



UNRAVELING THE COMPLEXITY OF PUBLIC TRANSPORT GOVERNANCE IN URBANIZED AREA: CASE STUDY OF YOGYAKARTA URBANIZED AREA

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ABSTRACT

Transport governance has become an increasingly significant aspect of transport research. In urban areas, the institutional problems become more complex since they involve actors across administrative regions, not to mention institutional fragmentation, where actors need to have the capabilities to build good coordination between institutions. In addition, Indonesia currently has weak institutional capacity in public transportation planning and policy. This can hinder the development of effective and efficient public transportation. This paper elaborates on the complexities of public transportation planning in the Yogyakarta Urbanized Area (YUA) by unraveling the distribution of responsibilities and coordination mechanisms across governance levels. To fulfill this objective, we conduct interviews with policy-makers and stakeholders involved in public transport policy-making. Unclear roles, limited financial and human resources, and the lack of a clear institution responsible for public transport arrangements within YUA are constraints to achieving successful public transport planning in YUA. However, YUA has a typical polycentric governance system involving multiple actors in the public transport policy-making process, aggravating the coordination problem in various horizontal and vertical networks between actors.

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1. Introduction

Previous transport studies have focused on engineering, operation research, economics, psychology, and mathematics, but only a few elaborate on how to develop transport policies, which are undoubtedly important. The review results by Marsden & Reardo (2017) about state-of-the-art transport policy research found that context, power, resources, and legitimacy are ignored in most studies. Meanwhile, transport governance plays a prominent role in shaping transport systems and has been a topic frequently discussed by researchers worldwide (Paulsson et al., 2017; Veeneman, 2016; Hirschhorn & Veeneman, 2021).

Decentralization has significantly changed the government by transferring power and responsibilities from the central government to lower levels of government, including inter-local government structures. Inter-local government is part of a multi-level government, where local authorities collaborate horizontally across administrative boundaries to implement decentralized

policies and programs, including transport. Since decentralization, metropolitan transport planning relies on inter-local government's voluntary collaboration (Miharja & Woltjer, 2010).

The ability of local governments to adapt to decentralization varies, depending on the local government's capacities. Decentralization has given local governments more authority to undertake development programs (Firman, 2014). Further, Firman (2014) argues that the main challenge of Indonesia's decentralization policy is the need for more institutional capacity to implement the policy at both the local and national levels. Since decentralization, inter-local government partnership institutions have become crucial for sustainable local and regional development (Fahmi et al., 2010; Firman, 2010).

In urban areas, the institutional issues become more complex since they involve actors across administrative regions, not to mention institutional fragmentation, which also evolves in metropolitan planning, where actors do not

have the capabilities to build good coordination between institutions. This also applies to public transport planning. In addition, Indonesia currently has weak institutional capacity in public transportation planning and policy. This limitation becomes an obstacle to developing effective and efficient public transportation. To some extent, institutional fragmentation is a natural consequence of ad-hoc efforts to invest in urban transport without a clear institutional 'home', the rapid growth of cities, and the need to accommodate transport movements (Gijre & Gupta, 2020). Studies in London and Berlin examined how urban policymakers, experts, and interested parties have collaborated across various fields, regions, and periods by concentrating on the fundamental institutional frameworks (Rode, 2019).

Different levels of government do not always coordinate their policies since they have different perspectives and aims. However, governments at different scales of jurisdiction are typically mutually reliant (Veeneman & Mulley, 2018). Public transport systems result from complex interactions of various levels of government. Each level of government might have different perspectives toward priorities regarding transport policy, making public transport governance more complex. A study by Hirschhorn (2022) found that public transport is a complex socio-technical system with actors having different values, interests, and interdependent aspects (such as technology, infrastructures, and finance). Thus, governing in this field will create a complex nature.

