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From planning to implementation: How finance impacts sustainable urban mobility. The case of Tirana municipality.

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Summary

The nexus between infrastructure and finance has gained particular importance in the current urban development discourse. Especially in developing countries, the underfunding gap and inefficient management processes hinder the implementation of local urban infrastructure projects, especially in sustainable urban mobility. The consolidation of finance for urban infrastructure also takes prevalence in the framework of achieving Sustainable Development Goals (SDGs). The city of Tirana has a long history of urban mobility planning documents, but these plans almost never come to light. The reasons behind this lack of implementation might be many, but financial resourcing and management is an important one. Coming from a recent decentralization experience, the municipality of Tirana reflects issues in access to urban borrowing, land finance instruments, and poor financial management. The main objective of this research is to shed light upon the nexus between finance and urban infrastructure in the city of Tirana, focusing on projects in sustainable urban mobility.

This research builds on theories of local governance authority, local public finance, decentralization, and sustainable mobility to understand the dynamics of such practices in Tirana. A case study is carried out through the collection of qualitative data. A large number of experts involved in the field were interviewed, and secondary documents were reviewed. Data were drawn from seven embedded projects in sustainable urban mobility, included in different plans in the past 11 years. In each of these projects, the research uncovered how access to and management of finance affected the implementation of each project and what factors explain this relationship. Findings highlight the significance of diversifying financial instruments in the local governance, capitalizing on the benefits that infrastructure development provides through land financing instruments and access to transparent urban borrowing instruments. The study concluded that in order to improve the implementation of sustainable urban mobility projects in Tirana, the financial system should be consolidated. In particular, it is essential to address access to and management of finance through a stable and institutionalized legal framework, long-term strategic planning, enhanced accountability, and transparency, strengthened inter-institutional relations, higher fiscal decentralization, and increased political will. These interventions would also directly address political instability, a common issue for local government units in Albania.

Keywords

Local government, financial access, financial management, financial instruments, sustainability, urban mobility

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"*Money often costs too much*"

Ralph Waldo Emerson

Abbreviations

ADF	Albanian Development Fund
BRT	Bus Rapid Transit System
CBD	Central Business District
CODATU	Cooperation for urban mobility in the developing world
DPLG	Department Provincial and Local Government South-Africa
EC	European Commission
EBRD	European Bank of Reconstruction and Development
ECAT	Environmental Centre for Administration and Technology
ECMT	European Conference of Ministers of Transport
GCAP	Green City Action Plan
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit [German Corporation for International Cooperation GmbH]
HGT	Henry George Theorem
ICT	Information and Communication Technology
HIS	Institute for Housing and Urban Development Studies
ITDP	Institute for Transportation and Development Policy
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau (Credit Institute for Reconstruction) Bankengruppe
LGU	Local Government Unit
MHT	Mohring–Harwitz Theorem
NALAS	Network of Associations of Local Authorities of South-East Europe
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
O&M	Operation and Maintenance
PPP	Public-Private Partnerships
SDG	Sustainable Development Goals
SEE	South East Europe
TR030	Tirana General Local Plan 2030
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
UN	United Nations
WB	The World Bank
WECD	World Commission on Environment and Development

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Chapter 1: Introduction

1.1 Problem Statement

The nexus between infrastructure and finance has become a predominant topic in the discourse about urban development. With the increasing rates of urbanization, the infrastructural sector is the most affected. Due to their transitional state of development, cities in developing countries are particularly prone to infrastructure issues. In this context, raising the necessary funding for infrastructure is extremely important. Ensuring the necessary funding for infrastructure development gains additional importance in the path towards reaching Sustainable Development Goals. In particular, infrastructure is an enabling factor for energy (SDG 7), infrastructure and industrialization (SDG 9), sustainable cities and communities (SDG11), and SDG13 on climate change.

Urban transport is widely considered as one of the most problematic urban development sectors in cities nowadays. Other city sectors develop with economic development, but transportation seems to worsen, as authors often argue (Ardila-Gomez and Ortegon-Sanchez, 2016; Peñalosa, 2005; Wright, 2012). While problems are several, access to finance is often identified as one of the main challenges in infrastructure development, especially transport. However, this aspect is often overlooked. Scholars argue for a noticeable underfunding gap in financing mobility in developing countries. This gap derives from a lack of access to more innovative and diverse financial instruments and issues in the administration of finances in the city, which is often the case in developing countries (Ardila-Gomez and Ortegon-Sanchez, 2016; Roukouni et al., 2018).

Similar dynamics are present in the city of Tirana. Tirana is the largest municipality in Albania, with 31.3% of the country's total population (Albanian Institute of Statistics, 2019). The city has doubled in size in the last 25 years (Albanian Institute of Statistics, 2016), putting unforeseen pressure on the infrastructural system. In a report about local governance in Albania, USAID (2016) argues that LGUs in Albania often struggle to provide basic infrastructure to meet the needs of their populations. According to the Green City Action Plan (GCAP) (Municipality of Tirana, 2018a), transportation is the main contributor to pollution. In the last years, the challenge has been to focus on the encouragement of sustainable mobility. The same study argues that in the next few years' main aims will be to increase the share of public and non-motorized transport usage. This study defines sustainable mobility as "addressing congestion and meeting mobility needs through greater use of public and active transport" (Municipality of Tirana, 2018a).

The Green City Action Plan is not the only planning document in the city of Tirana. Several plans are drafted in the past eleven years (and more), and many projects are proposed. However, very few of them have been implemented, as many authors claim (Mitre, 2020; Pojani, 2010b; 2016). Until now, sustainable urban transport initiatives in Tirana are taken in: public transport (bus transport as the only available public transit system), biking, and walkability. However, data from the Green City Action Plan (2018a) show that roads dedicated to public transport, number of km of bicycle paths, and bike share numbers are still meager.

Moreover, while walking takes about 30% of all the trips in Tirana (Municipality of Tirana, 2018a), pedestrian facilities, especially along the CBD's busy main roads, are insufficient in number. In 2016, the Mayor publicly announced that Tirana would introduce electric buses in its public transport system, but this initiative is not implemented yet (Ruci and Paloka, K., 2019). Another planned action, which was also included in the budget plan of 2018-2020 (Municipality of Tirana, 2017), was the introduction of electronic ticketing in public bus transport, which has also not been implemented.

Arguably, there are many factors behind this lack of implementation. However, authors recognize a causal relationship between access to finance and the implementation of sustainable urban mobility projects. USAID (2016) states that there are two main challenges, unplanned growth and the limited financial resources to finance local public services. Gjoka and Delli (2019) argue that the budget currently being allocated for public transport in Tirana's municipality is low, considering the necessary interventions needed in this sector, as also examined in their article. Recognizing the city's financial implications to implement environmentally-friendly measures in public transport in the city, the authors (Gjoka and Delli, 2019) argue for a more proactive attitude of the local government in introducing innovative financial mechanisms. Additionally, Pojani (2016) argues that there has been considerable investment in transportation. However, not in sustainable urban mobility, and there have never been funds dedicated to this sector. Pojani (2010b) argues that another significant issue is that infrastructure planning is not followed by a detailed financial plan. It seems that budgeting and planning are not integrated. Strategic plans seem not to incorporate financial solutions, so it is unclear how these plans will be implemented. Furthermore, similarly to other developing countries, local governments in Albania are not financially stable. In the broader context of the fiscal decentralization reform, local governments in Albania are still in the delegation stage (Toska and Bejko, 2018), which clearly explains fiscal independence is still a challenge. Although the foreseen investment in movement in the city has increased by 12% in 2018-2020 (Municipality of Tirana, 2017), financial resourcing in the local government for both capital investment and operation and maintenance in the mobility sector continues to be an issue. These fiscal challenges include the management of the existing sources as well as finding alternative ones. A lack of diversity in financial mechanisms available and inadequate management of the current sources are perceived as some of the main challenges (The State Supreme Audit Institution, 2018; Toska and Bejko, 2018). According to Toska and Bejko (2018), some factors behind these issues are high dependence on the national government and an unexplored capital market. The decentralization reform (fiscal, political, and administrative) was only approved in 2015, even if previous smaller steps have been taken previously. Although Tirana is in a better position than other municipalities in Albania (Toska and Bejko, 2018), financial consolidation is still not achieved, which creates issues for investment and operation of major projects in the city.

While several studies explore the different aspects of public finance in Albania's local governments, there is a lack of available data specifically about financing sustainable urban mobility and its influence on the latter. This research focuses on the factors behind the current financial mechanisms in Tirana's municipality and the relationship between these financial mechanisms and prospects for sustainable urban mobility.

1.2 Relevance of the research topic

This research aims to look into the level of access to and management of finance in the city of Tirana, the factors behind it, and how this impacts project implementation in sustainable urban mobility. Development theory argues that a country's development levels are vital in understanding the access to finance in the local government (Smoke, 2019).

From an academic perspective, this study adds to an existing body of literature that brings together mobility and financial arrangements in the city. Various academic studies highlight the relation between financing structure and infrastructural projects in the local government. As a crucial infrastructure sector, transport planning is highly influenced by the municipality's financial arrangements (Kuzmina-Merlino et al., 2018). International organizations have also placed a particular emphasis on examining the relationship between sustainable mobility and financial instruments, providing the necessary assistance to local governance units in developing countries.

According to Ardila-Gomez and Ortegon-Sanchez (2016), it is crucial to understand the financial mechanisms behind sustainable mobility initiatives. This study is also relevant in terms of Sustainable Development Goals, especially for SDG 7: Clean and Affordable Energy, 11: Sustainable Cities and Communities, SDG 9: infrastructure and industrialization), SDG 11: sustainable cities and communities, and SDG13 on climate change (United Nations General Assembly, 2015). Moreover, this study aims at addressing the lack of academic studies focusing on the relationship between finance and implementation of projects in sustainable urban mobility in Albania.

Tirana's city is undergoing significant changes in the past years, and some of these changes include actions in sustainable mobility. Transportation represents one of the most challenging sectors of the city. As such, it is also the main focus for Tirana, as a sector that can profoundly affect liveability conditions in the city (Municipality of Tirana, 2016). Strategic plans from the city recognize the influence of financing instruments in creating sustainable urban mobility. Still, there is a lack of studies focusing directly on the relationship between these two concepts.

Building on the theories of ability-to-pay (Ubbels and Nijkamp, 2002) and who-benefits-pays Ardila-Gomez and Ortegon-Sanchez, 2016; Freire and Garzón, 2014; Sakamoto and Belka, 2010; UN-Habitat, 2015; 2016), this study delves into the case of Tirana municipality, to comprehend the nexus between finance and sustainable urban mobility. Theoretically, a robust local governance system should grant access to a diverse range of instruments, encourage usage of more innovative instruments such as land finance, urban borrowing, and PPPs, and put in place the necessary structures for efficient management of these finances. However, in practice, building a sturdy financial system requires integrating legislative frameworks, policy documents, and budget structures, along with good governance, local capacities, and a high political will (Bird and Slack, 2013; Smoke, 2017; UN-Habitat, 2016). Additionally, any discussion on financing urban infrastructure needs to occur in a particular context due to the many different characteristics of such matters worldwide (Yilmaz et al., 2010). The author aims to provide findings that will shed light on urban mobility's financial aspects, facilitate decision-making, and improve the implementation of these projects. This study aims to serve decision-makers as a study basis for making informed choices and bringing innovation in financing urban mobility in the city of Tirana.

1.3 Research Objectives

This study has two main objectives:

- To identify the factors that have led to the current level of access to finance in the local government of Tirana.
- To examine the impact of this level of access to finance on the implementation of sustainable urban mobility projects.

1.4 Main research question and research sub-questions

The main research question looks into a three-fold relationship, factors, level of access to and management of finance, and the implementation of projects in sustainable urban mobility. The research question and sub-questions address the research objectives as below:

How do constraints of access to and management of finance in the local government of Tirana affect the implementation of projects in sustainable urban mobility?

In this study, constraints are the factors that hinder access to and management of finance in local governments. Sustainable urban mobility projects are projects in public transport, biking, and walkability in Tirana, based on the shift strategy of the Avoid-Shift-Strategy theory (Bongardt et al., 2019; Sakamoto and Belka, 2010; Wright, 2012). The term implementation considers both the

execution of a particular project as well as its operation and longevity. Consequently, the study will look into access to finance for capital investment as well as operation and maintenance

Building on the research question as above, the study will look into the following sub-research questions:

1. Which municipal financial instruments have been used in the municipality of Tirana for the implementation of projects in urban infrastructure in the past eleven years?
2. Which factors influence the level of access to and management of finance in the municipality of Tirana, and how do these factors interrelate with one another?
3. How does the level of access to finance and financial management impact the level of project implementation in sustainable urban mobility?

This research will look into projects planned to be implemented in the past eleven years (2009-2020). Since 2009, a wide range of planning documents has been drafted and developed in Tirana.

Chapter 2: Literature review

This research looks into the nexus between public finance and urban infrastructure. It describes the state-of-the-art theories on urban infrastructure finance, focusing on the specifics of financing sustainable urban mobility. The first section (section 2.1) breaks down the main concepts of urban infrastructure financing in local governance, globally and focusing on developing countries, discussing municipal finance theory, and identifying financial instruments used to fund urban infrastructure. Section 2.2 explains the potential factors behind the access to and management of finance in local governments. Section 2.3 examines how the level of access to finance impacts project implementation in sustainable urban mobility. This third section goes into detail into sustainable urban transport project implementation, what it implies for financing, and what critical considerations theory recognizes in financing projects in public and non-motorized transport. The chapter closes with the conceptual framework used in this study.

2.1 Urban infrastructure financing in local governments

2.1.1 Understanding the problem

Cities have become focal points for development in the 21st century. As a result of people's agglomeration, they hold the necessary conditions for innovation and prosperity to take place. However, due to their natural complexity, the quality of life is often hindered by a series of recurrent and challenging issues. A substantial challenge is financing urban development, predominantly evident in the infrastructural case (Ardila-Gomez and Ortegon-Sanchez, 2013a; 2013b; 2016; Bahl et al., 2013; Smoke, 2018). Due to urban areas' expansion, infrastructure is often scarce or inefficient (Bonilla and Zapparoli, 2017).

The link between infrastructure and finance plays a key role in theory and practice, particularly in the context of developing countries. The way urban areas finance their expenditures is a crucial matter in planning and urban development and also very contextual (Freire and Garzón, 2014; Yilmaz et al., 2010). While cities rely on the efficacy of its infrastructure, which is directly linked to its financing, urban infrastructure's growth has not been developing at the same pace as urban expansion (Chen et al., 2016). Déséglise and Freijido (2019) argue that in the 1960s and mid–2000s, public investment in infrastructure in the G–20 economies fell from 5% to 3% of GDP. In addition, not only is there a need for extending urban infrastructure but also to embed sustainability concepts (Déséglise and Freijido, 2019). Countries with low and middle income are expected to double their stock of infrastructure assets by 2050, according to Déséglise and Freijido (2019).

Ensuring that financing is available at scale for sustainable infrastructure is also a substantial enabling factor fighting climate change and supporting the Sustainable Development Goals (Zorlu, 2018). The Sustainable Development Goals (SDGs) outline an all-inclusive international agenda for sustainable development by 2030 that has been endorsed by all UN member states. SDGs aim to tackle a wide array of global issues, including energy (SDG 7), infrastructure and industrialization (SDG 9), sustainable cities and communities (SDG 11), and SDG13 on climate change. Moreover, infrastructure development will have spillover effects on other SDGs since the adequate infrastructure is the primary condition for every economic and social sector (Xiao et al., 2020). According to Zorlu (2018), in order to deliver climate-smart and low-carbon sustainable development, a shift in billions or trillion of dollars in investment is needed. The United Nations Conference on Trade and Development (UNCTAD, 2014) states that USD five to seven trillion per year of investment is needed globally for achieving the SDGs. Out of this, USD 3.3 trillion to USD 4.5 trillion per year will be required only in developing countries (UNCTAD, 2014) to pay for basic infrastructure.

Especially in developing countries, municipal authorities lack adequate financial resources to support the needed infrastructure, and as a result, planned infrastructural projects, particularly in urban transport, are not always attainable (Bird and Slack, 2013; Dirie, 2006). The transportation sector emerges globally as one of the critical sectors for investment (Zorlu, 2018). A report from UNCTAD (2014) states that the current estimated investment is 300 billion USD in the transportation sector, while the investment gaps and needs in transport SDG in developing countries is 350-770 billion USD. Thus, there is a gap of 50-470 billion USD. This data reflects only capital expenditure, not considering operation expenses.

This problem displays two different levels: strategic and operational. There is an underfunding gap on the more strategic side, created by a lack of access to financial instruments (Ardila-Gomez and Ortegon-Sanchez, 2016; Chen et al., 2016). On the operational side, there is apparent poor management of funds (Sakamoto and Belka, 2010). Local authorities are constantly faced with the existing gap between financial resources and expenditure needs (UN-Habitat, 2015). Putting together the necessary financing might seem pretty straightforward. Still, while in developed countries with well-established regulatory frameworks and available funding, the issue is in most-middle and low-income economies (Déséglise and Freijido, 2019). Considerable action has been undertaken from countries and development institutions to improve the financial system to finance sustainable projects, addressing the bottlenecks that have hindered infrastructure financing in low and middle-income economies.

2.1.2 Instruments of municipal finance in infrastructure

Within the framework of public finance theory, municipal finance is a dimension of local governance management, that although often neglected, has proven to be essential. Municipal finance is concerned with financing services for the city. The main argument is that local governments have an optimum position to improve how public resources are used, and if citizen needs are satisfied (United Cities and Local Governments, 2010).

The international organizations' community, such as the World Bank, UN-Habitat, OECD, GIZ, and others, have notably contributed to the theory behind this concept. Definitions are many. Dirie (2006, p. 256) defines municipal finance as "the total means available to local government to meet local developmental objectives aimed at increasing the quality of life for its citizens." If adequately managed, financial systems can be a vital factor in the promotion of optimal quality of life for citizens.

Scholars have identified various concepts that delineate municipal finance principles that explain how to find the most effective way to increase and manage local government revenue. According to local government capacity theory (UN-Habitat, 2016), local governments should gain more independence and manage their own incomes and expenditures. Thus, this theory calls for more decentralization of the local government or, better phrased, a delegation of power, in line with the subsidiarity principle, according to which services should be managed by the lowest, the least centralized competent authority (UN-Habitat, 2016).

Under the big umbrella of local government finance theory, the theory of financing municipal services is also critical. Mishra (2019) refers to the Henry George Theorem (HGT) and Mohring–Harwitz Theorem (MHT) theories of urban and transport economics. He argues that the HGT emphasizes the need to tax urban land value, while the MHT theory advocates the pricing of user externalities on the principle of cost-recovery. Thus, the theory suggests that in municipal areas, the principles of congestors and beneficiaries pay should apply, as "a toolbox of instruments to finance urban infrastructure" (Mishra, 2019, p. 13).

Similarly to the MHT theory, the benefit-concept is also often mentioned in literature (also referred to as the who-benefits-pays concept) (Ardila-Gomez and Ortegon-Sanchez, 2016; Freire and Garzón, 2014; Mishra, 2019; Sakamoto and Belka, 2010; UN-Habitat, 2015; 2016). According to

this concept, local government services have to be directly connected to the financial revenue streams used for them. Each citizen should pay based on the services they receive (Freire and Garzón, 2014). This way, charges, fees, or taxes reflect the full cost of using that infrastructure. This concept is also known as "beneficiaries pay." Another important concept is the ability-to-pay (UN-Habitat, 2016). According to this principle, citizens' needs should also be considered. It is applied primarily to services that have benefits for society at large. For instance, while public transport can arguably be regarded as having private-good characteristics (World Bank, 1994), it also has spillover effects and is beneficial to society. Consequently, public transport should also benefit from government funding and not be seen as strictly a private good (Ubbels and Nijkamp, 2002). It might seem like the two concepts contradict each other, but they should be considered in combination (UN-Habitat, 2016), especially in the case of urban mobility. As some scholars argue, considering the ability-to-pay concept in public transportation takes particular importance to avoid a lack of willingness to pay amongst users, and thus project failure.

