and comfort, but risks prioritizing profit over accessibility and affordability.
Environmental Sustainability	Supports electrification and emission reduction, but is constrained by budget limitations.	Balances sustainability goals with affordability, making it feasible for gradual e-bus introduction.	Enables rapid green transition with private investment, though long-term public oversight is essential.
Financial Sustainability	Potential for revenue generation and reinvestment, but requires heavy upfront funding and subsidies.	Lower investment burden; revenues are reinvested directly into services, but are still reliant on subsidies.	Leverages private capital to ease fiscal pressure, but profit orientation may conflict with social goals.
Overall Suitability for Makassar (2025 context)	Moderately suitable – strong control but financially demanding and politically sensitive.	Highly suitable – balances governance, affordability, feasibility, and stakeholder acceptance.	Conditionally suitable – brings investment and expertise but risks inequity and requires robust oversight.

Table 7. Comparison of institutional models based on stakeholder evaluation criteria

Criteria	BUMD	BLUD	PPP	Preferred by Stakeholders
Governance Effectiveness	High corporate control	Flexible operations, public oversight	Shared risks but complex coordination	BLUD (18/25 respondents)
Financial Sustainability	Revenue opportunities	Affordable with subsidies, reinvestment	Private investment but fiscal risks	BLUD
Integration Capacity	Limited multi-stakeholder	Strong coordination potential	Technical expertise for large projects	BLUD
Political Feasibility	Local ownership issues	Compliant with decentralization	Regulatory hurdles in the current context	BLUD
User Orientation	Profit-driven risks	Inclusivity and affordability focus	Service quality, but higher costs are possible	BLUD
Environmental Commitment	Variable	Supports electrification (e.g., collaborative fleets)	Innovation potential but profit-oriented	BLUD

Being a government-owned enterprise on the city level, a BUMD would offer a high level of city control and the prospects of combining different modes, such as Petepete, the Trans Mamminasata service, and the eventual BRT lines. Its corporate framework permits it to generate revenue via fares and alliances, like in the case of Jakarta PT Transportasi Jakarta. This model would sanction Dishub's request for the centralization of authority and may take into consideration Baddeda's demand for cross-sectoral integration of land use and environmental policies. Nevertheless, the BUMD model has major disadvantages in the present-day setting of Makassar. It involves a very large capital outlay and constant subsidies that are hard to assure due to the 59% cut to the BTS budget in 2025. Lack of technical skills at the city level might also slow down adopting digital ticketing or e-bus solutions, and the threat of politicking is significant, which is expressed in the concerns of DPRD regarding the control over the budget and the impact of the local elite.