Koirala & Chandra's (2021) study in Nepal revealed that although many challenges require cooperation between local governments, horizontal collaboration is not offered. The study further explains that there is no legally mandatory legislation or uniform framework for cooperation amongst local governments. Therefore, the lack of an integrated framework for collaboration became the most significant barrier. In metropolitan areas, neighboring districts and municipalities have hardly worked together effectively to support urban growth (Firman, 2014).

It is critical to elaborate on the metropolitan public transport institutional system and understand how the governance structures influence public transport planning and policy formulation. This paper elaborates on the complexities of public transportation planning in the Yogyakarta Urbanized Area (YUA) by unraveling the distribution of responsibilities and coordination mechanisms among governance levels. To achieve this objective, polycentric governance is employed, which views the government as multiple centers of authority rather than a nest of hierarchical scales, typically at various sizes and involving the public, private, non-profit, and informal community groups. The complexity of transport governance is caused by different actors and variations in formal governance structures across regions. This paper contributes insight into how the complexity of transport governance can be structured by taking public transport planning in YUA as a case study.

2. Literature Review

2.1 Public Transport Governance

Understanding governance in the transport field is often not straightforward. Therefore, clearly defining the term governance is necessary. Recently, there has been an increased focus on conceptualizing governance in the transport field (Hirschhorn, 2022). Paulsson et al. (2017) define governance as an analytical idea that allows for a critical investigation of different steering "modes" that rely on institutional characteristics, actor combinations, and policy tools. Gudmundsson et al. (2016) resume that governance is all about who has control and how the system is directed. Although their conceptualization of governance alludes to Treib et al. (2007), it remains sweeping and elusive. Veeneman (2018) then concludes that public transport governance is the collection of institutions that give actors the agency (the ability to act) and financing (the means to act), organizing their activities in a way that promotes a public transport system and aims to achieve public ideals.

Numerous governmental players and agencies are involved in developing and managing the transportation system. The local, regional, national, and international levels of government must coordinate their policies and actions because transportation transcends administrative borders. The fact that the transportation system is owned and run by a combination of public and private actors operating within a framework established by various levels of government adds more complexity. According to Treib et al. (2007), at least there are three main dimensions of governance:

- (1) The rules, laws, and a series of formal and informal practices through which systems are governed;
- (2) The network of actors that affect decision-making;
- (3) Creating laws directs society's attention toward a particular set of goals. Thus, governance is viewed as a "mode of political steering."

Public transportation system design is complicated because it involves different organizations, experts, and stakeholders, each with different viewpoints (De Bruijn & Veeneman, 2009; Olesen, 2014). Nonetheless, decision-makers struggle with the complexity of public transport policymaking (Marsden & Docherty, 2013). Therefore, managing public transport means dealing with the complex formal and informal processes of interaction for collective decision-making involving both public and private actors, which also includes sustainability, cost-effectiveness, and accessibility (Hirschhorn, 2022).

Public transport governance requires horizontal and vertical coordination among agencies. Christensen and Laegreid (2008) found that horizontal coordination creates more problems than vertical coordination. Veeneman & Mulley (2018) argued that the higher levels of government are expected to provide better results for links, while the lower levels of government are expected to give better results for places. This represents the distribution of agencies in public transport across levels of government and the outcomes of the public transport system.

There is a recent discourse on establishing a single integrated planning authority at the metropolitan level (Hirschhorn et al., 2019). Hirschhorn (2019) further explains that having an integrated planning authority is crucial for

successful public transport performance. In line with that, the merger of the province and metropolitan areas can strengthen cooperation through structural reforms of governance (Veeneman, 2016). This action is believed to increase government coordination in public transport provision. This effort can also be a solution to deal with fragmentation at the regional level.

There is an urgent need for strong coordination among stakeholders in public transport policymaking. Various reasons have been identified for the lack of inter-organizational coordination in developing countries, including the threat to the organization's autonomy, lack of consensus regarding the tasks at hand, and competing demands stemming from various horizontal and vertical networks (Brinkerhoff, 1996). In urban transport policy implementation, diversity among stakeholder perceptions and interests, multiplicity of linkages, and scarcity of resources are likely to aggravate coordination problems. A top-down approach is often used to deal with the lack of consensus (Gijre & Gupta, 2020).