Figure 1: Municipal finance theory concepts

Principle	Ability-to-Pay Concept	Who-benefits-pays concept
Definition	Cross-subsidization of services: People pay based on their abilities	Whoever benefits from a service pays the full price
Advantages	Social considerations Provides a better understanding of user's needs and capabilities	Efficient cost recovery Fair charging: congesters, polluters, exacerbaters, pay
Disadvantages	Practice discourages economic success Equity concerns	Often difficult to distinguish public goods from individual benefits

Source: Adopted from Freire and Garzón (2014) and Mishra (2019)

Under the concepts described above, we can argue for municipal instruments as below (figure 2). Municipal financial instruments are mechanisms used in the local government to generate revenue sources for capital investment and recurrent expenditures (Muwonge and Ebel, 2014). There are a plethora of methods to structure and group these instruments in a framework. According to Ardilla-Gomez and Ortegon-Sanchez (2016) and Levinson and Zhao (2012), there are various instruments used for urban infrastructure investment, and they are grouped in: general-benefit, direct-benefit, and indirect-benefit, based on the benefit they generate. General-benefit instruments capture benefits that services generate for the entire society. Direct-benefit instruments are the ones that capture the direct user benefit, thus usually fees. Indirect benefits capture the indirect benefits generated by services to the citizens, such as land finance instruments (figure 2).

Figure 2: Financial instruments based on the benefit they generate

General benefit	Direct benefit	Indirect benefit
Property tax	Parking charges	Land Value Capture
Loans and grants	Road pricing	Development impact fee
Carbon market	Congestions charging	Advertisements
Climate funds	Fuel tax	Employment contribution
PPPs	Vehicle tax	
Sales tax	Fares	

Source: Adopted from Ardila-Gomez and Ortegon-Sanchez (2016)

A similar classification is mentioned by Levinson and Zhao (2012). Bahl et al. (2013) identify own-source revenues, debt financing, intergovernmental transfers, and funding from public-private partnerships (PPPs. Smoke (2018) lists these instruments: recurrent sources that include own source revenues and intergovernmental transfers, and long-term ones that include intergovernmental grants, urban public borrowing, land value capture instruments, and public-private partnerships. All of these instruments can be used for infrastructure projects. How and when to use each of them depends on the context (Smoke, 2019). The figure below (figure 3) shows which instruments are more typically used for public transport and which ones are not fully explored, as based on theory. See section 2.3.2 for the pros and cons of using these instruments for public or non-motorized transport.

Figure 3: Municipal finance dimensions

Typically used instruments	Under-used instruments
Fares	Capital markets
Property tax	Parking charges
Sales tax	Land value capture
Loans and grants	Infrastructure impact tax
PPPs	Advertisements
Employment contributions	Carbon market & climate funds

Source: Adopted from Ardila-Gomez and Ortegon-Sanchez (2013a; 2016) and Smoke (2015; 2019)

2.2 Factors that influence local access to finance

2.2.1 Factors

Local public finances have a highly volatile character. Particularly in infrastructure projects, long-term funds are required, but in most cases, short-term finance is more readily available (Smoke, 2019). The factors behind these challenges are many. According to Smoke (2017), factors that influence municipal finance are the country's decentralization policy, local government capacities (human and tools), inter-jurisdictional variations, technical aspects, and political obstacles. An UN-Habitat report (2016) identifies deficiencies in technical capabilities, legal frameworks, and governance as the main factors affecting local governance financial instruments. Other authors recognize "political accountability, the existence of a model framework local budget law, a financial reporting system, inadequate revenue instruments to meet expenditure assignments, and unfunded edicts and mandates issued by higher-level governments" (Bird and Slack, 2013, p. 152). According to a paper from United Nations (2017, p. 24), the drivers and constraints behind the ability to manage fiscal resources in the local government derive from "the so-called rules of the game, the statutes, policies, regulations, constitution, or common law that define a jurisdiction's powers and governance framework, coupled with the political will and implementation capacities.". Building on these theories, this research will focus on factors as below:

(1) Fiscal decentralization level: According to Muwonge and Ebel (2014, p. 2), fiscal decentralization level can be defined as "the intergovernmental sorting out of responsibilities for expenditures and financing among the various types, tiers, or levels of government, in a manner that is in harmony with the political framework." Fiscal Decentralization can take three different forms, "the three Ds: deconcentration, delegation, and devolution" (Muwonge and Ebel, 2014),

where devolution is the highest level of decentralization and deconcentration the lowest. While there are arguments against complete fiscal decentralization in developing countries (Arends, 2020), some scholars argue for the need for a certain level of fiscal decentralization to accommodate the required urban development (Bahl and Bird, 2018). Conditioned by their decentralization level, some subnational governments might face difficulties related to policies and institutional frameworks to sustain the needed infrastructure investments (2013; Smoke, 2017; 2019). Especially in developing countries, where we can only speak of deconcentration or delegation phase, one of the most common complications is the improper division of responsibilities in expenditure division (Bird and Slack, 2013) between national and local governmental tiers. The low level of fiscal decentralization also makes subnational governments highly dependent on intergovernmental transfers, as well as hinders access to capital markets, and borrowing. Sometimes, central governments do not want to give up control of certain taxes since they fear losing their own revenue. In addition, local leaders are not always willing to take over the responsibility that comes with more tax power (Bahl, 2012). Moreover, fiscal decentralization depends highly on the context, and it can be risky not to consider the contextual conditions or not follow the steps correctly (Rémy Prud'homme, 1995). As put by Rémy Prud'homme (1995, p. 201), "Decentralization measures are like some potent drugs, however: when prescribed for the relevant illness, at the appropriate moment and in the correct dose, they can have the desired salutary effect; but in the wrong circumstances, they can harm rather than heal." However, Bahl and Bird (2018) strongly emphasize that, in principle, in metropolitan areas, a higher decentralization level is needed and can take place for better management of these cities.

(2) Lack of capacities in the local government. In particular, this concerns the deficits in the local government staff's abilities to manage the municipal finance system (Smoke, 2017). The same author states that, especially in low-income countries, capacity deficits can be significant. Lack of capacities can be either lack of technical staff to deal with these matters or lack of expertise in the local government's existing staff. However, it can also be related to a lack of access to tools in the local government. These tools could be financial software or even hardware equipment. Lack of expertise in the local government, coupled with a lack of access to tools (software, etc.), may lead to challenges in financial management processes and procedures. For instance, handling the more so-called 'innovative' financial instruments needs higher proficiency, which, if not possible, leads to inadequate management of these instruments (lower revenues) and poor budgeting processes. This is the case of land value instruments, but even borrowing or PPPs. In addition, the lack of necessary tools or methodologies might lead to low tax collection efficiencies, which are very common in developing countries (Allen et al., 2020). There is a need to introduce standardization of tools for financial management in local governments and increase capacities for managing these processes. UN-Habitat (2015) also mentioned that higher capacities are crucial to reform implementation when discussing financial government challenges. In some cases, there might even be not enough personnel in municipalities to handle the necessary processes (Smoke, 2017).

(3) Financing sustainable urban transport is a complex process and depends heavily on the governance structure. Governance and institutional frameworks can be considered as the design of the intergovernmental and institutional systems, technical aspects, and legal frameworks in place (Schwartz et al., 2020). Governance should be transparent, accountable, participatory, and encourage the rule of law. As also argued by Bahl and Bird (2018, p. 349), "How metropolitan areas are financed is closely related to how they are governed." The same authors argue that, however, metropolitan urban areas need a different approach to local finances. Brinkerhoff & Brinkerhoff (2011) recognize good governance as one of the main elements when devising a PPP model. As argued in theory, governance and institutional framework dimensions are accountability and transparency, administrative processes, legal frameworks, inter-institutional relations, and institutional processes (Litman, 2019; Smoke, 2017; Smoke, 2019)and planning frameworks.

Administrative procedures can incorporate various challenges. Such an example is when some services are devolved without linking them with the structure of intergovernmental finances (Smoke, 2017). Another issue has to do with collecting revenue efficiency. Municipalities might have limited taxing power, but they also sometimes underuse the taxing power given to them (Bahl, 2012). Inter-institutional cooperation is another important factor, both between state and private organizations (Rajaram et al., 2014). For instance, Merk et al. (2012) argue that cooperation with the national government is crucial to developing green finance forms. Cities need to collaborate with the central government and other institutions to build their capacities (Merk et al., 2012). Another instance is when projects may be sponsored by a line ministry or any other institutions related to the central government. A weak interagency integration may lead to project implementation challenges (Rajaram et al., 2014). Inter-institutional cooperation may also be related to the connection between the local government and supporting international institutions (Déséglise and Freijido, 2019).

Legal frameworks are an essential dimension. Legal instruments must be drafted clearly and support the financial system (Litman, 2019). While the laws might be in place, its implementation is often problematic (Bahl, 2012). Stakeholders mention regulatory risks and legislation or policy changes as primary barriers to infrastructure funding (Déséglise and Freijido, 2019). Merk et al. (2012) state that regulations can sometimes hinder local governments' ability to act. Urban transportation planning needs to be an integral chunk of urban planning. Déséglise and Freijido (2019) point out how planning frameworks' integration becomes crucial in financing climate change actions. Moreover, planning should be consistent with the funding procedures (Gwilliam, 2002).

(4) Political aspects include political will and public acceptance. A stable political environment profoundly affects local finance, as also argued by Bahl and Bird (2018). Political will is crucial in the implementation of projects. A strong political will influences intergovernmental fiscal systems frameworks, increasing corporate responsibility and independence (Albalate et al., 2012; Cohen et al., 2016; Smoke, 2019). However, political will is dependent on the size of municipalities, local economy, and division of responsibilities according to the laws in place (Freire and Garzón, 2014). For instance, the influence of political will is evident in developing countries when there are differences between the local and central governments. There are various cases when the central government blocks specific infrastructure projects that are important to the city. Bahl (2012) argues that the local government's increased tax power may be seen as a threat for central governments who would not want to give too much power to leaders who might turn up to be their political rivals in the future. As a result, in developing countries, local governments account for an average of 2.4% of GDP compared to 6.4 in developed ones. Another political aspect is public acceptance (Litman, 2019). The public may not widely accept some financial instruments in specific contexts (Ardila-Gomez and Ortegon-Sanchez, 2016), making the local government hesitate to introduce them. Examples of this might be congestion charging or fuel tax, green taxation, land value capture (Turró et al., 2018). However, based on Turró et al. (2018), there is clear evidence that the acceptability level of new charges or taxes significantly increases when revenues are earmarked for a shortlist of clearly identifiable urban transport projects.

2.2.2 Relationship between Factors

It is essential to comprehend that while these factors impact the access and management of finance in sustainable urban mobility projects, you also need to consider how they interrelate with each other. The theory behind recognizing factors that affect the level of local government access to finance is extensive. However, the same thing can't be said about understanding the impact each factor has on each other. Obviously, each dimension in public finance is interrelated and acts as part of a multi-dimensional system (Smoke, 2017). Smoke (2019) argues that political aspects have

a strong influence on other factors. For example, urban borrowing seems like a viable tool, but, especially in low and middle-income countries, it requires implementing specific reforms and regulations that are needed to improve the creditworthiness of these municipal governments that are not possible without political and institutional support. In addition, Merk et al. (2012) argue that stronger institutional relations between the central and local levels are required to increase capacities in the local government. Examples like this can be many and are also very context-based. The existence of such underlying connections is why the researcher finds it extremely important to understand these relationships in this study's particular context.

2.3 Financing Sustainable Urban Mobility

This section will describe the state-of-the-art theories on sustainable mobility focused on the financial implications of implementing different projects in sustainable urban mobility.

2.3.1 Sustainable Urban Mobility theory

The term sustainability is often discussed as part of sustainable development theory, firstly mentioned in the famous Brundtland report (WECD, 1987). Sustainable development is framed in this report as: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WECD, 1987, p. 41).

In this context, the last couple of years have also seen the emerging importance of the sustainable urban mobility concept. Black (1996, p. 151) draws from the Brundtland report and defines sustainable transport as "transport that meets the current transport and mobility needs without compromising the ability of future generations to meet these needs." Other scholars are trying to define what this term means and how to apply it. According to Beatley (1995), Litman (2007), and Bongardt et al. (2011), despite a various number of studies in this field have been carried out, we can't say there is a universally accepted definition for sustainable urban mobility or even how to make use of it. The triple bottom line is often mentioned as an approach to applying the notion of sustainability to the transport field. Other methods identify these dimensions in a sustainable urban mobility system: "meeting basic mobility needs without compromising the preservation of human and ecosystem health, the promotion of intergenerational equity, affordability, efficiency, as well as limiting emissions and waste within the planet's ability to absorb them" (ECMT, 2005). Litman (2007) shares a similar view, focusing on meeting needs in a balanced relationship with human and ecosystem health, affordability, efficiency, and limitations of emissions.

However, when it comes to discussing sustainable urban mobility as an efficient and contextual sector, many authors are inclined to provide strategies and ideas on how to use this concept rather than provide a clear definition. Huizenga (2014) argues that the collective discussion on sustainable transport has progressed, from a mere definition of what it is to what are the best strategies for the implementation of it. Martins et al. (2019, p. 1) define the methods of sustainable transportation as "means by which transportation takes place in line with the principles of sustainability, which, for instance, entails as little CO2 emission as possible in urban mobility and process management in organizations". Wright (2012, p. 186) argues that the concept of sustainable transport incorporates "modes, practices, and policies that maximize the economic, environmental, and social benefits of access and mobility while minimizing negative externalities." He points out that a framework for sustainable urban mobility has now come to the surface, referred to as "Avoid–Shift–Improve" (Wright, 2012, p. 186). This strategy emphasizes different dimensions of a strategy to be followed in sustainable urban transport, providing indications for priority interventions (figure 4). The same approach is also mentioned by Sakamoto and Belka (2010). Avoid means that transport interventions should aim to avoid unnecessary trips or put incentivization schemes that reduce travel demand. Shift aims at shifting modes that are

more friendly to the environment and equitable, while improvement refers to increasing vehicles' efficiency (Wright, 2012).

Figure 4: Avoid-Shift-Improve

AVOID	SHIFT	IMPROVE
Integration land use + transport	**Public Transport**	Intelligent Transport Systems
Smart Growth	**Non-motorized Transport**	Fuel and vehicle technology
ICT	Transport Demand Management	Regulation
		Programs

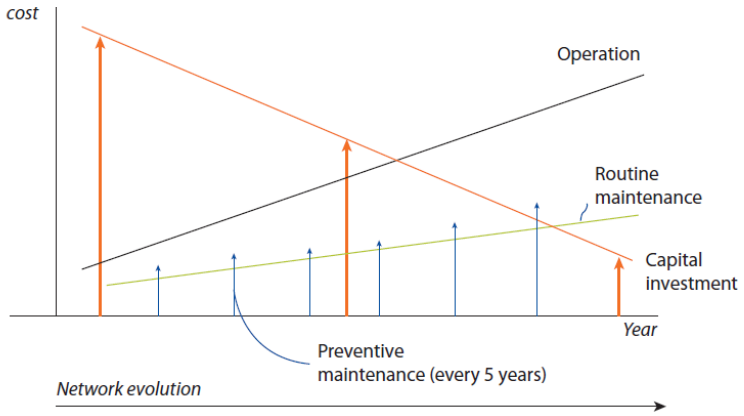
Source: Wright, (2012) (illustration by author)

This research will focus on the shift strategy, looking into public transport and non-motorized project implementation's financial specificities.

2.3.2 Projects in sustainable urban mobility

Following the framework mentioned above (Avoid-Shift Improve, section 2.3.1), projects in public and non-motorized transport are considered. These projects display different characteristics, and the discussion about its implementation is broad: we need to consider the degree (level) of implementation and what it means for the financial aspects. Firstly, let us look into what needs to be financed. As seen in the picture below (figure 5), the financial implications for transportation projects (similar to other infrastructure ones) include high capital investment and continuous operation and maintenance funds. The amount needed is different depending on the transportation mode or project typology.

Figure 5: Pattern of Capital, Operation and Maintenance expenditures for transport



Source: Ardila-Gomez and Ortegon Sanchez, (2016, p. 6)

In this framework, defining the most appropriate funding resource depends on the type of project, but also the type of investment needed. Mishra (2019) states that as a general rule, for infrastructure capital investment, urban borrowing is recommended, also due to its intergenerational fairness character (Turró et al., 2018; UN-Habitat, 2016), while for operational expenses fees should firstly be considered, based on the benefit-principle (see section 2.1.1) and if fees are not applicable, land finance instruments are the best option. While intergovernmental transfers can, in some cases, be used to finance infrastructure, local governments must access capital markets, be that directly or

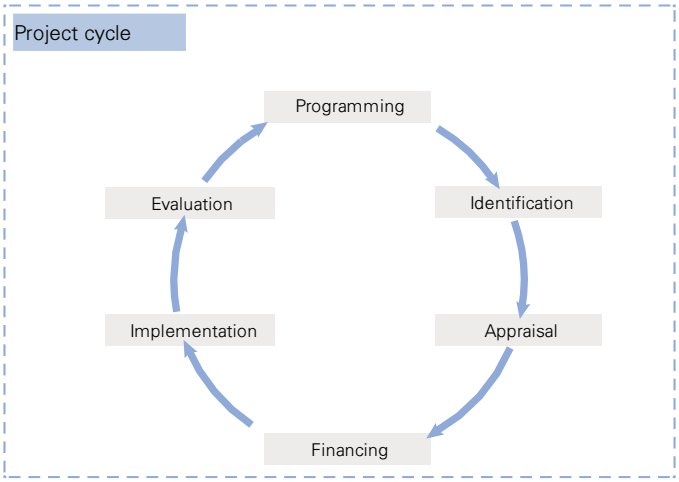
indirectly. Nevertheless, this access needs to be followed by an adequate legal framework(United Cities and Local Governments, 2010). Alternatively, under a centralized context, and particularly when local or metropolitan authorities have very limited fiscal powers, national (or regional) governments should commit (Turró et al., 2018).

Not only accessing these financial instruments but also managing these is a particular consideration in local governments. If planning and budgeting are not well-integrated into a comprehensive document, acquiring the needed investment will be challenging or impossible. Furthermore, budgeting processes should be carried out in a comprehensive and inclusive method. In section 2.3.2b, a more detailed explanation of what this means for projects in public transport or non-motorized transport is provided.

2.3.2a Understanding project implementation in infrastructure

In many developing countries, while there is a lot of effort put into planning, the same thing cannot be said about implementing these projects, especially when it comes to infrastructure projects. Transport, often not considered a public service and immediate need (see the next section), is one of the most challenging sectors. Project implementation is one of the main stages of the project management cycle (figure 6). The implementation stage aims to translate the planned project into real infrastructure.

Figure 6: Project cycle



Source: European Commission (2004, p. 16) (illustration by author)

Steps of project implementation are as follows: (Chen et al., 2016; Willar et al., 2018) (1) The planning phase, which includes financial resourcing (2) Procurement processes (3) Construction phase, and (4) Hand over (when the case). Based on these steps, there are three main implementation dimensions: full implementation of the project – where projects are implemented according to the plans; partial implementation-where projects get implemented partially or not according to the original plans; and no implementation – projects do not get executed.