A BLUD, on the other hand, is very unlike a BUMD in the sense that it is technically an independent service agency, though it seeks to find equilibrium between the interests of the people and the adaptability of its service. This could be referred to as a more realistic, politically viable model, given the present state of financial matters, and given the fact that it has centralized governance without the need to inject a heavy capital input. Through the BLUD system, one would be able to circulate money back into the business and at the same time maintain the fares at a low rate (Rp. 2,000-6,000), which is highly crucial among people with a low-income background and students who, collectively, constitute a considerable portion of those who use the transport. Additionally, a contract could be entered into with a privately operated dealer who will allow the party involved to have freedom over their own actions and, at the same time, be able to live their lives using the earnings. At the same time, they will be able to collaborate with NGOs such as ITDP in order to make the sector gender equal, as, as per the report, women comprise 52.5% of the total number of users. In addition to that, the BLUD model also presents a channel through which one can engage with Dinas PU on the topic of the necessary infrastructure, including sidewalks, terminals, and walking facilities, and it is worth mentioning that 47 percent of the users will be taking public transport by foot, and over 30 percent will be required to walk distances exceeding 400 meters. Better still, the somewhat flexible nature of the model can also be given a leeway to take the required technical assistance on the part of IMTPSP to address the local human resources challenges to ensure that they can in turn apply digital ticketing and electrification and this comes in tandem with the preferences of Gen-Z of using environmentally friendly means of transport and other environmental objectives because the transport sector in Makassar emitted 149,538 thousand tonnes of CO2 in the year 2023. The PPP route is open to the inflow of financing and expertise of the private sector, which in turn will be able to raise money in a hurry over BRT corridors, digital systems, and e-bus fleets. In addition, the service has the potential to unite the conventional modes and ride-hailing platforms through a single interface to make the transport network more accessible. However, the latter needs tight regulatory control so that profit-making in the exclusion of other values like affordability does not take place. Meanwhile, a city having a lack of institutional capacity, such as Makassar one will not set its footing easily to negotiate such multifaceted contracts and carry out all the needed monitoring actions. Add to that, the resistance posed by traditional operators, that is, Petepete cooperatives, will be a socially conflicting situation in case profit sharing and the service roles distribution are not done with particular attention. Bearing all this in mind, the model that thrives on the connection to private operators, NGOs, and national programs, like IMTPSP, is the ideal model in the case of the Makassar public transport system. It meets a fundamental need of the city of good administration, centralized and flexible, economically viable even when the subsidies have been cut down, and has easy-to-use prices. It also allows the inclusion of stakeholders, improvement of infrastructure, and technological advancements. The BLUD is also easier to capitalize than a BUMD and more likely to be politically sponsored, as well as escaping the profit traps most PPPs fall into. In simple words, BLUD, which fosters

collaboration, is the most optimal mix that will ensure good governance, social inclusiveness, and long-term viability, and therefore is the most viable channel of enhancing the public transport system in Makassar.

5. Conclusion

This paper has tried to provide answers to three related questions regarding the best institutional form that would fit the management of urban transport in Makassar as it is currently, issues in its management, the attitudes, and the factors that affect the stakeholders, which affect the service delivery and integration. The facts suggest that the existing configurations of the agencies were defined by divided tasks and, as the majority of the duties were skewed towards provincial or individualistic efforts, have not been sufficient to meet the growing mobility demands in the city. The lack of system-wide integration, the lack of proper accountability, and poor coordination of the work of the public transport are some of the reasons why the latter has not been functioning effectively, which contributes to the low ridership rates, an unreasonable dependence on private vehicles, and overcrowding. The opinion of the stakeholders represents a similar agenda and variance in priorities. On the one hand, the Department of Transportation is marked with the acuteness of the centralization of power, and on the other hand, the Planning Agency has the priorities of the necessity of coordination of the transport management with the land use, economic, and environmental objectives. Infrastructural capacity is of interest to public works, and fiscal and political feasibility are mentioned by legislators. Privacy operators are worried about their livelihood and autonomy, though. The technical agencies are looking at the necessity of having capacity building and sustainable funding in order to ensure continuity of investment and modernization. Despite the difference in these standpoints, there is a general consensus that institutional reform is imperative and unavoidable. Depending on the synthesis of the empirical data, the insights, and the analysis of suitability, some determinants emerge as determinants in the successful and sustainable management of public transport. These include the creation of a coherent city-level governance, integration of modes and infrastructure, financial sustainability, political legitimacy, inclusiveness of stakeholders, technical competencies, and dedication to greater urban development goals. The BLUD model appears to be the most relevant institutional option in the case of Makassar as it balances accountability and flexibility with possibilities to offer a framework of a gradual modernization process, and it has better political and financial feasibility compared to capital-intensive BUMD and risky PPP arrangements.

In conclusion, successful and effective urban transport management in Makassar must consider not only transforming the institutional structure but also commit themselves to an inclusive governance, sustainable financing, and a user-friendly standpoint of services. Providing an institution working at the level of the city, which could guarantee the differences of interests of the sectors all converging on the necessity to coordinate the activities of both the infrastructures and services, Makassar could gradually build a stable, sustainable, and cost-efficient public transport system. Well-structured reforms will result in both mobility and numerous forms of resiliency in the city, social equity, and economic competitiveness in the long term.

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