2.2 Polycentric Governance

After decentralization, the concept of governance entails the participation of multiple parties operating at different decision-making levels without the influence of a single central authority (Finka & Kluvánková, 2015). In response to uncertainties, overlapping parties in transport governance influence one another. The transport governance system encompasses various actors, including public and commercial transport service providers at national, regional, and municipal levels. As a complex adaptive system, polycentric governance is frequently associated with an optimal capacity for adaptation (Carlisle and Gruby, 2019 in Bousema et al., 2022). Adaptive capacity refers to a government's ability to modify procedures and structures in response to social or environmental changes (Pahl-Wostl, 2009).

In governance processes, 'polycentric' refers to several formalized, mutually independent decision-making centers (Stephan et al., 2019). Polycentric governance necessitates a complex combination of different levels and kinds of organizations drawn from the public, private, and voluntary sectors with overlapping functional capacities and responsibilities (McGinnis et al., 2011). It is further characterized by autonomous entities that may have overlapping jurisdictions and may not always fit together as opposed to traditional government. Additionally, the overlapping jurisdictions of actors in polycentric systems encourage them to consider one another as their activities affect one another (McGinnis, 2016). According to Stephan et al. (2019), there are eight characteristics of the polycentric governance concept, namely multiple decision centers, formal independence, overlapping jurisdictions, multiple processes of mutual adjustment among decision units, low costs of entry or exit from decision centers, overarching system of rules or law, orderly patterns of behavior, interactions, and outcomes, and emergent or intentional means of effective coordination and decision-making at a systems level.

2.3 Practices in Urban Transport Governance

Developing countries tend to experience challenges in building inter-organizational coordination, which is pivotal in the context of urban transport policy. According to Brinkerhoff (1996), coordination problems emerge due to the threat to the organization's autonomy, the lack of consensus among institutions, and the demands on the organizations from its involvement in both horizontal and vertical networks. In short, the organization will not coordinate with others unless certain benefits are gained from the coordination. Different perceptions and interests, as well as resource limitations, worsen the coordination problem. Top-down practices are often used to solve unclear tasks where the higher level of the institution becomes the problem solver, and the lower level is given instructions regarding their tasks.

The formal and informal practices in the governance structure might affect how actors formulate future policy development. Moreover, there are various degrees of state involvement in the administration and operation of public transportation systems. For instance, bus services are supplied by a deregulated and privatized market outside London in the United Kingdom. In contrast, metropolitan authorities in the United States run the bus system (Gudmundsson et al., 2016). Thus, it is evident that there are a variety of public and private sector actors with whom to interact in the public transport system. Previous studies show how the different competencies for decision-making between actors in multi-level governance structures in the EU and the US contribute to complexity in transport policy development and delivery (Bache & Flinders, 2004; Marsden & May, 2006).

To address these complexities, Hirschhorn (2022) defines governance into three dimensions (formerly analyzed by Treib et al., 2007), namely the politics (concerning the actor constellation, i.e., range and kind of actors involved in the process of policy-making), polity (relating to the institutional environment in which these actors works), and policy (pertaining to political steering, i.e., the kind and quality of steering tools being employed). Hirschhorn (2022) elaborated on the complexities of transport governance by using empirical studies in Europe, Australia, and Canada and further mentioned that to have a better grasp of the governance in the policy-making processes, one must look at the reality of formulating and implementing policies as well as what needs to be done to construct a transport policy.

To nurture a good partnership among government levels towards transport policy coordination requires multi-level government collaboration, coordination among local stakeholders, and regulator-operator cooperation (Dirgahayani & Nakamura, 2012). Using the Netherlands case, Veeneman (2016) proposes two forms of public transport authorities: (1) the metropolitan governance becomes a cooperative governance structure that consists of an executive branch (includes the public transport department) and a board of representatives for the municipalities, (2) the cooperation between constituencies which only concern on public transport. The key difference between these two forms of provincial authorities is their little political influence. These two forms feature a more

tiered form of government, removing elected officials from decision-making.