2.3.2b Projects in Public Transport and financial implications

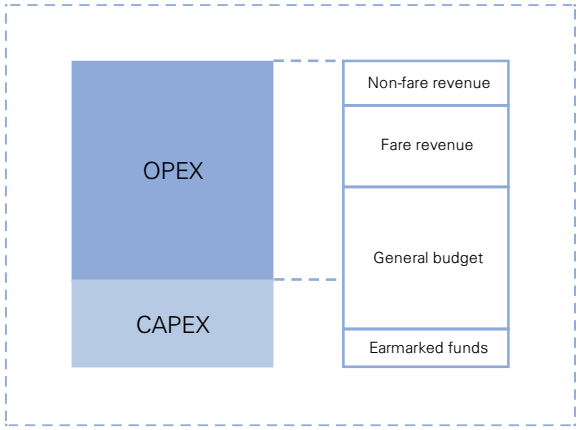
Urban public transport is argued to be an environmentally and socially friendly mode of transportation (Ubbels and Nijkamp, 2002). While some say that public transport is a private good because of its rival and excludable characteristics (World Bank, 1994), others argue that public transportation benefits the entire society, from less environmental pollution to providing accessibility to jobs and leisure time (Litman, 2019). Consequently, it can be considered as a public good as well. As a result, it should benefit from taxpayer money. According to UN-Habitat (2013), public transport's general good character provides the basis to argue for a comprehensive urban

transport system, not just access to public transport in the densest routes. As Ubbels and Nijkamp (2002) mention, public transportation often suffers from inadequate funding. Governmental funding to public transport has become limited, and that's why transport agencies are looking for new funding alternatives.

Projects in public transport have different characteristics. There might be projects requiring high-level funding, such as implementing a new BRT system, or smaller ones, like building bus lanes. Moreover, when speaking about capital investment, usually funding needed is higher than operation and maintenance. Also, logically, capital investment is a one-time payment, while operation and maintenance require recurring funding. Due to these different characteristics, the funding sources are also various. Arguably, the primary source of financing for public transport comes from ticket fares, which usually goes to the service's operation and maintenance. Instruments commonly used for public transport are fares, property taxes, sales taxes, fuel taxes, congestion charging, and advertising (Litman, 2019). However, following the benefit and ability-to-pay concepts (see section 2.1.1), scholars argue that it should benefit from other funding sources as well. Public transport influences land and real-estate value; thus, a potential funding source could come from land financing instruments.

Litman (2019) argues how each of the funding options has its advantages and disadvantages. However, the general rule is that a diversity of financial instruments should apply to finance f public transit projects. This diversification would make revenues less vulnerable to possible fluctuations. Logically, public transport generates a wide array of benefits, thus should benefit from a wide range of instruments. Furthermore, as mentioned in the previous section, depending on the type of investment needed, different sources could be tapped. For instance, capital investment usually needs a one time high investment, while for operation expenses, a continuous flow is needed.

Figure 7: Funding public transport



Source: Turró et al.(2018) (illustration by author)

As shown in the figure above (figure 7), an earmarked fund (usually from the central government) or the municipality's general budget can be the source of investment for capital expenses. However, Merk et al. also mention that urban borrowing can be an optimal choice for capital investment in infrastructure projects. Operational costs generally require a more continuous flow, such as fare revenues, taxes, etc. Logically, adequate financial management procedures are critical to making this possible. Better integration of planning and budgeting ensures funds for implementing planned projects, a condition often lacking. Additionally, medium-term budgeting is a prerequisite for fund stability, which in turn ensures funds for operation expenses.

Particularly in developing countries, public transport is rarely self-sufficient. As a result, cross-subsidies often apply. In many cases, urban public transport is subsidized by the national or subnational government (Gwilliam, 2002; Litman, 2014; Litman, 2019). Subsidies guarantee a good quality service to the residents. The money might come from an earmarked national or local fund, from the general fund of the government (where different sources are pooled together) or other sources such as parking fees, land finance (impact development tax, property tax, land value capture, etc.) (Litman, 2019).

Diaz and Bongardt (2013) state that in countries where local governments have continuous funds for the operation of public transport, its quality does not decrease. On the contrary, where it is privately operated with no government funds, quality declines over time. According to Gwilliam (2002), urban transport in capital cities should be fully financed by the central government. Moreover, these funds need to be recurring. Hypothecation or earmarking of a fund for public transport becomes an essential element to guarantee its efficient functionality. Subsidizing public transport is often a political decision, and urban transportation relies on strong political support (Turró et al., 2018). A high proportion of funding relies on public budgets of different government levels, which may have diverging interests. These new revenue sources for public transport also require wide political consensus and may need legal modifications (Turró et al., 2018).
However, the authors argue that it is also essential to pay attention to the management of funding for public transport so that efficiency is increased and formulate an efficient public transport strategy. Integration of transport plans (SUMPs), investment programs and financing strategies is key (Turró et al., 2018).

Pricing should also be efficient and reflect costs (Gwilliam, 2002). When choosing a PPP, attention should be paid to drafting a clear legal framework that ensures competition and allocates risks fairly. In the case of PPPs, monitoring and control become an essential requirement. For capital investment, urban borrowing is also a very typical source of funding used, as examples in Bogota, and Curitiba show, in the case of BRT construction (Ardila-Gomez and Ortegon-Sanchez, 2013a; Burgess and Ordiz, 2010). However, in developing countries, urban borrowing is not strictly in the hands of the subnational government (See 2.3.3a).

2.3.2c Projects in Non-motorized Transport and financial implications

Non-motorized transport has gained considerable importance as a means to combat prevailing environmental issues in cities today. Biking and walkability are often considered dimensions of non-motorized transportation, but micro-mobility has also attracted considerable attention lately. Simultaneously, these types of interventions do not require large amounts of funding and are highly cost-effective. For capital investment, indeed, higher funds are needed. Compared to other transportation modes or infrastructure projects, investment for non-motorized transport, both capital and operation or maintenance, is relatively low. Nevertheless, in non-motorized transport, general negligence is identified in maintaining the service, resulting in walkable and biking infrastructure that deteriorates quickly. Such problems are also a result of lack of recurring earmarked funds for non-motorized transport, and often not foreseeing such investment in budgetary processes, although they are often part of planning documents.

Examples from other developing countries show that an earmarked fund for investment in walkability features is designed in some cities. Such models are in the Philippines, Mexico, etc. (see section 2.3.b). Ardila-Gomez and Ortegon-Sanchez (2016) identify these types of funding that are used for this type of transport, based on the benefits they create: property tax, parking charges, congestion charges, and advertising. However, not each of these funding instruments is used for financing non-motorized transport. Examples show that funds for non-motorized transport often come from the general fund of the local government.

2.3.3 Implications for financing sustainable urban mobility

Developing a sustainable urban mobility system as part of global sustainable development policies needs to go hand in hand with adequate funding frameworks (Ardila-Gomez and Ortegon-Sanchez, 2016; Sakamoto and Belka, 2010). While urban finance is essential for urban transport planning, the relation between these two concepts has not focused on the planning literature. The bulk of work on this topic has been either in the public finance and fiscal decentralization fields or on tackling urban planning issues. Nevertheless, with rapid urbanization and advancing decentralization in many countries in the developing world, the international community devotes substantial effort to financing sustainable development post-2015 (Smoke, 2019). Moreover, there has been some attention to instruments directly linked to development projects such as capital grants, land value capture, and borrowing (Smoke, 2018).

Authors argue that access to finance displays itself as a hindering factor to sustainable transport development. Raising revenues for investment in sustainable infrastructure (and mobility) needs to be faster (Ardila-Gomez and Ortegon-Sanchez, 2016; Sakamoto and Belka, 2010). Arguably, municipal transport financing is complex and challenging because of the continuous systemic bias towards building roads, especially in developing countries (Pojani, 2016). Literature identifies several aspects of access to finance. One way to approach it is to consider the level of access to the local government's financial instruments, this is all the potential fully exploited, and on a more operational level, how is this funding managed in the municipality (Sakamoto and Belka, 2010).

2.3.3a Access to financial instruments

In terms of access to financial instruments, scholars argue that overall, a more robust infrastructure financing structure requires: (1) diversity of financial instruments (different funding sources) (Ardila-Gomez and Ortegon-Sanchez, 2016; Smoke, 2017; UN-Habitat, 2016) and (2) considering more innovative instruments like land value capture (Ardila-Gomez and Ortegon-Sanchez, 2016; Sakamoto and Belka, 2010).

Diversification of financial instruments

Ardila-Gomez and Ortegon-Sanchez (2016), Levinson and Zhao (2012), and Chen et al. (2016) argue that a combination of general, direct, and indirect benefit instruments is key for a more robust urban transport financing framework. In such a way, when there are difficult financial periods, the local government can switch between different financial sources, mitigating the potential risks. Chen et al. (2016) argue that to eliminate the restricting factors of infrastructure finance, there is a need to build an enabling environment of financing urban infrastructure by focusing on multi-level financing and diversifying financing instruments.

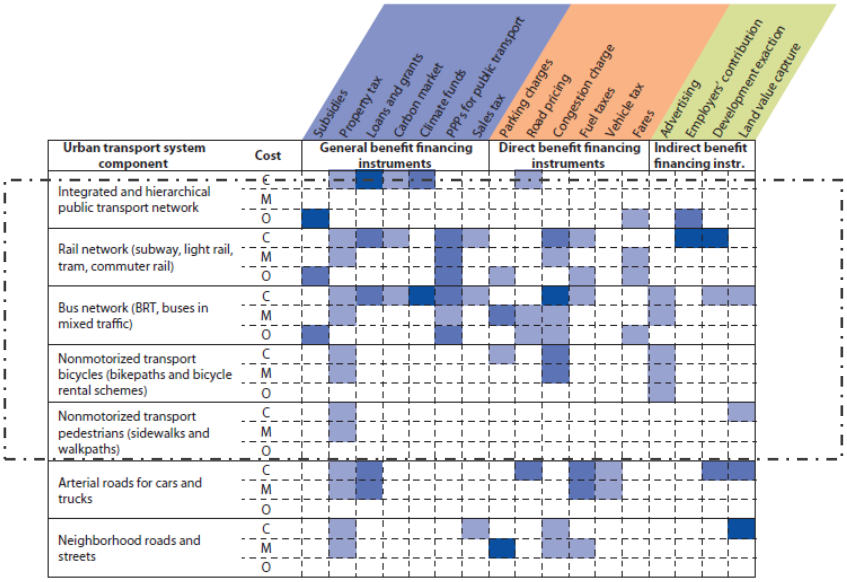
As shown in the image below (figure 8), various instruments are used for each of the urban transport system components, for which specific phases of the project (capital, operation, or maintenance). Moreover, we can identify potential revenue sources for each transport mode and the intensity of their usage (darker color-more common and light color-less common) (The World Bank, 2018).

Robust financial revenues are built on multiple funding instruments, enabling them to better endure instabilities that individual finance sources would have (Diaz and Bongardt, 2013). Untapped instruments should be explored, such as decongestion pricing, land finance instruments, advertising, etc., although each of them might be difficult to implement (Litman, 2019). Improving the formula of intergovernmental transfers so that parts of it can be channeled for transportation financing through an official program could be another way to diversify sources (Bahl, 2012).

Fuel tax is another potential tax that can be channeled to invest in sustainable urban mobility, although the central government usually manages these funds (Gwilliam, 2002). Development charges or financial contributions can be used to recover sprawl costs (Merk et al., 2012). In

Colombia, subnational governments Urban local governments in Colombia (larger cities) raise revenues to 2.4 percent of national GDP (Bahl, 2012).

Figure 8: Financial instruments for each transport component



Note: C=capital; M=maintenance; O=operation; the darker the color of the blocks, the more the instrument was used for that purpose within the observed examples. BRT = Bus Rapid Transit.

Source: Ardila & Ortegon-Sanchez (2016)

A report from the European Transport Conference (Feldman et al., 2019) draws examples from different European cities and how different governance levels funded successful projects in sustainable urban transport: from European funds to national and local ones. In the same line with the diversification of sources, a combination of different sources is also necessary to provide a better financial system. Turró et al. (2018) state that financing sources should be combined under a long-term perspective. For instance, as also seen in figure 8, in the case of buses, a combination of general, direct, and indirect is essential to guarantee revenues for capital, maintenance, and operation of projects in the bus system. A combination of instruments ensures the stability of revenue sources.

Making use of innovative instruments

'Innovative Financing' is financing mechanisms that are creative in thinking that mobilize, govern, or distribute funds in ways that go beyond traditional funding processes. Innovative financing includes financing practices that have not been applied to sustainable transport and mobility previously. It also includes mechanisms that may be well-established and traditional in some cities but have not been widely used in other small or medium European cities.

Levinson and Zhao (2012) argue that there is a growing agreement that the existing financing schemes cannot withstand the necessary costs of operating transport. That is why new methods to substitute the current system have been explored, such as land value capture and land financing instruments. Following the benefit-principle also mentioned above, the expenses of transport operation should be in proportion to the benefits received by this service (Levinson and Zhao, 2012). Different categories can be devised to match the benefits that transportation service generates. In the broader frame, improvements in transport create benefits to the general public. These improvements might help in increasing the tax base (Levinson and Zhao, 2012). Consequently, it is fair that the government's general fund allocations go to funding the transportation sector. Below a detailed explanation of each instrument is provided.

(1) Land Finance Instruments

Authors argue that since land finance instruments represent a new source of public income, it should always be used to fund further investment in urban infrastructure. In addition, it aids in curbing speculation in real estate (Smolka and Amborski, 2000). Land finance instruments can be property tax, transfer of immovable property tax, betterment levies, tax increment financing, land value capture instruments, and infrastructure impact tax. Land Value Capture is considered as an indirect user fee (Smolka and Amborski, 2000). In Brazil, land value capture instruments are used to fund capital investment for BRT Systems (ITDP, 2020).

Following the theory of who-benefits-pays concept, it might seem logical to capture part of the benefit of transport infrastructure in tax revenues related to land. Infrastructure impact tax follow the concept of valorization. They are used to finance new developments in areas with high growth Scholars argue that they are also contributions "in-kind" given by the developers (Zegras, 2003). According to Zegras (2003), they are used to provide funding for road infrastructure in Jakarta. In Santiago, impact fees have become an essential source of revenue for public transport financing and promoting the development of efficient transport (Zegras, 2003). Bahl (2012) argues that benefit land charges have high potential. Except for the property tax, cities should also directly be responsible for collecting the property transfer tax and bringing property tax and real estate tax transfer under the same valuation. Impact on infrastructure taxes, if assessed systematically, can provide funds for infrastructure extension. However, they need to rely on robust development controls, which is often lacking in developing countries and are not sustainable since the revenues are not consistent (Gwilliam, 2002). Betterment levies are a great option in theory but challenging to implement in practice and need a solid legal framework to back it up, which is often not the case in developing countries (Gwilliam, 2002). Roukouni (2018) argues that using land value capture instruments does not have standard rules since it depends on local circumstances.

(2) PPP

Public-private partnerships and urban borrowing have often been used for investment in sustainable urban transport (Smoke, 2018). This is the case in developing countries as well. PPPs are used in both Bogota and Curitiba to manage BRT public transport systems (Vecchio, 2017). However, especially in Curitiba's case, careful attention was paid to the contract conditions, and the municipality is still in charge of controlling and monitoring service standards and prices. The city takes over the commercial risk, and they collect fares (Ardila, 2008). In Bogota, infrastructure construction and maintenance are the municipality's responsibility, while private operators provide the service. Capital investment was made through municipality revenues and a loan from International Donors (guaranteed by the National Government). However, it is argued that Bogota's public transportation service is facing funding challenges; private operators are going through severe deficits, and fares are increasing. Both cases do not use available subsidies (Burgess and Ordiz, 2010). Public-private partnerships are also utilized in bike-sharing scheme operations in many countries, such as France (Charles, 2019). The need for contributions to the public sector does not mean that PPP should not be considered at all. However, the public sector must understand the risks and benefits of entering a public-private partnership, its procedures, and its principles. Governments in developing countries often enter such commitments without understanding costs and benefits (Gwilliam, 2002).

(3) Urban Borrowing and Municipal Bonds

Urban borrowing can be an effective method of financing capital infrastructure for sustainable urban transport. Urban borrowing follows the principles of "beneficiaries pay and congesters pay instruments, as crucial components inter-generational equality (Sahasranaman and Vishnu, 2014, p. 24). Déséglise and Freijido (2019) state that it was usually multilateral development banks, national development banks, and other policy banks that would finance sustainable urban mobility

through loans. Especially in developing countries, there is a high presence of international banks willing to give loans for projects in sustainable infrastructure. However, these funds have been granted more for other infrastructure types, such as water, sanitation, energy, rather than transport. The few cases when transportation was the subject of these loans, it was for road infrastructure, given that the situation in developing countries for road infrastructure has been dire.

Capital markets are another example of urban borrowing. However, in developing countries, capital markets, or bonds, are challenging because of the lack of a well-structured capital market. Bonds' payback periods are long, and revenues are low due to the large investment required (Chen et al., 2016). According to Déséglise and Freijido (2019), the green bonds market started in 2007 from the European Investment Bank (EIB). Seven years after that, there were launched the principles of green bonds. Green bonds are now being used by many subnational governments, with 15% of total issuance being the second larger issuer (Cochu et al., 2016). Green bonds are used for a wide range of projects, but they are still relatively not used in transport. Bonds issued only for transport are a more recent approach (Feldman et al., 2019). Since 2014, transit authorities such as Transport for London, the New York Metropolitan Transportation Authority, and local municipalities such as the Council of Paris entered the market. Challenges of green bonds include credit rating (especially in small cities), the small scale of specific projects, and perceived risks. We can mitigate these challenges by using the "club or pooled issuance" approach by issuing a bond on behalf of several municipalities, providing tax incentives and tax exemptions for investors, using credit enhancement methods, and municipal authorities sharing pierced investment risks (Feldman et al., 2019). The monitoring of green bonds is essential.

Feldman et al. (2019) identify another method of funding sustainable infrastructure, which is not very common. However, there are cases. This is the voluntary capture, a deal between developers and the local government. What this means is that the developers or owners give a voluntary contribution to building infrastructure around their property. The benefits they will gain from this investment are higher than the costs they will bear. Such examples are used in Boston, Washington, and Toronto in transit stations and connections with existing transit facilities. Nevertheless, it is not a very easy method since it is not a legal requirement, and it is difficult to convince developers to do so if they are not obliged by law.

2.3.3b Management

Given the fiscal challenges of public infrastructure in most countries, careful attention is given to maximizing efficiency by better selecting and managing investment spending (Rajaram et al., 2014). Especially in developing countries, the management of revenue sources is one of the most challenging aspects. Zegras (2003), drawing from Chile's case, argues that transportation plans are generally not linked to specific financial arrangements. Urban governments hold a prominent role in this process. Still, their urban strategies are often devised relatively independently of resource availability and the budgeting process because they are focused on crafting a broader shared vision for improving a city (Smoke, 2018). Local government taxing capabilities are often limited in developing countries, so management is extremely crucial (Gwilliam, 2002).

Urban mobility systems' finances can improve if the system itself can generate financial sources, which will be earmarked back to the system. New projects will attract more funding and encourage more sustainable travel patterns. This will create a virtuous cycle. On the contrary, when there's a lack of resources, to begin with, the execution of a successful project is not possible, which in turn makes this cycle less probable (Ardila-Gomez and Ortegon-Sanchez, 2013a; CODATU, 2014). Rajaram et al. (2014) argue that project implementation problems are often related to budgeting and procurement processes.