3. Research Method

The study performs a qualitative approach to achieve the study objective. The primary data was collected through documentation and semi-structured interviews with various stakeholders involved in public transport policymaking. The interviews aim to collect data regarding YUA's public transport planning policy-making processes. A thorough case study and an examination of current institutional arrangements in YUA determine the features of governance systems.

The selection of interview participants is based on identifying the main actors in YUA's public transport policy, deduced from the regulation and policy documents. They include the Department of Transportation (DISHUB) at the city and province level, the planning agency (BAPPEDA) at the city and province level, and public transport operators, i.e., PT. Anindya Mitra International (PT. AMI) and PT. Jogja Tugu Trans (PT. JTT), the Ministry of National Development Planning (BAPPENAS), and the Ministry of Transportation (MoT). The main interview question revolves around the complexity of public transport governance in YUA by investigating the role and communication among actors at various levels.

After transcribing the interviews, the data were analyzed using NVIVO. The data analysis used open coding to form thematic codes representing the actor's roles and interactions. The regulations and policy documents were then used to verify information gathered from the interviews. Finally, the results were triangulated. Thus, the validity and reliability of the results can be corroborated by compensating for data deficiencies from other sources.

4. Results and Discussions

4.1 Current Public Transport Services in YUA

Yogyakarta Urbanized Area (YUA) is the agglomeration area covering three administrative regions: Yogyakarta city, parts of Sleman regency, and parts of Bantul regency. YUA has also been appointed as an Economic Strategic Area in Yogyakarta Province. YUA also functions as a national activity center (PKN), making this area experienced rapid growth in the last ten years.

TransJogja is YUA's main public transport service, and it began its services in 2008. TransJogja was initiated by the Yogyakarta Province government to substitute the regular bus with inadequate services. At first, the operator of TransJogja was a consortium of four transport operators in DIY, namely PT. Jogja Tugu Trans. However, in 2016, due to the change in public transport management, the TransJogja operator shifted to a regional government-owned enterprise (BUMD). Therefore, the operator of TransJogja has been changed to PT. Anindya Mitra International (PT. AMI) until now. Currently, TransJogja has 18 corridors that cover the YUA.

According to the strategic planning and the public transport development masterplan of Yogyakarta Province, the public transport service in the YUA must cover at least 25 districts within the area. In line with the planning

document, since the end of 2020, Yogyakarta Province received funding assistance from the Ministry of Transportation (MoT) through the Teman Bus program, which implements the Buy the Service (BTS) system. Teman Bus has three corridors which serve the underserved area of TransJogja and covering 25 districts. The operator of Teman Bus is PT. Jogja Tugu Trans (PT. JTT). Besides TransJogja and Teman Bus, YUA is also served by regular buses that operate without fixed schedules.

4.2 Local Public Transport Organization in YUA

Different agencies are involved in YUA's public transport policymaking. At first, there was a tenuous relationship between actors engaged in public transport planning in YUA, especially regulators and operators. At that time, the leading local transport in YUA was provided by regular bus services, which several public transport companies operated.

Referring to the Yogyakarta Governor's Regulation 12/2024 document concerning the implementation of the TransJogja subsidized urban transportation system, several points regulate the role of stakeholders in public transport implementation. Based on this regulation, PT. AMI is the operator of TransJogja, which is defined through a direct assignment scheme. The responsibility of PT. AMI includes a) vehicle operationalization, b) components of vehicle operating costs, c) financial management, d) minimum service standards, e) mechanism for calculating profits and fines, and f) annual passenger targets in providing transport services, PT. AMI can appoint fleet operators, ticket operators, and other parties to assist with transport operations. Obligations of PT. AMI includes:

- 1) prepare TransJogja operating Standard Operational Procedures (SOP);
- 2) provide passenger transportation services that meet the minimum service standard;
- 3) apply the principles of good corporate governance;
- 4) carry out management and control of the supporting management system;
- 5) meet the target number of passengers set in the Governor's decision; and
- 6) make operational implementation reports to the Governor through the Transportation Department every 3 months

The Governor determines the TransJogja service routes in accordance with the Yogyakarta Transport Department's proposal. They can be updated at any time according to the users' needs and operational efficiency. Meanwhile, the Yogyakarta Province Transport Department is a regional government mandated to manage the TransJogja public transportation system.

4.3 Public Transport Governance in YUA

After decentralization, there is initially a significant change in governance structure and the way each level of government interacts with others within a horizontal network. Despite the decentralization, urban development policies, including transport policies in Indonesia, are still under the control of several authorities.

In Indonesia, the central government organizations are responsible for formulating the policies used as the basis for the regional government to construct the development policies within their areas. The Ministry of National Development Planning (BAPPENAS) translates the elected president's vision and mission into a national development plan. The plans are divided into three types: the long-term plan (20 years), the medium-term plan (5 years), and the annual plan (one year). Regarding public transport, BAPPENAS coordinates with the Ministry of Finance to arrange the budget allocation for the national transport program. During the process, there are possibilities for BAPPENAS to initiate partnerships with international development agencies, particularly related to funding.

BAPPENAS is prominent in determining regional urban and transport development policy, including in YUA. According to the National Medium-Term Development Plan (RPJMN), YUA is one of the strategic urbanized areas. However, the process is often top-down without involving the lower level of government. At this point, the RPJMN document becomes the primary guide for regional planning and transport strategies. Since the decentralization, regional governments have full authority to set their development policies.

While BAPPENAS is responsible for the national development policy and program, the Ministry of Transport (MoT) is responsible for formulating the technical policy and programs. The MoT prepares policies for air, sea, and land transport sectors, which are compiled into the National Transportation System (SISTRANAS). In line with the RPJMN document, the MoT must also formulate a strategic transport plan, including developing various policy recommendations for public transport in YUA.

At the regional level, the leading actor in formulating planning policy is the Regional Development Planning Agencies (BAPPEDA) of Yogyakarta Province (DIY). In doing the task, this agency has to coordinate the plans with various departments at different levels, both at the state levels and subnational levels. Therefore, BAPPEDA DIY has vertical and horizontal relationships during policymaking. Similar to BAPPENAS, BAPPEDA DIY also prepares the planning policy in three different terms: long-term plan, medium-term plan, and annual plan. Regarding the budgeting allocation, BAPPEDA DIY must coordinate with the Financial and Asset Management Agency (BPKA) to assess the program's financial viability. For transport planning policy, BAPPEDA DIY will closely coordinate with the Department of Transportation (DISHUB) DIY and DISHUB of Yogyakarta city at the subnational level and the MoT at the state level. Table 1 shows a general overview of roles and responsibilities among actors at different levels.

Table 1. Actors and their responsibilities

Organization	Role and responsibility
Ministry of National Development Planning (BAPPENAS)	<ul style="list-style-type: none"> Construct and develop national development planning as a guideline for state and regional government Control and review regional development planning Coordinate and decide the

Table 1. Actors and their responsibilities

Organization	Role and responsibility
Ministry of Transport (MoT)	<ul style="list-style-type: none"> budget allocation for programs with the MoF Prepare national transport policy as guidelines for regional government Develop policy to support the increasing of accessibility, connectivity, and transport infrastructure
Ministry of Finance (MoF)	<ul style="list-style-type: none"> Analyze the national policy on economic growth Coordinate and define the budget allocation with BAPPENAS
Regional Transport Agencies	<ul style="list-style-type: none"> Formulate technical policies in the fields of transportation, traffic, infrastructure, and operational control Policy implementation at the regional level
Regional Development Planning Agencies (BAPPEDA)	<ul style="list-style-type: none"> Construct and develop regional development planning Formulate the technical policies for planning, research, and development, and regional statistics Implementation of development planning and control policies at the regional level
PT. Anindya Mitra Internasional (AMI)	<ul style="list-style-type: none"> Running the subsidized urban transport system called Trans Jogja Operate, maintain, and utilize the infrastructure and facilities of Trans Jogja
PT. Jogja Tugu Trans	<ul style="list-style-type: none"> Running the subsidized public transportation called Teman Bus, which operates through the Buy the Service scheme Operate, maintain, and utilize the infrastructure and facilities of Teman Bus