Budgeting

In infrastructure projects, there is often a disconnection between what is planned, what is budgeted, and what it is implemented (Asian Development Bank, 2009). Theory suggests that an essential step in the project appraisal process, this selecting and deciding on projects, is budgeting (Allen et al., 2020; Xiao et al., 2020). Every public investment project needs to be carefully connected to the budget cycle in order to make sure that it gets implemented. Clearly, there needs to be a two-way connection between the budget and project planning (Rajaram et al., 2014). Budgeting acts as a guarantee for implementing projects by putting them in a defined fiscal space and time (Allen et al., 2020). It also avoids decisions on infrastructure being affected but political and electoral considerations.

Multi-layer budgeting guarantees the allocation of funds over a project's lifecycle. A project proposal should, especially in the case of significant investments, include predictions for the project's life cycle (Rajaram et al., 2014). Medium-term budgeting is an essential institutional tool for improving and strengthening public infrastructure investment (Basdevant et al., 2020). In addition, it is also necessary to consider the monitoring of budgeting execution as an essential phase to guarantee financial stability (Allen et al., 2020).

Earmarking is a budgeting practice that allocates certain funds to a particular sector. Earmarking funds for transport is generally perceived as an essential element, especially for sustainable urban mobility projects. For instance, Zegras (2003) argues that development impact fees need to be earmarked clearly and transparently for investment in infrastructure provision. According to Turro (2018), in public transport, the introduction of earmarked charges should be directly linked to identifiable transport projects. However, especially in developing countries, this is not the case. There are various cases of earmarked funds for transport worldwide. In France, the *versement* transport fee (employer fee) is applied, while in Mexico, there is a federal program for investment in public transport (Diaz and Bongardt, 2013; Gwilliam, 2002). In Philippine, 5% of the LGU's share on the motor vehicle user fees is exclusively used for investment in roads, which is often used for drainage improvements and pedestrian facilities (Department of the Interior and Local Government, 2020).

2.4 Conceptual Framework

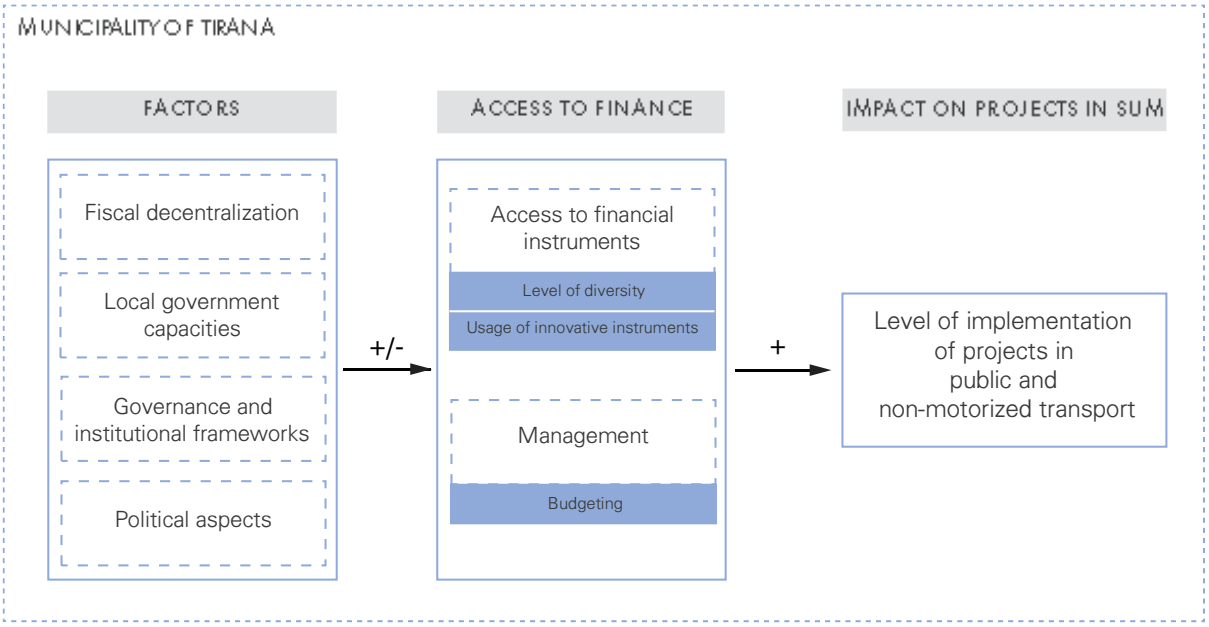
Based on the concepts and theories elaborated above, the conceptual framework is developed below (figure 9). The researcher developed this framework by combining different approaches and frameworks on public finance and sustainable urban mobility. While in academic studies, there are a plethora of frameworks for analyzing public finance, the researcher could not find a framework that connects finance and project implementation in sustainable urban mobility. Consequently, this framework incorporates different theories as also mentioned above, such as the local government authority (UN-Habitat, 2016), benefit-concept (Ardila-Gomez and Ortegon-Sanchez, 2016; Freire and Garzón, 2014; Sakamoto and Belka, 2010; UN-Habitat, 2015; 2016), the ability-to-pay concept (Ubbels and Nijkamp, 2002; UN-Habitat, 2016), and the Avoid-Shift-Improve theory (Wright, 2012). Therefore, the study focuses on how access to and management of finance impacts the implementation of sustainable urban mobility projects and which factors constrain this access to and management processes.

In the factors that affect finance in the local government, the dimensions considered are fiscal decentralization, local government capacities, governance, and institutional arrangements, and political aspects. As explained above (see 2.2), these factors are based on theory, but the research will allow the possibility of discovering new ones. Access and management of finance incorporate access to financial instruments and financial management.

As seen in the conceptual framework below (figure 9), this research aims to discover the impact of access and management of finance (the intermediate variable) on project implementation in

sustainable urban mobility in Tirana (dependent variable) while also looking into the factors (independent variable) that explain this causal relationship.

Figure 9: Conceptual Framework



Chapter 3: Research design, methods, and limitations

3.1 Research strategy

This research has an explanatory objective, aiming at discovering the relationship between the level of access to finance in the local government of Tirana and the implementation of projects in sustainable urban mobility while also examining factors behind this level of access. The intention is to dig deep into the municipal finance context in Tirana's municipality in the framework of sustainable mobility projects. As a result, the chosen strategy is case study research. This research's objective can be achieved through a case study research because, in a case study, the aim is to explore the depth and provide a rich and holistic understanding of a particular context (Van Thiel, 2014; Yin, 2014). Blatter and Haverland (2012) and Yin (2014) argue that interaction between independent factors and a context is explored in case study research. This is also the case for this research, with a large number of independent (factors) variables and a small number of intermediate and dependent ones (level of access to finance and level of implementation of projects in sustainable urban mobility). A survey strategy would not be suitable because surveys' ability to investigate a context is limited (Yin, 2014). Additionally, desk research would not give a full picture because reports and academic research do not cover most of the information aimed to be discovered.

The research will comprise of a single case study with multiple embedded units of analysis (Yin, 2014). In this case, seven projects are chosen as samples of each sustainable urban mobility mode (public transport, biking, and walkability) based on the Avoid-Shift-Improve framework (Bongardt et al., 2019; Wright, 2012). Yin (2014) argues that choosing multiple embedded units of analysis might represent problems because the study might lose its holistic nature and will shift orientation. However, the researcher avoided such risk by always referring back to the bigger 'case' and not go too deep into the embedded units (Yin, 2014). With these seven projects as examples, the study drew lessons that can be applied to other similar projects. The researcher looked into causal relations between the variables, drawing inductively from these examples as evidence.

The projects were selected after a careful content analysis of the strategic municipality documents. The aim was to choose projects that represent each respective transport mode and with different implementation levels. However, the availability of information also influenced the selection. Initially, the researcher aimed to look into three projects, but more information was gathered during data collection, and in the end, the decision was to include seven projects. The embedded projects selected for analysis were projects that were planned to be implemented before 2020.

3.2 Data collection method, sample size, and selection

3.2.1. Data collection method

To answer the study's aim, and based on the chosen strategy, the instruments used for data collection are semi-structured interviews for primary qualitative data and content analysis for secondary qualitative data.

Semi-structured interviews

The primary data collection method is semi-structured interviews. The interview tool is used to acquire primary data by questioning people involved in the field (Van Thiel, 2014). Semi-structured interviews were selected as the best option in this case because they provide certain flexibility to the data collection process while still guaranteeing that the correct data will be gathered. During the interview, the researcher asked additional questions that came up during the conversation to make the interviewee feel more comfortable providing new ideas. This flexible

approach contributed to more accurate data collection, especially in the independent variable, since the research attempts to uncover more dimensions than what was found in the literature review. An interview guide (Van Thiel, 2014) was drafted, which can be found in annex 1. The researcher did preliminary research (reading documents, talking to key informants) beforehand to devise a clear interview guide. In the first two interviews conducted, it was observed that the Likert scale measuring method that was initially planned was not appropriate, and respondents were not willing to respond to questions on the Likert scale. As a consequence, the researcher decided to remove the Likert scale from the questionnaire.

Content analysis of documents

Content analysis of a diverse range of documents was carried out before, during, and after the interviews. These documents were articles by other researchers on the Tirana context, official reports from the local and national tiers of government, and evaluation reports carried out by NGOs, international organizations, and other independent bodies. The data from these documents were used to support the primary data gathered from interviews as well as for preparatory sources before the interview processes. Because of a lack of extensive academic literature in the field of transport in Albania, most of the information in this research was obtained from studies carried out by consultants working in Tirana in the past fifteen years.

3.2.2 Sample size and selection

The sampling method being used in this research was a purposive sample. This means that the respondents were selected based on pre-set criteria (Van Thiel, 2014). In this specific case, institutions and individuals working in this field were mapped (figure 10). Interviewees were representatives of each institution. The triple helix theory was applied to this process, meaning that institutions from local government, private sector, and NGO/Academia were included. In the case of Tirana's municipality, a stratified selection of respondents from different layers was selected (Van Thiel, 2014). The researcher paid careful attention to ensuring that the sample was diverse and coming from parties with potentially conflicting interests. This approach supports the triangulation of data and the collection of information from different perspectives. The snowballing technique was also applied until saturation was reached (Van Thiel, 2014). Key informants and the researcher's professional network were used for contacting the respondents from these institutions. A detailed description of each respondent can be found in annex 2. Since there is a lack of experts in financing urban mobility in Tirana's context, the researcher approached the sample by selecting experts in mobility and finance and attempted to make the connection between them.

Figure 10: Pre-field stakeholder mapping

Local government	National government	Other interest groups
Department of Planning Department of Transportation Finance Department	Albanian Development Fund Ministry of Finance State Supreme Council	Co-PLAN NALAS.eu Porta Vendore Independent experts Albanian Centre of Quality Journalism Qendra Marredhenie Ecovolis

Source: Author, 2020

3.3 Operationalization: variables, indicators

In the operationalization phase, the theoretical concepts are decoded into indicators that can be measured (Van Thiel, 2014). These indicators were the basis for the data collection phase. Interview questions were based on the indicators.

3.3.1 Factors that influence access to municipal financial instruments

In the independent variable, literature in public finance identifies a wide variety of dimensions under factors that influence the level of access to finance. For this study, based on the concept of local governance authority (UN-Habitat, 2016), fiscal decentralization level, local government capacities, governance, and institutional frameworks, and political aspects were considered as dimensions (table 2). However, since the aim is to identify factors in the Tirana municipality context, the research was open to incorporate new factors identified during the data collection period. The researcher ensured to grant respondents enough room to do so during the interview.

3.3.2 Level of access to finance

In the case of the intermediate variable, based on the theories of ability-to-pay, and who-benefits-pays (Ardila-Gomez and Ortegon-Sanchez, 2016; Freire and Garzón, 2014; Sakamoto and Belka, 2010; UN-Habitat, 2015; UN-Habitat, 2016), the sub-variables that were initially considered in this study were: a diversity of financial instruments and usage of innovative instruments (table 3). However, once data collection started, another dimension was noted, not initially considered. This aspect was financial management, which is also recognized by Zegras (2003), Sakamoto and Belka (2010), and Ardila-Gomez and Ortegon-Sanchez (2013a). After the first three interviews, the researcher incorporated this dimension in the operationalization of this variable. Subsequently, this variable took the form of access to and management of finance. The previous operationalization table can be found in annex 3.

Table 1: Operationalization of independent variable

Factors that influence access to and management of finance					
Dimensions	**Indicators**	**Description**	**Data type**	**Data source**	**Data collection**
Decentralization level					
	Clarity of the division of expenditure and revenue responsibilities.	Division of expenditure and revenue responsibilities between local and national governments is/is not clearly defined in the law, based on data from literature & reports and respondent's perspective	Qualitative-Nominal	Primary, Secondary	Interviews Content Analysis
	Accuracy of the division of expenditure and revenue responsibilities	Division of expenditure and revenue responsibilities of the local and national government is accurate/not accurate, based on data from literature and reports and respondent's perspective			
	The current level of fiscal decentralization	The level of fiscal decentralization: devolution, deconcentrating or delegation, based on reports, and respondents' perspectives.			
Local government capacities					
	The expertise of the staff	Degree of which the existing staff is equipped with the necessary knowledge to manage the finance system. Respondent's perspective	Qualitative - Nominal	Primary	Interviews
	Tools available to the staff	Degree of which the existing staff has the necessary tools to manage municipal finance. Respondent's perspective			
	Number of staff	The current number of staff in the local government is sufficient to manage local finances . Respondent's perspective			
Governance and Institutional frameworks					
	Accountability and Transparency	The level of accountability and transparency in financing infrastructure		Primary& Secondary	Interviews Content analysis
	Administrative processes	The level of administrative ease to carry out procedures in municipal finance		Primary	Interviews
	Institutional Processes (structure)	The steps needed for putting in place a new financial tool and other institutional processes involved			
	Inter-institutional relations	Inter-institutional relations			
	Planning Frameworks	The integration of planning and financing in infrastructure development			
	Legal and Regulatory frameworks	Existence of legal and regulatory frameworks to support access to financial instruments. Respondent's perspective and info from reports on the accuracy of legal frameworks		Primary& Secondary	Interviews Content analysis
Political Aspects					
	Political will	Perception of the degree of which certain instruments have support from the current mayor and municipal council based on the respondent's perspective and data from literature.	Qualitative-Nominal	Primary	Interviews
	Public acceptability	Perception of how each tool group tool with its full characteristics would be identified and accepted by the general public based on the respondent's perspective and data from literature and reports.		Primary& Secondary	Interviews Content analysis

Table 2: Operationalization of the intermediate variable

Access to and management of finance in the local government					
Dimensions	**Indicators**	**Description**	**Data type**	**Data source**	**Data collection**
LEVEL OF ACCESS TO FINANCIAL INSTRUMENTS	Level of Diversity of Financial instruments				
	Financial instruments used for funding sustainable urban mobility	List of financial instruments used in the municipality of Tirana	Qualitative Nominal	Secondary	Content analysis
	Perception of the level of diversity of own municipal sources and outside sources	Respondent's perspective Information from literature and reports		Primary & Secondary	Interviews Content Analysis
	Level of combination of financial instruments	Level of combination of general, direct and indirect benefit instruments for projects in sustainable urban mobility.			
	Level of Usage of innovative instruments				
	Level of usage of land finance instruments	Perception of the respondents. Land finance instruments are/are not used for sustainable urban mobility projects based on the respondent's perception and data from reports and literature	Qualitative Nominal	Primary & Secondary	Interviews Content Analysis
	Level of access to urban borrowing	Perception of the respondents. Urban borrowing instruments are/are not used for sustainable urban mobility projects based on the respondent's perception and data from reports and literature			
	Level of access to Public-Private Partnerships	Perception of the respondents. PPP instruments are/are not used sustainable urban mobility projects based on the respondent's perception and data from reports and literature.			
MANAGEMENT	Budgeting				
	Existence of medium-term budgeting	Medium-term budgeting is carried out for projects in sustainable urban mobility	Qualitative Nominal	Primary & Secondary	Interviews Content analysis
	Coherence between budgeting and planning	Budgeting and planning are integrated in the sustainable urban mobility sector			
	Earmarking of funds	Existence of funds earmarked for sustainable urban mobility			

3.3.3 Level of implementation of projects in sustainable urban mobility

The dependent variable's operationalization is based on the theory of the Avoid-Shift-Improve framework (Bongardt et al., 2019; Wright, 2012). As also explained in section 2.3.1, projects in public transport and non-motorized transport are considered. For each of them, different projects are used as a sample, as described above (section 3.1).

The projects selected for this study are seven: four representatives of projects in public transportation and three of projects in non-motorized mobility.

Table 3: Operationalization of the dependent variable

Implementation of projects in sustainable urban mobility					
Dimension	**Indicators**	**Description**	**Data type**	**Data source**	**Data collection**
Level of implementation of projects in public transport					
	Level of implementation of the chosen projects in urban bus service in Tirana	Perception of the level of implementation from interviewees -full, partial, or no implementation	Qualitative Nominal	Primary & Secondary	Interviews Content analysis
Level of implementation of projects in non-motorized transport					
	Level of implementation of the chosen projects in biking in Tirana municipality	Perception of the level of implementation from interviewees -full, partial, or no implementation	Qualitative Nominal	Primary & Secondary	Interviews Content analysis
	Level of implementation of the chosen projects in walkability in Tirana municipality	Perception of the level of implementation from interviewees -full, partial, or no implementation			

3.4 Validity and Reliability

Validity and reliability are essential to ensure in order to develop sound and scientific research. Van Thiel (2014) states that generalization is limited when carrying out case study research, which puts the study's external validity at risk. Since the study draws from a specific case, its results are highly contextual. However, Yin (2014, p. 68) argues that an analytical generalization can be carried out, which means that "the study results can be carefully posed as a theoretical proposition." This research follows a similar approach. Drawing from seven examples of sustainable urban mobility projects, the researcher aimed to pose generalizations for public and non-motorized transport projects.

Internal validity has to do with the intelligibility of the study (Van Thiel, 2014). In this study, it is addressed through a clearly defined operationalization and a clear causal relation between the variables. This study builds internal validity using a mixed-method approach (triangulation), combining interviews and content analysis (Van Thiel, 2014). Additionally, a triangulation of sources was carried out (Van Thiel, 2014), where data will gather from interviews, literature, and official government documents. Interviewees were selected from different institutions and backgrounds to provide diverse perspectives and add to the study's internal validity.

Reliability has to do with the correctness and consistency of measuring variables ((Van Thiel, 2014). To increase the reliability of a study, the researcher has to ensure that the measurement instruments are sound. Reliability was strengthened through keeping notes and databases of all the processes and drafting a case study protocol (Van Thiel, 2014). From the researcher's network, key informants were asked to review the data collection analysis draft to make the results more reliable and avoid the researcher's bias.

3.5 Fieldwork report

3.5.1 Tirana municipality general overview

Tirana is the largest municipality in the country, with 749.365 residents, and with a density of 501.7 residents per km2 (Open Data Tirana, 2011). In the territorial and administrative reform of 2015, local government units in Albania were expanded, incorporating more territory into their management. Municipalities acquired additional functions, intending to strengthen the decentralization levels of local government units. These additional functions were accompanied by new revenue sources transferred to municipal units. As a direct result of these reforms, accompanied by new legislation, in the past five years, the revenues of the local government in Albania have increased considerably (Co-PLAN, 2019). However, various experts argue for the urgent need for better local financial management (Co-PLAN, 2019; The State Supreme Audit Institution, 2018; Toska and Bejko, 2018).

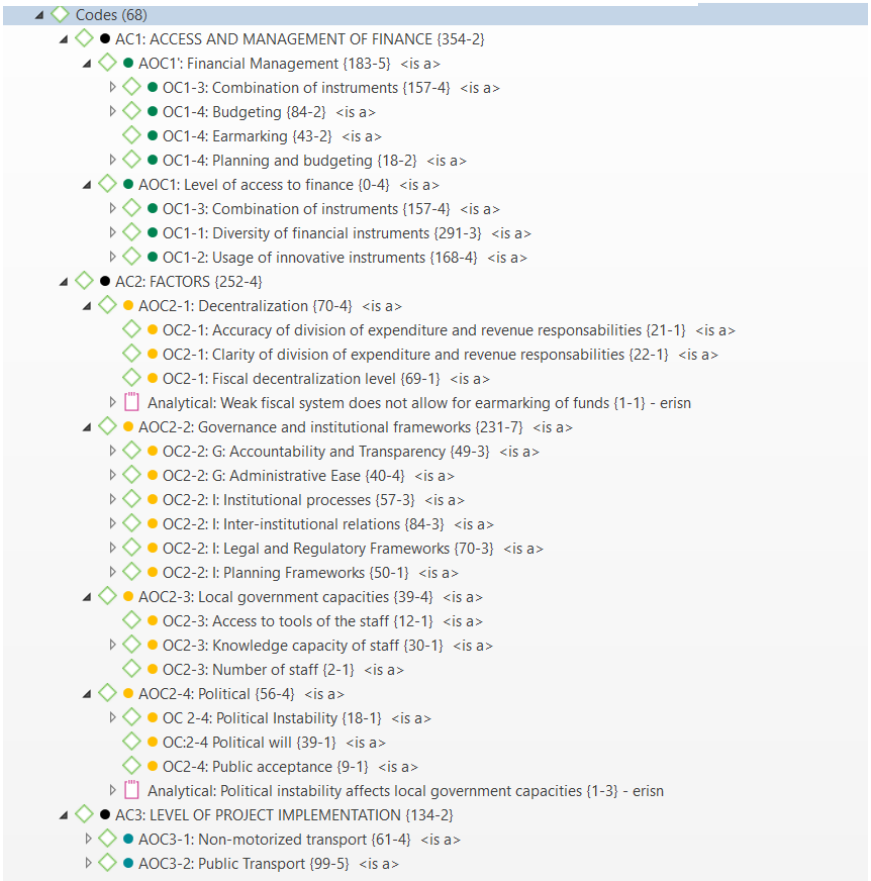
Tirana has the highest geographical concentration of enterprises in the country. 33% of the population of Albania is in Tirana (Albanian Institute of Statistics, 2019). 52% of general enterprises and 56% of large enterprises are located in the Tirana-Durres area with a higher concentration in the Tirana area (Ministry of Local Affairs, 2014). Consequently, the city government represents an entirely different socio-economic character compared to other local government units in Albania. The city grew after the 90s due to high rates of internal migration after the fall of Communism. As a result, the city has undergone significant transformations in the past years. This has put considerable pressure on the transportation sector.

3.5.2 Data analysis

The interviews were recorded, with the permission of the interviewee, and transcribed. In two cases, the interviewees were not comfortable with being recorded. In these cases, notes were taken and consulted with each of them, respectively afterward. In one other case, the respondent sent the

material in a written format. The researcher followed up on this material with the interviewee to ensure that the information provided is diverse and extensive. The researcher transcribed each of the interviews. In the case of Albanian interviews, translation from Albanian to English was done by the researcher and reviewed by an assistant to avoid errors and biases.
Atlas.ti software was used for data analysis. The responses from the interviews were coded and categorized based on the indicators. In some cases, open codes were also used. Open coding was used in the first phases (figure 11). Axial coding was used in the next phase, where connections were made between the codes. The code tree was developed based on the indicators, and each interview was transcribed accordingly. An extensive list of memo-s was kept throughout the data collection and analysis period. Memos were grouped into analytical, process, observation, to-do, and theoretical memos. Each memo was connected to respective quotes and codes. These memos were used as the basis on which the data analysis is drafted. In addition, they were also used as a reflection tool in every interview and secondary data analysis.

Figure 11: Coding tree in Atlas



Source: Author, 2020

Results were interpreted by the researcher in queries and co-occurrence tables. For instance, a co-occurrence table is used to illustrate the relationship between the independent and the intermediate variable. However, in the case of the causal relationship between the intermediate and the dependent variable, queries were considered more helpful. Nonetheless, these co-occurrences and queries were only used as a basis for understanding relationships between variables and indicators. Co-occurrence does not necessarily mean causality, so after calculating these co-occurrence tables, the researcher looked carefully into the codes and quotes and carried out a causal contextual explanation (Maxwell, 2004). The analysis process was iterative. A constant shift between coding, interpretation and memo-keeping, data collection, and consultation with literature took place

during this process. This was done to provide a more in-depth and rich understanding of the case and research questions.

As also explained above (see 3.2.1), the researcher conducted interviews with main actors and experts in the field. Twenty-one interviews were conducted, two of which were with key informants and nineteen with experts and other actors closely involved with the topic. An analysis of secondary data was also developed, as described in the table below. These data include current legislation, reports conducted by other institutions, and academic research on Tirana's case. During data collection, the researcher discovered new sub-variables in the case of the independent variable, which is carefully explained in chapters four and five.

For the analysis, the strategy of "relying on theoretical prepositions"(Yin, 2014, p. 136) is used. Following this strategy, the analysis was developed through an explanation building method, which is a particular case of pattern matching. (Yin, 2014). The outputs were carefully studied to determine meaningful patterns, such as the frequency of codes or code combinations. A detailed explanation in a narrative form was carried out to explain how or why something occurred. A match between the predicted and empirical patterns was carried out, strengthening internal validity (Yin, 2014). In the table below (table 4), a list of all data analyzed for this research is displayed. A more detailed description of each of the respondents can be found in annex 2.

Table 4: **Data instruments**

Data collection method	Data	Sample size	Sample method	Comments
Key informants interviews	Qualitative Primary	2	Purposive	1 independent expert and 1 representative of an international organization
Interviews with independent experts in local finance		3		2 experts from local NGOs and 1 from an international organization
Interviews with independent experts in mobility		8		2 former municipality employees and 6 independent experts involved in the field
Interview with a representative from Central Government		2		1 from the Ministry of Finance and Economy and 1 from the Albanian Development Fund
Interviews with municipality representatives		5		1 from the department of finances and 4 from urban and strategic development
Interview with a representative of an International Development Bank		1		2 of the responses were in written format
Notes from the researcher's participation in webinars on the topic	Qualitative Secondary	2		Webinar on local government finance from Co-PLAN and on local governance from NALAS
Legislation		6		Local governance, fiscal and planning laws
Local finance report from Co-PLAN		1		
Property tax report from IMF		1		

Chapter 4: Presentation and analysis of data

This chapter describes and examines in detail the data collected in this study. The chapter is organized as follows: Chapter 4.1 describes the case study context. The next chapters (4.2, 4.3, & 4.4) describe data collected per indicator, organized and clustered based on the variable dimensions (sub-chapters) and sub research questions. The codes used in Atlas and respective quote frequencies are illustrated in Annex 5.

The findings presented here result from the coding process and the researcher's interpretation of the data, supported by the literature. The analysis involves an iterative process of coding, writing, and reflecting on literature. Each indicator is firstly analyzed separately, and then the relationship with the indicators it influences is examined. Afterward, a careful interpretation analysis is carried out for each sub-variable and the causal relationship between them. Empirical evidence from seven embedded units is used to support this process (see section 3.1).

4.1 Case study description

The two sections included here (4.1.2 and 4.1.3) give a general introduction to the Tirana municipality's infrastructure finance context and sustainable urban mobility projects.

4.1.1 Urban infrastructure financing in Tirana

In the past five years, the revenues of the city of Tirana have had a considerable increase (Co-PLAN, 2019). However, due to the expansion of its administrative borders, so did the expenditures. Since 2010, the city has benefited from governmental and international grants in the transport sector, but most of these funds have been for road construction (Pojani, 2016). With the 2017 law, the intergovernmental unconditional transfer was regulated and stabilized. The unconditional intergovernmental grant is regulated by law, at a minimum of 1% of the GDP and not less than the previous year (Parliament of the Republic of Albania, 2017a). This revenue goes to the general fund of the municipality. Parts of it can sometimes be allocated for investment in sustainable urban mobility, depending on the medium-term budget predictions. The infrastructure impact tax holds a crucial position in the city revenue sources since 2016 (Co-PLAN, 2019; Municipality of Tirana, 2018b). This tax is not earmarked for infrastructure, as it may be in many other countries (Diaz and Bongardt, 2013; Gwilliam, 2002). The organizational structure of the municipality has also had changes since 2015. Currently, finances in Tirana are managed by the General Directorate of Financial Management. This directorate's sub-departments are the department of budget, finance, coordination with donors, financial monitoring of municipal-owned enterprises, and department of local taxes and tariffs. In collaboration with each other, these departments have the duty to oversee the municipality's financial aspects, and consequently, those related to urban infrastructure financing as well.

Every two years, the city of Tirana drafts its medium-term budget plan. This procedure is a legal requirement (Parliament of the Republic of Albania, 2017a). Respondents argue that this procedure was not carried out regularly before 2017. The department responsible for preparing the budget is also in charge of coordinating with other sectors. However, not all the projects foreseen in the medium-term budgets are implemented, as all municipal representative interviewees admit. Many large investment projects in infrastructure do not get implemented, although the budget foresees such investment.

Respondents from the municipality of Tirana argue that projects in sustainable urban mobility can be (1) large projects that require large capital and operation and maintenance investments and (2) small scale ones that can be carried out through the municipal budget. Large capital investments

often require using loans or setting up a PPP scheme. Operation and maintenance can be covered through fees, local taxes, or even central earmarked funds, depending on infrastructure type.

4.1.2 Projects in sustainable urban mobility

In the first years of pluralism in Albania (the 90s), the main goal was improving the necessary infrastructure and the redevelopment of primary road connections. Nevertheless, in the past ten years, there has been a lot of attention given to sustainable urban mobility. A series of planning documents have been developed during these years in the city of Tirana, incorporating a large number of projects in the sector of sustainable urban mobility. However, the real challenge has been implementing these projects, as also confirmed by all experts interviewed. From 1993 to 2020, the following plans integrating the transportation sector have been drafted as adopted from Pojani (2016, p. 206) and Pojani and Stead (2019, p. 6):

(1) Between 1993-1995 Transurb Technirail developed a study on public transport in Tirana
(2) In 1995, a Master Plan for Tirana by the Regional Consulting team from Vienna was drafted
(3) In 2000 there was developed a study on transport in Tirana (TUTIS), financed by the World Bank and drafted by T.E.C.N.I.C. Consulting Engineers
(4) In 2005 Albanian Tech Project prepared a strategy for urban development, including a series of recommendations for transport in Tirana
(5) In 2006, Peter Guest developed a detailed study for parking in Tirana
(6) In 2007 European Commission and FIAB offered 166,700 Euro for a training session in transport and mobility for the staff of Tirana municipality in the framework of the M.O.S.T. program for sustainable transport
(7) In 2008 the Albanian branch of Environmental Center for Administration and Technology (ECAT), in collaboration with a German consultant (Rainer Graichen), prepared a study for sustainable transport in Tirana financed from the EU LIFE program of EU, German Environment Ministry, and the EBRD.
(8) In 2008, the Polytechnic University of Bari's transportation department, in collaboration with Albanian partners, prepared a study for transport in Tirana with the focus on defining the optimal location of a terminal station for inter-urban transport in the framework of Interreg / Cards 2004-2006 program.

In addition, from 2012 and on, the following strategic documents were carried out:

(1) In 2012, the Japan International Cooperation Agency prepared the Thematic Urban Plan of Tirana, which includes an extensive section on sustainable transport.
(2) In 2016, The General Local Plan of Tirana was approved, including a specific study about sustainable urban mobility, focusing on a bike grid for the city
(3) In 2018, with the support of the EBRD, a Green City Action Plan for the city of Tirana was developed, with a specific sector on mobility.
(4) With the support of the GIZ Open Regional Fund for the South-East Europe program, a Sustainable Urban Mobility Plan is being developed for Tirana. This plan is expected to be ready by the end of the year 2020.

These documents recommend a series of projects in sustainable urban mobility. In most cases, these planning documents are built on preceding plans. Nevertheless, as also stated by most of the respondents, most of these projects did not get implemented. Experts argue that Tirana's mobility sector is highly pressured, and there is a need for immediate interventions. The international community is also actively pushing for these projects to be implemented and has continuously offered technical assistance. However, although some of these project ideas date from 2009 or

earlier, they have not been executed. While the reasons behind it are many, the current level of access to municipal finance and financial management has had a crucial impact. Experts argue that although Tirana is a metropolitan area, funds are still limited, with an apparent underfunding gap. Furthermore, there are evident management and administration issues. The structure of the Tirana local government was reformed in 2015 (Parliament of the Republic of Albania, 2015). The structure grew to accommodate its new functions and territories but also as a result of a new major in office. However, four out of five municipality respondents state that the current structure represents issues in the division of responsibilities. There is often a lack of horizontal coordination and information-sharing. This was also evident during data collection. Representatives of different departments were often unaware of current ongoing procedures in other departments, and their duties frequently overlap.

In a 2016 report, USAID argues that the premise of the 2016 General Local Plans (GLP) in Albania is that it would provide a basis to tackle the nexus between infrastructure and finance. Nonetheless, based on the same study, the implementation of these plans would be severely compromised if local governments cannot access debt financing, do not have the authority to raise sufficient own-source revenues, and if the National government does not transfer additional funds (USAID, 2016).

An often underestimated issue is that of financial management. Reports seldom mention budgeting practices or fund earmarking in their assessment. Data confirms that, in the city of Tirana, budgeting is often not effectively aligned with planning. In most cases, decisions about budgets are made ad-hoc, depending on fund availability that year, which is often the case for developing countries.

Overall, it is essential to point out that a lack of precise and specific data was identified. Even when data exists, it is difficult to access due to a lack of coordination and overlapping responsibilities. Throughout the years, the municipality has taken ad-hoc decisions, which are not based on careful analysis and coordination amongst departments. In several cases, they are even not documented.

Public transport and non-motorized mobility

The public transport service was decentralized in 2000 (Parliament of the Republic of Albania, 2000). It consists of bus lines privately operated (contract-based). The privatization started around 2001-2002. The city managed only one bus line, which was later privatized in 2012. The city of Tirana does not subsidize this service. Fares cover the costs of running the service. The ticket costs 40 lekë (around 30 cents) since December 2015. Before, it was 30 lekë (approximately 22 cents) (Municipality Council, 2015). Several projects have been proposed in this sector during the years. Such projects are BRT/Tramlines, the extension of bus lanes, electronic ticketing for buses, multimodal bus terminal, bus local system development, and lately even electric buses.

Non-motorized mobility has come to the attention of policy-makers only recently. It has only come to the attention of decision-makers in the past four years. Projects initiated include bike-sharing systems, bike lanes, and pedestrian-friendly facilities. Non-motorized transport is recently having a lot of attention, not only for its benefits but also since it has shown to be a preferred means of transportation for citizens. For instance, data shows that 30% of Tirana's mobility is done on foot (JICA, 2012; Municipality of Tirana, 2016).

4.2 Financial instruments used for urban infrastructure

Financial instruments currently available to local government units in Albania are defined in the law nr. 139/2015 ‘’On local governance’’ and law nr. 68/2017, ‘’On self-government finance’’. According to these laws and the Tirana Municipality budget, municipal government revenues are

divided into own source revenues and outside source revenues (Municipality of Tirana, 2017; Parliament of the Republic of Albania, 2015; 2017a).

Before 2015, Albania's local government finance was regulated with another law (Parliament of the Republic of Albania, 2000). However, in 2015, LGUs were granted more independence. They can now determine local tariffs and change the local tax rates (inside certain limits provided by the central government). Additionally, if needed, local governments can approve a temporary tax dedicated to a municipal service. Still, only one temporary tax can be used at once (Parliament of the Republic of Albania, 2017a).

4.2.1 An overview of the Tirana municipal budget

The budget of the Tirana municipality has increased considerably in the past ten years. However, own-source revenues continue to be highly dependent on a few tax categories, such as the infrastructure impact tax and the performance of the municipality of Tirana in these lines (Co-PLAN, 2019). The respondents' overall perception is that Tirana's city has always had one of the lowest budgets in the region, and most of it goes for administration expenses. This is also confirmed by data presented by NALAS (2018) in their fiscal decentralization report. Albania has the lowest local government revenue as % of the GDP in the region, at 3.8% of the GDP (NALAS, 2019). Capital expenses increased in 2019, but its ratio compared to total spending is still low, with only 1.5% of GDP (Co-PLAN, 2019). However, it’s quite typical for states in southeast Europe (SEE) that the central government is the principal investor in capital infrastructure. According to NALAS (2018), in these countries, public investment in infrastructure is highly centralized. In addition, there are efficiency problems. Local governments in the SEE spend a third of their budgets on labor costs, almost equal to the EU (NALAS, 2018). These issues are also present in Tirana. In 2018, personnel costs counted for up to 30% of the total (Co-PLAN, 2018a).

The researcher's initial aim was to look into Tirana's municipality's financial instruments for capital, maintenance, and operation funding of projects in urban infrastructure or sustainable urban mobility projects. However, according to data findings, the Tirana municipality does not allocate specific revenue funds for urban infrastructure or sustainable urban mobility projects. There are no earmarked revenues in mobility. Until now, the city of Tirana collects all revenues from its sources (which will be described below) and merges them into one general budget fund used to fund necessary expenses based on its budget predictions and strategic plans. There are certain expectations to this rule, like the sectorial intergovernmental transfers, which are conditionally transferred revenue from central to local government for specific defined projects (appointed by Ministries, e.g., for education, agriculture, infrastructure, etc.). Generally speaking, it is not possible to identify how much of the revenues go for soft infrastructure, how much goes for new investments, how much for parking, etc. There is a lack of transparency that profoundly affects the potential for comprehensive analysis and effective decision-making processes.

Consequently, as mentioned in chapter 3 (3.4), Tirana's city does not keep regular databases for investment in sustainable urban mobility investment. In most cases, it is difficult to identify the exact sources of finance for projects in mobility because these funds often come from the general revenue fund of the city government, where they merge all revenue streams. As revealed by all respondents, planning is usually done in patches. New layers of planning are introduced ad hoc, and its financing is almost never considered. Therefore, in the next few chapters, the research will often refer to financing urban infrastructure instead of sustainable urban mobility due to the lack of precise data on infrastructure sectors.

4.2.2 Financial Instruments Used

Revenues from the local government's sources in Tirana's municipality are displayed in the table below (Table 5). While all the sources mentioned in the table are available to Tirana municipality,

there are particularities about some of them, which creates challenges in the local government's access and management of these instruments. Findings show that a particular issue concerning Tirana's financial instruments is related to continuous changes in the financial system. All interviewed experts (see Annex 2) argue that in the past years, the legislation has changed so often that it has created an incoherent and complicated financial framework. Experts say that it is crucial to keep the legislation stable for a few years in order to institutionalize the changes and measure impacts correctly. In addition, there are no studies or analyses of the effects of certain taxes, fees, etc., to facilitate decision-making processes. Currently, there is no common understanding of the impact of these instruments and how to move forward. Furthermore, we can't identify which ones are used directly for sustainable urban mobility.