There are at least two primary public transport services in YUA. The first one is TransJogja, which PT currently operates. AMI. The other service is Teman Bus, which PT runs. JTT. TransJogja is funded by the regional DIY budget through DISHUB DIY budget allocation, while the national budget under MoT budget allocation supports Teman Bus. Therefore, two governments from different levels run authority in the administration, supervision, control, and evaluation of urban public transportation in YUA. This condition represents how multi-scale governance is seen in the public transport system in YUA. Moreover, the multiple centers of decision-making authority with overlapping jurisdictions show a polycentric governance model in the public transport governance of YUA.

4.4 Public Transport Governance Complexities in YUA

To elaborate on the complexity of public transport governance in YUA, we identify the horizontal connection

between actors at the local levels. In this case, we consider the role of the central government, provincial and city governments, and the public transport operator.

In DIY, BAPPEDA prepares its region's urban transport development agenda, particularly within its administrative areas. BAPPEDA formulates the provincial long-term, medium-term, and annual development plan, including the transport plan. While arranging the plan, BAPPEDA conducted a public consultation called *Musrenbang*, allowing related actors, including society, to discuss the projects and programs in the planning document.

The Regional Transport Agency (in this case, DISHUB DIY) manages urban and rural transport at the provincial level. One of the tasks is to formulate a master plan covering the provincial transport system, including public transport. Regarding public transport, DISHUB DIY is responsible for various tasks regulated through Yogyakarta Governor Regulation 115/2022 and 12/2024. As an agency that has a mandate of authority from the Governor of DIY, DISHUB DIY is in charge for:

- a. plan, build, and maintain operational supporting infrastructure for TransJogja as subsidized urban transportation;
- b. establish a policy for the operationalization of TransJogja;
- c. arrange public transport routes outside TransJogja that intersect and/or coincide with the TransJogja service network;
- d. regulate traffic management that supports TransJogja; and
- e. evaluate the implementation of Trans Jogja.

At this point, DISHUB DIY supervises the operation of TransJogja, which PT implements. AMI as the operator. The supervision is carried out by monitoring and evaluating the minimum standard achievements every three months. In doing the tasks, DISHUB DIY also coordinates with the central government and city government, particularly during the evaluation.

Since 2001, the DIY Provincial government has established a joint secretariat of the Yogyakarta city government, the Sleman government district, and the Bantul government called *Kartamantul*. The organization facilitates cooperation in developing several facilities and infrastructure, including waste, wastewater, clean water, transportation, and drainage. *Kartamantul* is run by human resources drawn from three regions, and a replacement system is used twice a year. Establishing this joint secretariat should maximize the coordination function among governments within hierarchical networks, thus making inter-local government collaboration work. However, the coordination function has not worked in public transport. According to the interview with the office manager of *Kartamantul*, there is a lack of commitment among regional governments (districts and municipalities) due to the unclear responsibilities between different levels of public transport provision, particularly on the feeder system. Each region could not afford to finance the TransJogja feeder within their area. Besides the fiscal capabilities of their regional budget, the lack of public interest in public transport also contributes to the low

ridership. Moreover, there are no clear regulations on collaboration schemes among various stakeholders within different levels of public transport policymaking. It is complicated to actualize inter-local government partnerships without a clear institutional body and regulation.