Table 5: Tirana municipality financial instruments

Own source	
Local Taxes	Tax on immovable property (buildings, agriculture land, urban land)
	Tax on immovable property transfer
	Tax on the infrastructure impact of new buildings
	Accommodation tax
	Billboards tax
	Tax on the economic activity of local businesses
	Education tax (temporary)
Local fees	Public space occupation
	Waste collection and disposal
	Water supply
	Irrigation and drainage
	Fee for administrative services offered by the municipality
	Parking fee
	Fee of schools (pre-university) and kindergartens
Revenue from donations and gifts	
Revenues from renting or selling municipal owned assets	
Revenues from Agencies under the municipality	
Outside sources	
Shared taxes	Personal Income Tax (2%) goes to the local government
	Tax on vehicles (25% of the total)
Unconditional transfer from the central government	
Conditional transfers from line Ministries	
Grant from the Albanian Development Fund (ADF)	
Urban Borrowing	
Public-private-partnerships	

One of the primary revenue sources in the local government of Tirana is the intergovernmental transfer. These transfers are unconditional and conditional and are distributed from the central to the local government. Both types of intergovernmental transfers have often funded capital infrastructure investment. As mentioned in 4.1.1, the unconditional transfer has been regulated through the 2017 law, and it is now more stable and transparent. However, some experts argue that further improvement is needed since this transfer is one of the lowest in the region.

Another revenue source is the Albanian Development Fund (ADF) funds, an institution under the prime minister's office, which manages the central government Regional Fund. Funds from the ADF generally go for capital investment in infrastructure projects. However, respondents argue that fund allocation from this institution is done in a non-transparent way. There are often accusations of political favoritism towards municipalities in the same party as the central government. Respondents from the civil society argue that in 2017, the central government allocated 97% of the total budget from the Regional Investments fund to municipalities led by a socialist mayor and the other 3% to the ones led by a mayor from the Democratic Party.

Furthermore, this instrument is highly volatile. This revenue is non-recurrent and won't be available in periods of crisis, creating a massive gap for the city's capital investment.

The parking fee in Tirana was only introduced in 2015. However, it has become a significant source of revenue for the city. According to a decision of the Municipal Council (Municipality Council, 2015), 90% of revenues from Tirana Parking go to the general fund of the local government (and 10% for its administration). These revenues were 450,000,000 *lekë* (approx. 3,626,416 euro) in 2015 and are expected to be 605,000,000 in 2020 (approx. 5,238,157 euro) (Municipality of Tirana, 2017). However, often, data is not consistent in different documents. Again, there are severe issues of transparency and accountability. What can be said for sure is that parking revenues have increased and will increase in the future as well since the city has announced plans to extend the paid parking areas (Municipality of Tirana, 2017). It is impossible to identify if funds from this instrument are ever used for investment in sustainable urban mobility, although theory suggests that this can be a potential revenue (see 2.3.2).

Based on the legal framework, LGUs in Albania also benefit from other transfers, such as the shared taxes (personal income tax, vehicle circulation tax, and 5% mineral rents). These funds again go to the municipality's general fund, which can be later on used for urban mobility, capital or operation, and maintenance investment. However, although it is a shared tax, the personal income tax has not been transferred to the local governments for at least two years now. As stated by representatives of the ministry and all local independent experts, there is a technical problem in administering the tax. The central government is unable to split it according to each municipality since registering these transactions happens mostly in Tirana, although the residents might not live in the capital. Some respondents (representatives from NGOs and Tirana municipality) state that this might also be because the central government does not want to lose that revenue. As literature also suggests (Bahl, 2012), employment areas might be different from the residence in metropolitan areas, leading to a mismatch and significant inter-jurisdictional inefficiency.

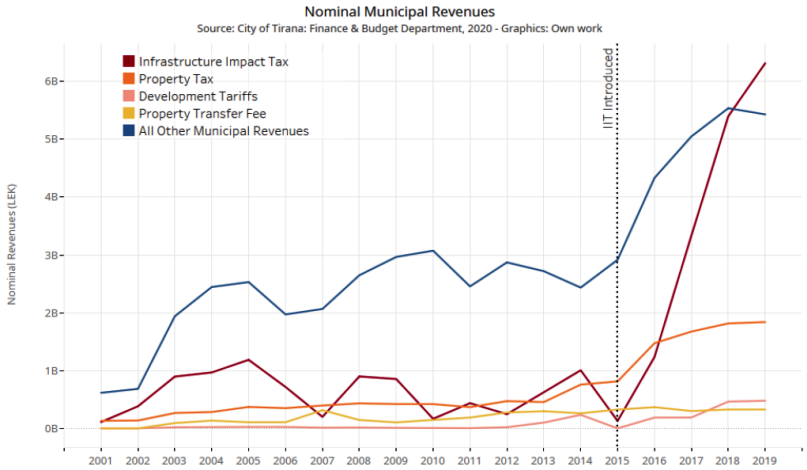
Data shows that loans are never used to finance sustainable urban mobility in Tirana. The legal framework clearly states that local governments have the right to access urban borrowing (Parliament of the Republic of Albania, 2017a). But then again, because of the high levels of public debt (Co-PLAN, 2019), the loan needs to get the Ministry's Finance and Economic approval. This means that for Tirana to acquire a loan, a sovereign guarantee must be given from the central government. Nonetheless, both representatives of the municipality and ministry of Finance state that it is easier for the Ministry to grant this guarantee for Tirana, given its optimal performance in the past couple of years. Bonds are also not applied in the municipality of Tirana. Albania has a young and not established capital market, where local governments do not have access. Although the context might not offer the best conditions, two respondents argue that there could be a possibility for the city of Tirana to make use of bonds (and green bonds) given there is the necessary political will and inter-institutional coordination between the central and local government. According to respondents, although literature suggests green bonds as a viable instrument to finance urban mobility, green bonds are never discussed in the city of Tirana.

Instruments such as public-private partnerships (PPP) have not been used in urban mobility projects. A public-private partnership is now being used to rehabilitate and construct new schools in the city. Generally speaking, respondents argue that PPPs are a new instrument for local governments in Albania.

Currently, land finance instruments being used are property tax, impact on infrastructure tax, and property transfer tax. The property tax has always been meager, but in the new reform of 2017 (Parliament of the Republic of Albania, 2017b), implemented in 2018. Co-PLAN (2019, p. 25) has concluded that "in the last three years, revenues from property tax are assessed at approximately

0.3% of the nominal GDP, a ratio which is considerably lower compared to the EU average of approximately 1.6% of the GDP in 2017". Lack of fiscal cadaster is argued to be one of the main constraints of fully making use of this tax (see section 4.3.3).
The tax on immovable property transfer is another land-based finance instrument (figure 12). It is collected by the property registration office (central tier), which distributes the tax to local governments, keeping a 3% fee for administrative purposes as the collecting agent.
Data shows that the planning law allows for other instruments to be used. However, respondents have stated that such instruments are being used informally. Due to a lack of normative legal acts that detail how to use tax increment financing, land value capture, or betterment levies, the municipality does not have an adequate legal environment to move forward with these instruments. According to seven respondents (current and former municipality employees, NGOs), there are cases, when in agreement with developers, the city asks for in-kind contributions (Feldman et al., 2019) (see chapter 2.3.3a) instead of applying such instruments. The impact on infrastructure tax has become one of the primary sources in the past five years (figure 12).

Figure 12: Revenues of Tirana Municipality 2001-2019



Source: (Baboçi, 2020)

According to Co-PLAN, in 2017, it constituted 33.97% of total revenues from taxes and tariffs (Co-PLAN, 2018b). However, this tax is not earmarked (see chapter 4.3.5). In 2019, the municipality of Tirana grossed 1.4 milliard lekë in impact on infrastructure tax, a decline of 21.4% in yearly numbers (Co-PLAN, 2019). While this tax has been crucial for local government revenue from 2015-2019, its effects won't last forever. Respondents state that currently, there is too much reliance on the infrastructure impact tax, which is not very sustainable long-term, due to this tax's cyclical nature.

Municipal assets are also mentioned as potential instruments to be used by municipalities in Albania. However, revenues from this source are not usually used in infrastructure or urban mobility. Literature also does not provide details about this instrument, and it is rarely included in the literature about infrastructure financing.

Advertisement is also a potential revenue based on literature, but data shows that it has never been used as a revenue source in Tirana. This instrument is also not incorporated in the legal framework. Respondents are unable to explain why this is the case.

Tirana has also often benefited from international funds in the form of small grants or loans. Different from other LGUs, Tirana has better chances to access loans from international

organizations, according to interviewed experts and representatives of these institutions. However, in reality, this has never been the case for sustainable urban mobility projects. Some respondents mention that an international community approach could be that when these revenues are distributed, they put conditions of a percentage of it being used for urban mobility. A general perception of the respondents is that international institutions would be willing to finance projects in urban mobility, given a strong political will and inter-institutional relations between the central and local governments.

Overall, respondents mention a need for more sustainable revenue sources. During this research, it was noticed that while the legal framework in principle provides the opportunity to make use of more financial instruments, in reality, this is not the case. The reasons will be described in the next chapter.

4.3 Factors affecting access to and management of finance

4.3.1 General understanding of these factors

As also mentioned in theory, different factors affect local governments' access to finance in developing countries. Theory suggests the decentralization level, governance and institutional frameworks, government capacities, and political factors (see chapter 2.2). However, these factors are highly contextual (Freire and Garzón, 2014) and vary in each country, as this research's findings also show (below).

Data collection confirmed these factors, but with different frequencies (table 6). However, additional factors were identified that the researcher had not considered before. Once these factors were identified, an iterative process of reflecting on the literature review took place. Moreover, it was noticed that some indicators did not have a strong influencing role, as it was thought before data collection. Table 6 below shows that all the identified factors are presented, with the respective frequencies (number of respondents mentioning each indicator as a factor affecting access to finance). In annex 5, a detailed list of relationships between indicators can be found, with respective frequencies (independent-intermediate variable and intermediate-dependent variable).

Table 6: Factors identified (the ones in bold are added after data collection)

Dimension	Indicator	# of resp.	The perspective each respondent represents (triangulation)
Decentralization	Fiscal decentralization level	9	Municipality, NGOs, Central Government, International Organizations
	Clarity of distribution of expenditure and revenue responsibilities	6	Municipality, NGOs, Central Government, International Organizations
	Accuracy of distribution of expenditure and revenue responsibilities	6	Municipality, NGOs, Central Government, International Organizations
Governance and Institutional Frameworks	Legal and regulatory framework	16	Municipality, NGOs, Central Government, International Organizations
	Administrative processes (including efficiency and transaction costs)	16	Municipality, NGOs, Central Government,
	Institutional processes	14	Municipality, NGOs, Central Government,
	Accountability and transparency	15	Municipality, NGOs, Central Government, International Organizations
	Inter-institutional relations	18	Municipality, NGOs, Central Government,
	Planning frameworks	9	Municipality, NGOs, Central Government,
Local Government Capacities	Knowledge capacities of staff	13	Municipality, NGOs, Central Government,
	Tools accessible to the staff	4	Municipality, NGOs, Central Government,
	Number of staff	2	NGOs
Political Aspects	Political Will	15	Municipality, NGOs, Central Government, International Organizations
	Public Acceptance	3	NGOs

NALAS (2018, p. 9) states that in SEE countries, the major challenges for financial instruments are “the frequent and continuous amendment of the legal framework, outdated fiscal registers of their tax base (buildings, land, transactions, etc.) and taxpayers; weak tax compliance and weak tax enforcement mechanisms.” Respondents identify Governance and institutional frameworks is the most frequent factor. The next most frequent dimension is political aspects, followed by fiscal decentralization and local government capacities. While the researcher assumed that local government capacities would be a significant factor influencing access to financial instruments, data shows that it is not the most pressing issue. Data collection discovered some new factors that affect the level of access to finance in the Tirana municipality. Factors like: inter-institutional relations, which can be horizontal (in between different departments) or vertical (in between institutions), accountability, and planning frameworks. Moreover, political instability was also identified, although not included in the research framework.

4.3.2 Factors affecting the diversity of financial instruments

The level of financial instruments diversity is one of the main principles of local tax law (Parliament of the Republic of Albania, 2017b). In practice, this is not always the case, especially in financing sustainable urban mobility. Furthermore, while there might be a range of instruments available, they are not combined for investing in capital, operation, and maintenance of sustainable urban mobility projects (Ardila-Gomez and Ortegon-Sanchez, 2013b). In paper it might look like there is a diversity of sources. Still, processes are administratively tricky, bureaucratic, and lack coordination between departments and division of responsibilities.

4.3.2a Factors affecting the level of diversity

Decentralization

Albania is still in the fiscal decentralization delegation phase, as confirmed by several secondary data reports (Co-PLAN, 2019; Ministry of Local Affairs, 2014; NALAS, 2018; Toska and Bejko, 2018) and all local finance experts (seven). These experts were representatives of the municipality, central government, NGOs, and International Organizations operating in Tirana. While the instruments accessible in Tirana's local government have been diversified in the past five years, the level of diversity of these instruments is not considered as reaching the full potential of Tirana municipality. As theory suggests (Bahl, 2012), Tirana should be treated differently from other LGUs in decentralization owing to its metropolitan character (see 2.2.1 and 4.4.1). Fifteen respondents supported this statement. Since Tirana is the country's capital and hosts a high population, number of businesses, and is an important metropolitan area, a separate law should be approved, giving more responsibilities and independence to the capital. This asymmetrical decentralization was also mentioned in a report from the State Supreme Audit Institution (2018).

All of these respondents identified the fiscal decentralization level as a factor affecting the level of diversity of financial instruments. Due to the low levels of fiscal decentralization, financial instruments' diversity is not fully exploited. For example, the local government is still dependent on revenues from the central government, especially when it comes to capital investment. Additionally, while the personal income tax is supposed to be a shared tax, this tax has not been shared with LGUs since it was introduced in the law in 2017 (see 4.2.2), as confirmed by six respondents and official reports (Municipality of Tirana, 2017).

Another indicator identified as influencing the level of financial instruments diversity is the accuracy of the division of expenditure and revenue responsibilities (ten respondents). As mentioned above, experts argue that the Tirana municipality might have been treated with a different law to reflect its full capacities. The city can manage more fiscal responsibilities in terms of revenue and expenditure management, facilitating specific processes and making it easier to access specific funds, as mentioned in the literature (Bahl and Bird, 2018). One of the experts also

noted that a Memorandum of Understanding (MoU) could be signed between the local and central governments to give Tirana more power. The clarity of the division of responsibilities is not identified as a factor directly influencing finance for sustainable urban mobility. However, it might have an impact on access to finance for other investments.

Governance and Institutional Frameworks

The different dimensions of Governance and Institutional Frameworks are the most typical constraints of the level of diversity of financial instruments. Ten respondents confirm the causal relationship between legal and regulatory frameworks and the level of financial instrument diversity. According to data, legal structures, laws, normative acts, and specific regulations are crucial for guaranteeing financial instruments' diversity. For instance, while there is legislation in place for land value capture usage, due to the lack of normative acts that detail this instrument's use, it has not been implemented (see 4.2.2).

Administrative ease of using specific instruments also has a significant influence, as also mentioned by 11 experts. When the procedures are highly bureaucratic (lower administrative ease), the level of diversity is lower. An example of this is the management of the Personal Income Tax. As seven respondents mentioned, because this shared tax represents management and distribution challenges, it is difficult for the ministry of Finance to distribute it to the local governments. Still today, the central government cannot tell apart the residence place of each taxpayer and distribute the money based on each local government. As a result, the tax has never been transferred to LGUs, considerably affecting their finances.

Another instance is related to tax collection efficiency and administrative procedure. 13 respondents mention that tax collection efficiency is crucial in diversifying revenue sources. The most common case mentioned is that taxes or fees on local businesses are easier to collect than households. Such challenges also explain why local taxes and fees of households are currently collected through the water bill (the water company now has the best database of households in the city). Noticeably, inter-institutional relations are also vital to this causal relationship. If departments in the city government had a more potent synergy amongst each other, they would share databases that would highly facilitate these processes, as emphatically stated by seven respondents. This issue is fundamental since, for example, a higher tax collection efficiency of tax property would increase revenues from this instrument that could be used for sustainable urban mobility.

Moreover, NALAS (2018) argues that different performances of local governments in SEE countries confirm that national and local governments' commitment to implement the local fiscal legislation effectively. This is also evident in the case of Tirana, where the fiscal law is not fully institutionalized.

Political

Data shows that political will has a considerable influence on the level of diversity of instruments (11 respondents). For instance, in the case of conditional funds allocated by the Albanian Regional Development Fund, all respondents mention that the funds get distributed depending on the central government's political interests and will. Thus, a higher political will increases the diversity of instruments available to the local government (see tables in Annex 5).

Respondents (other than municipality representatives) argue that as a result of a stronger political will, the tax/fee collection efficiency is higher. As demonstrated by one of the independent experts, majors are often unwilling to increase the collection efficiency before elections so that their voters will not be burdened.

4.3.1b Factors affecting the combination of financial instruments

Authors argue that a combination of revenues from different sources is essential to fund projects in urban infrastructure and guarantees the sustainability of urban transport revenues (Ardila-Gomez and Ortegon-Sanchez, 2013b; Sakamoto and Belka, 2010). To support public transport projects, a combination of financial instruments that measure the general, direct, and indirect benefit should be present (Ardila-Gomez and Ortegon-Sanchez, 2013b; Sakamoto and Belka, 2010). However, data collection shows that overall, due to the lack of precise data on how revenues from each instrument are used, it is rather challenging to specify the causal relationship. As explained in chapter 4.2.1, Tirana's city merges all funds into one pool from which the funds are allocated, depending on the planned strategic projects. Findings do not point out to direct data regarding the combination of different financial instruments for sustainable urban mobility projects.

Decentralization

Nine respondents mention that a low level of fiscal decentralization causes a low level of usage of some general benefit instruments and especially indirect benefit instruments and their combination for urban mobility projects. For instance, due to low fiscal decentralization levels, the Tirana municipality does not directly access the property transfer tax (general benefit tool) or land value capture tax (indirect benefit instrument). On the other hand, after the 2015 reform, the Tirana municipality gained the right to change the infrastructure impact tax rates (indirect benefit). Thus, a higher level of fiscal decentralization (compared to before 2015) facilitated using this indirect benefit instrument for infrastructure investment.

Governance and Institutional Frameworks

The legal framework is a crucial factor. Nine respondents mention its impact on the combination of general and direct/indirect instruments. In the first case, respondents argue that there are no legal or regulatory documents defining how the instruments should be used. This often creates vacuums in the process of fund allocating.

4.3.3 Factors affecting the usage of innovative instruments

4.3.3a Usage of land finance instruments

Respondents argue that property tax has a high potential for infrastructure investment, but the reality does not reflect this statement. According to them, this tax guarantees the stability of revenue sources, and its influence could theoretically be increased. However, although not considered in this research, another respondent argues that property tax and land value capture instruments can never become a high-yielding source of the LGU financial system because of historical and cultural aspects, as is the case in developed countries. Referring to the region's indicators, compared to better-performing countries like Croatia, or Slovenia, with a similar history to Albania, it seems that property tax will not become as important as it is in the western countries, because we do not have a long history of using such tax, as data from the NALAS report illustrates (NALAS, 2018). However, it is unclear whether this is the case or not due to a lack of official data.

Governance and institutional frameworks

When discussing the usage of land finance instruments in the municipality of Tirana, legal and regulatory frameworks is the most prominent influencing factor identified from data collection. From the interviewed sample, 12 people argued that legal frameworks have had a substantial impact on land finance instruments usage. In principle, the Law on Territorial Planning and Development of 2014 and following 2015 bylaws provide a legal framework to incentivize land instruments in local governments (USAID, 2016). The Local General Plan and Local Detailed Plans instruments grant, in paper, the opportunity to capitalize on real estate assets not only as a physical design process but also as a financial planning process. Land-based instruments would generate revenues that could potentially be used for infrastructure investment. However,

practically this has not happened. To illustrate, in the case of land value capture instruments, while there is a regulation in place for implementing this instrument, due to the lack of normative acts that further explain the exact methods on how these instruments could be used, they are not currently implemented. A USAID report (2016) claims that land value capture legislation is not adequate to incentivize its usage. Out of these 12 respondents, five (two of which representative of the municipality) stated that these instruments are being used informally, on an ad hoc basis. Moreover, because there is no transparency and accountability in how land value capture instruments are used, evaluating its effectiveness is impossible, thus harming the process.

Ten respondents mention difficulties in administrative processes. They argue that the city government could not access some of these instruments due to many bureaucracies. One respondent who has worked closely with land instruments argues that Tirana's city has been the primary opponent of reforming land value capture legislation because they wanted to accelerate development through detailed local plans and not wait for the official regulatory framework. In the case of property tax, difficulties in administration are related to Albania's chaotic and fragmented property processes. However, this was later regulated with the law on property tax (Parliament of Albania, 2017). Consequently, the revenue from these instruments increased. However, these revenues have the potential to be higher and be explicitly used for urban infrastructure or mobility investment. The main challenge mentioned by all interviewees and in various reports is related to the lack of a comprehensive fiscal cadastral system. According to a study from the IMF, in 2013, only 33.8% of the property tax's full potential is utilized (McCluskey and Walters, 2014). However, the researcher did not find any study that would measure the potential of using property tax or other land finance instruments for urban infrastructure investment in Tirana after it was reformed (2017).
Collection efficiency is another problem. Due to administrative collection difficulties, property tax has very low collection rates. Certainly, this was regulated and improved through the property tax reform (Government of Albania, 2018). However, respondents argue that the yields are still low, and increasing the tax base through improving its collection efficiency is an immediate need (Shutina & Gjika 2010). Currently and in previous years, the weight of carrying this tax falls on the ones that declare their properties and pay their dues. But, respondents argue that a large number of residents register lower values of their properties as if this is not carefully regulated. The rate of informality is still high, mostly due to the aforementioned properly handled cadastral system (USAID, 2010).

The development impact tax has lately gained a considerable share of the total revenues of the Tirana Municipality, increasing the per capita revenues up to three times after 2015 (Baboçi, 2020) (figure 12). However, in the law, it is not specified if it is strictly used for urban infrastructure. The law gives a vague definition that revenues from this source are mostly used for urban infrastructure investment (Parliament of the Republic of Albania, 2017a). One of the interviewed experts engaged in drafting this law argues that the municipality insisted on keeping this definition vague, based on the argument that earmarking this source would be very difficult for them to administer. The city does not have a structured financial system, and some decisions regarding funds are often based on a year to year case. Nonetheless, linking the infrastructure impact tax with infrastructure development is essential to sustain the city's recent growth, most respondents state. Another argument is concerned with the inflexibility of the infrastructure impact tax. Based on real estate values in different areas of the city, a different tax value should apply (USAID, 2016). At the moment, it is the same throughout the city, at 8% (Baboçi, 2020).

Local government capacities

Low levels of knowledge capacities in the city government's staff to administer the land finance instrument have generated challenges in accessing and managing these instruments. Apart from

the necessary expertise, the staff's access to administrative tools is also another influencing factor. In the case of property tax, data identifies a considerable lack of knowledge in the tax administration, coupled with the lack of required software. These factors have considerably lowered the level of access to land finance instruments. All respondents stated that new software for a centralized fiscal cadastre has been introduced to LGUs in Albania. However, this software is only applicable to the property tax. The staff in Tirana's city has an immediate need for financial management software that includes all financial sources and is coordinated with the central government. Accessing such a tool would make the system more efficient and ease the tax administration process. Setting up a central fiscal cadastre is crucial for increasing capacity management in the local government (USAID, 2017). But, USAID (2017) argues that there are experiences in other countries in the region where the property tax has been managed optimally without using such a tool. This tool is not a prerequisite for property tax management improvement. Other interventions are also necessary. Some respondents argue that access to PPPs in the municipality of Tirana is also hindered by low levels of local government capacities to handle such mechanisms.

Political

Some Albanian scholars argue that land finance instruments, especially property tax, are very unpopular, probably because it's a highly visible tax (Gjika and Shutina, 2010). Respondents did not directly mention this argument, but this factor might indirectly influence political will. For instance, interviewees say that this tax has a high political sensitivity. There is no political will to increase tax-efficiency in many cases because mayors do not want to lose votes. On the other hand, infrastructure impact tax is more popular with mayors and their constituents because the tax burden is born by future residents, as data from this research shows.

4.3.3b Level of access to urban borrowing

Decentralization

As a direct result of low fiscal decentralization levels, LGUs in Albania can't directly access urban borrowing without a central government's sovereign guarantee. However, in the Tirana Municipality case, respondents (five respondents from Tirana municipality, NGOs, and International Organizations) argued that if the project-proposal is drafted correctly, Tirana's city can directly access loans from international development banks such as the EBRD, especially for urban infrastructure or transport projects. An additional requirement of such institutions is competitive tendering processes, which might also represent an issue that the city cannot overcome. For instance, Tirana's municipality acquired a loan from the EBRD for the water supply system without this sovereign guarantee. Respondents argue that currently, Tirana's city is in close discussion with Development Banks to finance some urban infrastructure projects, including a BRT System (see chapter 4.4.1).

Regarding capital finance, the low fiscal decentralization level impacts the lack of access Tirana has to bonds as well. However, respondents argue that this issue can be easily addressed in Tirana's case, considering Tirana's powerful position and significantly different capacities compared to other LGUs. Most interviewees insist on an asymmetrical decentralization form, as explained in 4.3.2.

Governance and institutional frameworks

Due to low decentralization levels and central government interventions, the conservative legal framework, municipalities in Albania, can not raise funding from local borrowing (NALAS, 2018). However, data shows that when there is a high level of inter-institutional relations, loan access in the local government. A stronger cohesion between the central and local governments makes the central government more inclined to support the local governments with the sovereign guarantee.

The legal framework is one of the main hindering factors to access to bonds in the local government of Tirana. According to the experts, the law on capital markets is unclear, and green bonds are not included in this legislation. Such issues could be easily regulated with a different decentralization law for the municipality of Tirana.

Political

As evident from the interviews, political will is an essential driving force for access to urban borrowing. Examples show higher access to urban lending when there is a higher will from local and central governments (ten respondents). There have not been cases in the transportation sector, but respondents argue that with stronger political will, the city would be able to acquire such loans.

4.3.3c Level of access to PPPs

Governance and institutional frameworks

Governance and institutional frameworks is the main factor influencing the level of access to PPPs in Tirana. This factor's dimensions are accountability and transparency (14 respondents) and legal and regulatory frameworks (7 respondents), and institutional processes (4 respondents). Accountability and transparency are thought to be critical in access to PPPs. All respondents stated that since there is a considerable lack of accountability in Albania's governance, with high levels of corruption, and a total absence of monitoring systems, PPPs are and should not be able to be used in local governments. Yilmaz et al. (2010) also contend that accountability is a crucial aspect of access to finances.

Moreover, legal and regulatory frameworks are not correctly drafted and do not guarantee optimum risk-sharing between partners. In addition, value for money assessments of PPPs is never done. Seven respondents (local finance experts) argue that the PPPs currently being used in Tirana is only used to avoid urban borrowing (off-balance sheet debt), but they do not take the shape of proper PPPs. Another concern regards administrative procedures is the high risk of non-transparent procurement processes in Albania, especially in big infrastructure projects.

To access PPPs in the local government, an approval from the central government is required. However, respondents confirm that in the case of Tirana this could easily be managed. This would not be a significant constraint.

Although, in theory, PPPs are a viable source, the researcher noticed that they are highly stigmatized in the Albanian context because of several untransparent cases in the central government. All respondents were reluctant to talk about this instrument and believe that while PPP could be the right solution in other countries, they don’t have to be so in Albania. They argue that loans are more easily monitored than PPPs. Thus it’s a better alternative. Nevertheless, as one respondent claims, not using certain instruments just because there has been mismanagement before is not the way to go either.

4.3.4 Factors affecting financial management

The draft law on local government finance introduces laws that ensure the standardization of financial management practices and procedures, relations between central and local governments, role responsibility, and harmonization of strategic plans with medium-term budgets. However, in reality, this is not the case (NALAS, 2018). For instance, planning is often done in patches, not thinking long term and strategically.

Financial management incorporates the processes of managing current revenue sources. This is related to budgeting processes such as medium-term budgets, earmarking, and coherence between budgeting and planning processes in financing urban infrastructure (Smoke, 2018; Zegras, 2003).

4.3.4a Existence of medium-term budgeting processes

Governance and Institutional Frameworks

The obligation for local governments in Albania to carry out medium-term budgeting is defined in the law for budgetary structures of Albania (Parliament of the Republic of Albania, 2008), and laws on local governance (Parliament of the Republic of Albania, 2015), and finances of LGUs (Parliament of the Republic of Albania, 2017a). As a result, the medium-term budget is a practice followed by the municipality of Tirana. However, the projects included in this budget are not always implemented. There is a general lack of accountability and transparency. Additionally, respondents from the municipality admit that the coordination between departments is not very strong. During this budget's drafting process, the projects are not carefully discussed and agreed upon between departments. In addition, while projects for sustainable urban mobility might be included in this budget, there are often no specific calculations regarding finances needed for capital and operation and maintenance.

Political

Political will has a strong influence on the process of drafting the medium-term budget. Some respondents (experts from NGOs and International organizations) mention that projects introduced in the medium-term budget are often initiatives that support the mayor's political agenda and not carefully studied. This creates disbalances and issues in administering the budget properly.

4.3.4b Earmarking of revenue

Decentralization

All finance experts state that a weak fiscal system, due to low fiscal decentralization levels, does not allow for the earmarking of sustainable urban mobility funds. They argue that, due to a delegation fiscal decentralization level (Muwonge and Ebel, 2014), the city does not present a robust financial structure with sustainable revenue sources. For instance, with the current COVID19 crisis, they argue that the city will struggle to guarantee the necessary funds to provide even essential services. Consequently, revenues from instruments such as infrastructure impact tax, property tax, or even parking fees are not earmarked for urban infrastructure or sustainable urban mobility as theory recommends (see 2.3.2). Strengthening the decentralization process would facilitate fund earmarking.

Governance and institutional frameworks

Earmarking of revenue instruments is a direct cause of legislative frameworks' existence (or lack thereof). Currently, in the legislation, there is no earmarking of funds in sustainable urban mobility. According to the respondents, this is done to allow for certain flexibility that Tirana's finances' weak structure has. For instance, even revenues from the parking fee, while 10% of the tariff goes to the parking system's administration, the other part goes to the city's general fund and is not specifically earmarked. As data shows, this is also influenced by a lack of accountability and transparency in the revenue system. As mentioned above (chapter 4.2.2), it is impossible to track which revenue sources are used for municipal projects.

Another example is in the case of the tax on infrastructure impact. A representative from the civic society who was involved with drafting the law on local finances admits that while they tried to earmark this tax for infrastructure investment and maintenance, the municipality (2017) opposed it. They argued that the city is not able to handle a dedicated tax. USAID (2016) argues that this is not adequate. According to this report, the infrastructure tax should not bear the weight of other expenses in the municipality, and it should be differentiated from the general fund. Furthermore, in the case of LGUs in Albania, especially in Tirana, the infrastructure impact tax is currently substituting the inability of subnational governments to access other instruments, such as obligation debt funds for infrastructure. This tax is not a role it is designed to play.

4.3.4c Coherence between budgeting and planning

Governance and institutional frameworks

Planning frameworks in the central or local government seldom incorporate financial calculations. There is an excess of planning documents. However, most of these documents are not followed by transparent budgets and economic predictions. Respondents argue that this process is often neglected or is not possible to incorporate due to short timeframes allocated to draft these plans. If the vision is to transform mobility, you need to reflect it in every decision or action you undertake and financial investment. Respondents from civil society and the private sector state that it is crucial to embed financial thinking into planning. Moreover, having a clear comprehensive plan also helps in raising finances. Decision-makers would have a tool on top of which they can acquire funds.

Respondents (seven: two from the municipality, and five from NGOs and the International community) also mention the lack of inter-institutional cooperation in coordinating between planning and budgeting. For instance, due to Tirana municipality's complex structure, departments carry out planning processes independently, without consulting or discussing together to reach common goals. This affects the coordination between budgeting and planning processes in the local government.

4.3.5 Interrelation among factors

During data collection and analysis, the researcher noticed relationships between the factors. These relationships were logged in memo-s in Atlas software. Afterward, they were double-checked with correlation tables and analyzed through the coded quotes.

They are described below, starting from the most frequent one to the least. In the variable level, political aspects profoundly influence governance & institutional frameworks, decentralization, and local governance capacities. The analysis identified political issues as the factor that has the most substantial influence on other factors. Fiscal decentralization influences governance and institutional frameworks and local government capacities. At the indicator level, the relations are much more complex and multi-layered, as below.

4.3.5a Decentralization and Governance & Institutional Frameworks

Fiscal decentralization and institutional processes

Fiscal decentralization profoundly influences the decision-making level to implement or access specific instruments, which is an institutional process. Since Albania is still in the delegation phase (Muwonge and Ebel, 2014), with a relatively young fiscal legislation (since 2015), the level of decision making in charge to approve specific financial instruments such as PPPs, urban borrowing, or land finance instruments is in the hands of the central government. Experts argue that when the country reaches a higher decentralization level, local governments will acquire more independence, and the decision-making for these instruments (as mentioned above) will be in their hands.

Accountability and clarity of expenditure and revenue responsibilities

In this research, all independent experts interviewed (ten) mention the high lack of accountability and its relation to the division of expenditure and revenue responsibilities. Because there is a fragmented and unclear division of some duties, it affects public services' liability.

4.3.5b Local Government Capacities and Governance & Institutional Frameworks

Legal framework and local government capacity

Finance experts (seven) argue that the legal framework's continued instability has deeply affected the local government's knowledge capacities.

Planning processes and knowledge capacities

Financial Planning and planning processes, in general, are affected by the knowledge capacities of the municipality. Proper planning takes into consideration the knowledge capacities of the LGU and tries to expand these capacities. All respondents from the city of Tirana (six) pointed out that it's difficult for them to follow plans, especially those dealing with transport and mobility. There are not enough capacities to understand and translate the projects.

4.3.5c Political and Governance & Institutional Frameworks

Political will and inter-institutional relations

Inter-institutional relation is the most common factor that impacts the level of access to finance, as twelve respondents mentioned. However, in many cases, political will has a considerable influence on inter-institutional relations. For instance, many respondents indicate that when the local government does not have the central government's political backup and political support, access to certain financial instruments, such as funds from the Albanian Development Fund, or even urban borrowing, is profoundly affected. Likewise, when in Tirana's local government, there is a strong political will to push certain processes forward, the horizontal relations (in-between the municipality departments) are more substantial.

Political will and administrative ease

Administrative ease is an essential factor affecting access to revenues from financial instruments. However, in the case of Tirana municipality, although some financial instruments might pose administrative challenges, there were found solutions when there was a strong political will from the major. This was the case of the property tax. This tax's administrative collection processes were challenging, but a solution was found through the water bill.

Political instability and planning processes

Whenever there are political changes in the municipality, it widely influences the planning processes as well. There are often changes made to planning documents, which has directly impacted the access to finance in Tirana's local government. Political instability in Tirana's local government has created discrepancies in the planning processes, which affects access to finances for projects in sustainable urban mobility.

4.3.5d Political and Local Government Capacities

Political instability and local government capacity

Local governance knowledge capacity is highly influenced by political aspects such as political instability. As stated by eight respondents, especially regarding access to finance, political instability, a very present factor in Albania, has highly influenced local government capacities. Whenever there are new elections and the Mayor changes, the whole staff of the local government changes, creating discrepancies in the local staff's administrative memory. This effect is reinforced by the lack of political will to continue with the new team's ongoing reforms. This has negatively influenced the local government knowledge capacities in the Tirana municipality based on respondents' information.

Planning frameworks and inter-institutional relations

An integrated, comprehensive plan would facilitate the communication between departments in the municipality as well as between different institutions: international donors, central and local government.

Accountability and legal frameworks

A significant relationship is between the level of accountability and transparency and legal frameworks. Especially in the fiscal legislation, while in the paper, many instruments might be available and precise, they are not followed through or are not supported formally in reality. Because of the high levels of lack of transparency and accountability, there is no way to know all

these details. Although the Tirana municipality has made considerable improvement in transparency levels, all independent experts agree that it is still not at the necessary standards. In addition, monitoring and check and balance systems are not in place to guarantee this transparency.

Legal frameworks and administrative ease

While the legal framework provides room for new financial instruments, the current administration system and collecting taxes do not allow for this to happen. For instance, in the case of Tax Increment Financing (TIF), it would be challenging to administer while it could be approved. That is one reason why, according to the experts, it has not been implemented as an instrument. Moreover, in the case of property transfer tax, because of administrative problems with collecting and distributing this tax, while the law specifies it as a local tax, it is still raised at the central level and then distributed to the local one.

4.4 Access to finance and sustainable urban mobility project implementation

In general, it was observed that the level of access to finance in Tirana's municipality had had considerable influence on the level of implementation of projects in sustainable urban mobility. Experts interviewed also discussed other relevant factors not directly related to finance. Still, all of them consider access to financial instruments and financial management as significant aspects that require immediate attention. However, few respondents argue that access to and management of finance is not the most pressing issue influencing project implementation in urban mobility. According to them, if necessary, the financial aspects can be resolved, and all that is needed is a stronger political will and inter-institutional relations. It is impossible to address this statement in the scope of this research. However, it is crucial to consider that due to the complete lack of studies on the link between infrastructure and finance, there might be a lack of awareness regarding the impact of finance in sustainable urban mobility.

Overall, all respondents agree that Tirana's municipality does not have access to a diverse range of financial instruments to finance sustainable urban mobility projects. For instance, land finance instruments are rarely used for urban infrastructure or sustainable urban mobility. Many authors argue that following the benefit-principle, land finance can be an efficient, untapped source, especially considering the high-profit real estate sector in Tirana. However, some respondents argue that the city still struggles with minimal administration of local fees and taxes; thus land finance instruments seem not manageable at the moment.

Urban borrowing is used, but not in the case of sustainable urban mobility investment. A similar approach is followed in the case of PPPs.

There is no earmarking of funds for public or non-motorized transport. Literature recommends earmarking revenues of the fuel tax, parking fees, or congestion charges to public or non-motorized transport (Diaz and Bongardt, 2013). However, this is not the case in Tirana.

Nevertheless, experts argue that the local finance sector has gone through considerable improvements over time. The laws on local governance and finances (Parliament of the Republic of Albania, 2015; 2017a) have laid out the basis of developments, followed by the laws on property tax (2017). Problems are evident in access to urban borrowing, PPPs, and better management of the existing revenue streams, which will also be discussed below, drawing from empirical examples.

What is crucial to emphasize is that, as stated in chapter 4.1, in the current fiscal transparency and management structure, the revenue streams used directly for sustainable urban transport projects are not clear. As a result, the analysis is limited in providing a comprehensive understanding of precisely what revenues are used for the capital, operation, and maintenance of urban mobility

projects. A plan developed in 1995 proposes making use of land finance instruments as an earmarked source to fund investments and O&M in street infrastructure (PADCO, 1995)

All local finance experts agree that Tirana, as Albania's capital and the center of the country's economy, should be treated with a special fiscal law that acknowledges its metropolitan character and allows Tirana to have more fiscal independence. This is also supported by literature in the field (Bahl et al., 2013).