Interesting things were found in the interviews in dividing the actors' roles, even though PT. AMI has been appointed as the actor responsible for TransJogja's operations, but its role has several limitations that directly impact public transport services. One example is related to the authority over TransJogja stops. Following Yogyakarta Governor Regulation 12/2024, the provision and maintenance of bus stops and their facilities is the responsibility of DISHUB. In this case, the 267 bus stops spread throughout Yogyakarta City and its surroundings are owned by the DISHUB DIY, DISHUB Yogyakarta, DISHUB Sleman, and DISHUB Bantul. Agencies who build bus stop infrastructure are also responsible for maintaining bus stops and their facilities. Meanwhile, PT. AMI is responsible for human resources for bus stop officers who serve passengers according to TransJogja operational hours. This was conveyed as one of the obstacles where PT. As an operator, AMI feels it has limited authority over TransJogja's supporting facilities. The division of roles with this model causes the maintenance process to be relatively longer.

Bringing public transport provision into the metropolitan context would be more complex since it involves governments across regions with different authorities and interests. The current regulations and laws have yet to enable governments to share their authority with other territories collaboratively. This condition has become one of the main problems in managing public transport in several metropolitan areas in Indonesia, which is reinforced by statements from the MoT. Actors from all government levels should improve coordination in public transport policy practice. Although decentralization enables regional governments to have their full authority for regional development, there seems to be an inevitable fragmentation among governments at the regional level. This condition has caused inefficient coordination, resulting in public service failure, including in public transport provision. Even after decentralization, the national government still plays a particular role in public transport. According to the RPJMN document, Yogyakarta is designated one of the National Tourism Strategic Areas (KSPN). Due to this status, the national government, through BAPPENAS and MoT, has plotted several transport projects to increase regional accessibility. At some points, the national actions could be beneficial for the regions. However, implementing the national policy actions could also aggravate the complexity at regional levels where there are differences in how national and regional governments address public transport systems. In the YUA case, the Teman Bus and TransJogja have different technologies and fare collection systems, as well as different actors and institutional organizations within the planning and operating structures. This condition affects communication and interaction in managing issues to fulfill the minimum service standard.

5. Conclusion

Traditionally, transport governance has been characterized by centralized decision-making, where government agencies and regulators hold primary authority over transport planning and operations. However, there is a growing recognition that polycentric governance, which emphasizes the presence of multiple centers of decision-making and authority, can offer a more effective and sustainable approach to managing complex policy issues such as transportation.

Polycentric governance has been theorized to address centralized governance's limitations by distributing power and decision-making authority across multiple actors and levels of government. In the context of transport governance, polycentric arrangements can involve a variety of actors, including local governments, private sector stakeholders, community groups, civil society organizations, and traditional government agencies. These diverse actors can bring various perspectives, expertise, and resources, leading to more informed and inclusive decision-making processes. As Gudmundsson et al. (2016) highlighted, the fact that transportation systems are run by a combination of public and private operators within a framework established by several levels of government adds more complexity.

One key element of polycentric governance in transport is the recognition of the interconnectedness of transport systems with other sectors and policy areas, such as land use planning, environmental sustainability, and social equity. By engaging a range of stakeholders in the decision-making process, polycentric governance can help to integrate these diverse perspectives and priorities, leading to more holistic and integrated transport policies and initiatives. However, since several government agencies frequently have overlapping powers and responsibilities, coordination is essential to address complicated challenges and reach collective goals. In the case of YUA, the coordination is facilitated by DISHUB DIY, which periodically brings together actors across sectors and jurisdictions. Transport governance in YUA is characterized by formal coordination, though there is also some informal coordination in the practices, and somehow, it often does not function well. Meanwhile, the lack of coordination among government agencies, which causes fragmentation, will cause inefficiencies, misunderstanding among stakeholders, and duplication of effort. Collaboration among government agencies is crucial to promoting efficient governance. Government entities can increase the efficacy and efficiency of their policies and initiatives by fostering cooperation and minimizing fragmentation, ultimately improving regional development.

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