4.4.1 Public Transport

Public transport in Tirana currently consists of a bus system, operated privately, on a contract basis. The municipality tenders the bus lines, and the private parties acquire the right to operate the lines and revenues for a certain amount of years. Currently, the contract is ten years. Private bus operators are joined in an association of Tirana urban transport. The city is not providing subsidies to the bus system but only provides the necessary infrastructure; bus lanes, street infrastructure, bus stations, etc. One problem with this is that it is unclear how profitable is the bus system. Without transparency, standards, policy, and pricing system, the discussion on whether it should remain privatized or not is carried out in the dark (Pojani, 2010a).

The main indicators observed as impacting the implementation of projects in public transport are the diversity of instruments in public transport, usage of land finance instruments, level of use of PPP, urban borrowing, budgeting processes, and earmarked revenues. Projects analyzed in the public transport sector are the BRT and tramline system, bus lanes, electronic ticketing, and bus intermodal terminal.

4.4.1a BRT / Tramlines

Both BRT systems and tramlines have been included in plan-proposals since the early years (the 90s). However, they were firstly included in a formal document in 2012 (JICA, 2012). The Tirana Thematic Urban Plan (JICA, 2012) was developed by the Japanese Agency and incorporated a detailed financial study of both projects. As also confirmed by all mobility experts interviewed, the idea was that the project's capital expenditures would be financed through a loan from international organizations, and the project would run as a PPP model. Investing in a BRT or tram requires a high capital investment, which cannot be covered through city revenue, as examples in other countries demonstrate (Ardila-Gomez and Ortegon-Sanchez, 2013a; Burgess and Ordiz, 2010). However, both projects never got implemented. Former employers of the city government mentioned that when the first ideas to built these projects were presented, one of the major issues was that the fares would become not affordable for most of the residents, or the municipality would need to provide continuous subsidies which for the city back then (2012) did not seem feasible. The city did not have enough revenue for subsidizing the BRT or tram operation.

A feasibility study for the case of BRT was never developed before. However, in 2013 Egis Group conducted a feasibility study and preliminary design for the tramline. They examined three potential financing solutions (figure 13) and argued that the best solution would be a Public procurement process with an O&M concession. Direct costs would be covered through the municipal budget or a loan.

Acquiring a loan for Tirana's municipality to finance these types of projects has not been possible due to low decentralization levels and the legal framework (see 4.3.3). A possibility of a loan from EBRD was on the table in the case of BRT, but at the moment, other projects are considered as a priority for the city government, and the focus of the EBRD has shifted to those projects. Respondents argue that a higher will from the local decision-makers would have made facilitated this process.

Figure 13: Summary of Project Schemes

Project Option	Option 1	Option 2	Option 3
	Public Procurement	**System Concession**	**Full Concession**
Direct costs (PIU, land acquisition)	Municipal budget / IFI loan (PIU)	Municipal budget / IFI loan (PIU)	Municipal budget / IFI loan (PIU)
Civil Works Component	Public sector funding ; Export credit loans (A) or IFI funding (B)	Public sector funding ; Export credit loans (A) or IFI funding (B)	Private funding : equity; loans from IFIs
Systems Component	Public funding	Private funding	Private funding
Operating and Maintenance	City of Tirana collects revenues (or private operator under O&M concession).	Concessionaire collects revenues.	Concessionaire collects revenues.

Private sector

Source: Egis Group (2013)

A strong political will, coupled with inter-institutional collaboration, would have made this process easier. Nevertheless, one of the interviewees argues that another important hindering factor, unrelated to finance, is the technical difficulties of implementing such projects. Other respondents stated that technical issues might have been resolved, given the funding would be available.

A feasibility study is in process at the moment (tendering) for the BRT, which is anticipated to be finished by the end of 2021. The German Development Bank, KfW, is the international actor supporting this process through a loan. The loan is allocated to the city government through the central government. According to respondents, this was made possible thanks to good collaboration between the central and local governments. However, the idea of a PPP contract for the operation is out of the table. The current discussion is that the municipality takes one of the main lines from the private operators (Kombinat-Kinostudio line) and operates it as a first model. The fares would potentially cover the costs for maintenance and operation of the line. However, municipality representatives argue that they are still waiting for the results of the feasibility study.

There are no proposals to use other resources such as land finance instruments or earmarking additional revenues to put this project into operation. Respondents argue that this option never came to the fore due to low levels of land finance instruments yields. Earmarking revenues for the BRT operation is also never discussed. Another aspect mentioned only by a few respondents is procurement processes, which are not considered in this research. To acquire a loan from international organizations, the city needs to follow specific procedures of competitive tendering. The respondents argue that international organizations do not have a guarantee that the city can carry out such procedures, withdrawing from the project.

4.4.1b Bus lanes

Since the early 90s, dedicated lanes along bus routes were proposed as one of the most crucial elements needed to support sustainable urban transport in Tirana. A detailed explanation is provided in the JICA study (JICA, 2012). According to this study, the full construction of these lanes was supposed to be finished by 2020. However, respondents argue that this has not happened. Bus lanes, as also stated by all respondents, are partially implemented. Extending bus lanes does not require high capital investment. Usually, these investments can be made using the city's own

revenues, as is the case in other countries (Department of the Interior and Local Government, 2020) (see chapter 2.3.3b).

Data from Tirana's municipality shows that the funding for these projects comes from Tirana municipality's general budget and is implemented by the Department of Public Works. The maintenance of road infrastructure in Tirana's city is carried out by the Directorate of Workers of the city (*Drejtoria e punëtoreve të qytetit*), again through the general city budget. It is not completely clear whether the usage of land finance instruments or a combination of these instruments is relevant for implementing these projects. However, it can be argued that a low level of diversity of instruments, lack of earmarking of funds, and stability of revenues influence bus lanes' implementation. There are no earmarked revenues for capital or maintenance of bus lanes. The decision is made case by case, based on the city strategy and total yearly budget. Moreover, although they were foreseen in strategic plans, this project was never included in the city's medium-term budgets.

4.4.1c Electronic ticketing

This project involves placing an electronic ticket system for the buses operating public transport in Tirana. These types of projects require medium to high capital investment, but recurrent revenues for operation and maintenance are also necessary (POLITE, 2010).

The first time it is mentioned in documents is in 2009 (ECAT-Tirana, 2009). The project would also involve a reframing of the bus ticket system into an integrated fare system. It is later proposed in the Green City Action Plan (Municipality of Tirana, 2018a) again, where potential funding sources mentioned are revenue fares and advertisement in the ticket. Capital expenses are thought to be provided by the municipality, but the precise origin is not exact. The assumption is that it will be paid through the city's general fund, but this project was never included in the Medium-Term budgets. Respondents argue that is project is not given priority due to low revenues and large infrastructure needs.

The project never got implemented. A representative from the urban transport association mentioned that the private bus operators were willing to invest in this system. Still, they did not find support from the municipality of Tirana. The fares would cover the revenues needed for the operation and maintenance of the e-ticketing system. It can be argued that, in this case, access and management of finance did not have a strong influence on the lack of project implementation.

4.4.1d Multi-modal bus terminal

The multi-modal bus terminal is another example of a prolonged project in urban mobility. This project lays out the basis for a better public transport service in the city. The project was initially proposed in the JICA report (2012) as an essential strategic investment for Tirana. However, it never got implemented. This project requires high capital investment. A PPP was always considered the most suitable instrument due to its high potential for revenue generation and the city government's lack of finances.

Currently, the project's feasibility study is finished, and it is modeled as a PPP, where the private operator will build, operate, and maintain this project for 20 years. The terminal will generate revenues from the bus service and additional commercial services attached to the project, as stated by respondents. Efficient collaboration between the central and local governments, along with high political will, would facilitate this process. Data shows that another aspect delaying this project, although not considered in this research, is the lack of expertise in tendering and procurement in Tirana for such large projects. Other data shows that a lack of capacities in the local government to manage PPPs might also be the case.

4.4.2 Non-motorized mobility

Projects in non-motorized transport represent different characteristics compared to public transportation. They do not require substantial capital investment. In some cases, respondents argue that this low-investment character of such projects makes them less affected by a lack of access to or management of finance. However, to guarantee their longevity, continuous revenues are needed for operation and maintenance (see section 2.3.2).

In Tirana's case, all respondents confirm that the municipality does not allocate money from a specific revenue stream or financial tool. The money to fund these projects comes from the municipality's general budget (see section 4.2). Decisions are often made *ad-hoc*, depending on city strategy, needs, and financial state of the respective budgetary year. In the case of bike-sharing systems, PPPs are used as a financial instrument. The projects analyzed in this section are bike lanes, a bike-sharing system (Mobike), and the requalification of Skanderbeg square (transformed into a pedestrian area).

4.4.1a Bike lanes

Constructing bike lanes has always been included in plans developed in the past ten years (and before). However, the implementation of these projects was prolonged for quite a while. In 2016, a mobility vision plan was developed as part of the process of the Tirana General Local Plan (Mobycon, 2016), which provided a minimum bike lane grid. Experts involved with this plan and municipality representatives argue that there have been considerable improvements since then, mainly due to a strong political will. However, based on the JICA report's project-proposal, the project is still only partially implemented (JICA, 2012). According to the same study, the funds to implement this project would come from the city's general fund (where all sources are merged together). Data from municipality sources and official documents show that the project was implemented using: revenues from the general fund of the city, in combination with donor money (Embassy of Kuwait, etc.) and funds allocated from the Albanian Development Fund, which is a conditional transfer of the Regional Development Fund, from the central government. However, it is not possible to find precise revenue figures on the exact amounts. The maintenance of these lanes is also carried out by the same department, using the municipality's general budget revenues.

Therefore, a strong political will to implement bike lanes, combined with strong inter-institutional collaboration, significantly impacted acquiring the funds to manage these projects. Nevertheless, while the lanes were planned since 2016, the plan was not followed up by detailed financial thinking. The expert involved with the process argues that the city of Tirana was not able to provide such data to them, and this process was not carried out. There are no revenues earmarked for this sector. As a result, the stability of revenue instruments used in the municipality profoundly affects these projects' implementation level. For instance, all respondents mention how the current COVID19 crisis heavily affected the city budget, directly influencing the level of project implementation.

4.4.1b Bike-sharing systems

Bike-sharing systems were also proposed as one of the main projects in sustainable urban mobility. The first bike-sharing started around 2012 and was led by Ecovolis, a volunteer-based NGO. However, the program stopped running around 2016. In 2018, Mobike, a private company, came into an agreement with the municipality to re-introduce a bike-sharing system in the city. However, the project failed, and currently, there is no bike-sharing in Tirana. The proposal for this project was included in the Tirana General Local Plan, the Mobility vision, as well as the GCAP. Respondents from the municipality of Tirana admit that this project is always thought to work as a PPP. It would be hard for the city to manage it otherwise. However, they are also looking into diversifying the financial operation framework by introducing advertisements as an additional revenue source to the PPP scheme, which was never considered before.

Data shows that the lack of capacities, coupled with inadequate legal frameworks for PPP in the local government, has also influenced this project. The city needs to design a model where risks are shared equally, other instruments such as advertisement are incorporated into the model, and the continuation of the project is guaranteed.

4.4.1c Walkability: Skanderbeg square

Like other projects, pedestrian areas have been included in almost all mobility plans proposed for Tirana. However, most of these projects did not get implemented. The idea of pedestrianizing the city center was first included in the JICA report (JICA, 2012). The plan was to turn the whole area inside the city's smaller ring into a pedestrian space. As part of this proposal, in 2018, Skanderbeg square was transformed into a pedestrian-only zone. The project was implemented through funds from the Albanian Development Fund (source is from the Regional Development Fund of the central government) and Tirana's city government. Data shows that it was a quite expensive project, and without the ADF's financial support, it would not have been possible. The maintenance and operation of the project is a three-year contract-based concessionary scheme. The city government has tendered the O&M to a private company (after a feasibility study) and has allocated a fund from its general budget to carry out this procedure. However, respondents (ten respondents) argue that the municipality can carry out this process, and this scheme is not needed.

It can be argued that without the intergovernmental grant from the Albanian Development Fund (ADF), this project would be almost impossible. Data shows that a high level of inter-institutional collaboration and political will from both government tiers have made this process possible.

There are no earmarked funds for walkability projects in the city of Tirana. Projects are decided on a yearly basis and included in the Medium-Term Budget. However, not every project included in the budget plans is often executed due to a lack of funds. Land finance instruments are not used for implementing such projects.

Chapter 5: Conclusions and Discussion

Chapter 5 provides a conclusion of the research findings described in the previous chapter. The first chapter (5.1) answers the sub research questions (5.2.1 & 5.2.2) and the main research question (5.2.3). Scientific and practical implications are discussed in section 5.3, and section 5.4 provides recommendations for practical use and further studies.

5.1 Main findings

5.1.1 Financing urban infrastructure in Tirana

Which municipal financial instruments have been used in the municipality of Tirana for the implementation of projects in urban infrastructure in the past eleven years? (Q1)

Due to a relatively short experience with the decentralization reform (five years), the city of Tirana does not yet represent a stable financial system. The sources available to LGUs in Albania are defined through a special fiscal law (Parliament of the Republic of Albania, 2017a), granting subnational governments in Albania higher fiscal independence. However, respondents and various revised reports argue that Tirana could potentially have access to a more diverse range of instruments, such as urban borrowing, land value capture, or even PPPs.

Identifying specific instruments used for urban infrastructure was a challenge for data collection. In general, the municipality does not keep records of what exact instruments are used to fund specific infrastructure projects. Revenues from all sources are collected into one general fund, from which funds are allocated for expenses needed, based on the medium-term budget plan. For example, the revenue of infrastructure impact tax does not explicitly fund infrastructure. Moreover, due to the overall lack of transparency and accountability, it is impossible to keep track of these processes and understand the exact origin of revenues used for projects in urban infrastructure. These sources come from intergovernmental transfers, local fees (including a parking fee), taxes, as well as international grants and loans. Urban borrowing and PPPs are also used, although it's not very common. Moreover, the city also benefits from international grants, that usually have a pre-determined end-use.

Parking fees were only introduced in 2015. Substantial revenue is collected through this fee, and forecasts show an increasing curve. Funds from this source are not earmarked. Conditional transfers from the Albanian Development Fund (central tier) are often accessed for capital infrastructure investment, as was the case of the Skanderbeg square project (see 4.4.2). Access to urban borrowing and PPPs is limited. To acquire a loan, Tirana would need the support and collaboration of the central government. There are only a few cases where these instruments are used in infrastructure projects, but never for sustainable urban mobility. There are no examples of using bonds as financial instruments in the municipality of Tirana. Similarly, advertisements are not directly applied either. Land financing is used in the form of property tax and property transfer tax. However, the yields from these sources are low and not fully exploited (McCluskey and Walters, 2014; USAID, 2017). The money generated from these two sources goes to the general municipal fund. Since 2015, the infrastructure impact tax represents a significant revenue source, making up to a third of total tax and fee revenues (Baboçi, 2020; Co-PLAN, 2018b). However, this instrument is not sustainable due to its cyclical nature and dependence on real estate development (Co-PLAN, 2019; Gwilliam, 2002). For instance, Co-PLAN (2019) identifies a 21.4% decline of this tax in the last years, severely impacting the city's revenues. These revenues are not recurrent. In theory, municipal assets could also be a revenue source, but data shows this area is yet to be explored.

5.1.2 Factors that affect access and management of finance in the city of Tirana

Which factors influence the level of access to finance in Tirana's municipality, and how do these factors interrelate with one another? (Q2)

The theory identifies factors influencing finance access in Tirana's Municipality: governance and institutional frameworks, decentralization, political, and local government capacity. These factors were confirmed in the data collection and analysis of the research as well. However, data showed that some of the elements have a more substantial influence than others, and, especially in the case of governance and institutional frameworks, additional dimensions were identified for each of them. In particular, legal frameworks, accountability and transparency, inter-institutional relations, political will, and fiscal decentralization levels are identified as the most influential aspects impeding access to finance and financial management processes in Tirana municipality.

5.1.2a Governance and Institutional frameworks

Under governance and institutional frameworks, the following factors were identified: accountability and transparency, administrative processes, institutional processes, inter-institutional relations, planning frameworks, and legal and regulatory frameworks. Initially, the researcher only considered administrative and institutional processes and legal frameworks. However, data showed that a significant factor prevalent in the Tirana case is inter-institutional relations. The relationship between city departments (horizontal) and local and central governments (vertical) strongly affects finance access (Rajaram et al., 2014). A higher inter-institutional collaboration facilitates access to finance and financial management processes. For example, evidence shows that improved collaboration between central and local government increases access to finance, and stronger horizontal cooperation improves the medium-term budgetary processes and improves internal efficiency. On the other hand, when everybody sits in their own tower, every process is hindered as respondents argue.

At first glance, the public finance legislation might seem complete, but there are many instances when the absence of normative acts of specific laws impedes access to it. (see 4.3.2, 4.3.3). Lack of implementation of the local fiscal legislation is also an issue. This harms the institutionalization of the legal framework. Data shows that the implementation of the legal framework is not complete, and further steps are needed to comply with this law. Moreover, data demonstrates that in the past ten years, the legislation has changed very often, destabilizing the system. Tax collection efficiency is a severe issue of tax administration processes (Allen et al., 2020). Respondents state that low collection rates are very problematic and addressing this issue is an immediate need. Currently, the tax burden is falling only under the ones who are paying it, creating inefficiency issues and harming revenue streams. This is present in the case of property tax as well. Due to the lack of proper fiscal cadastre, some taxpayers pay lower revenues or do not pay at all. Accountable and transparent procedures in the local government are key. The lack of transparency impacts decision-making procedures (Bahl and Bird, 2018). In addition, to introduce more complicated instruments such as PPPs, or land value capture, transparency is an uncompromising aspect. Without transparent systems, analysis to understand the impact certain decisions have would not be possible, and the government cannot make evidence-based decision-making. Planning should be carried out in an integrated manner, thinking strategically and long-term. A comprehensive planning document that integrates national and local policies, brings together different stakeholders, and incorporates financial thinking would improve financial management in the city. As a result, it would be easier for budgets to follow plans and to introduce earmarking. All of the suggestions above would not be possible without strong inter-institutional relations between the central and local governments. Data shows that a lack of inter-institutional collaboration, which hinders access to intergovernmental funds for the local government and urban borrowing.

5.1.2b Decentralization

The current low level of decentralization in Albania has a significant impact on Tirana's access to finance. The low levels of fiscal decentralization hinder access to urban borrowing and land finance instruments. For instance, to acquire loans, LGUs in Albania must have a sovereign guarantee from the central government (see 4.3.2). Furthermore, the tax on the property transfer tax is collected on the central level and distributed to the local one. The local government does not have direct access to it. Respondents argue that this could be solved by a separate LGU law that grants the city of Tirana more responsibilities and autonomy since it has the capacities to do so (see 4.3.1). Through this asymmetrical decentralization, Tirana's fiscal independence would increase, improving its access to and management of finance. This argument is also supported by literature in the field (see 2.2.1). Bahl and Bird (2018, p. 342) argue that rapid urbanization "calls for a change in the fiscal balance between large cities and the rest of the country." The weak fiscal system is argued by respondents to be the main reason why there is no earmarking for sustainable urban transport. Experts say that while they wanted to implement earmarking for the development impact tax, Tirana's municipality did not agree because they could not manage it due to the weak financial system. Due to a low level of fiscal decentralization and fund instabilities, they still need certain flexibility in allocating resources. Therefore, the decentralization process, aligned with national development policies and local economic policies, would further develop the financial structure of Tirana and increase local governance authority.

5.1.2c Political

Political aspects considered based on literature were political will and public acceptance. Theory suggests that political will holds a significant role in developing countries (Albalate et al., 2012; Cohen et al., 2016; Smoke, 2019). This aspect was strongly confirmed in this study, as well. Data confirms that political will is a significant factor impacting access to finance in the case of Tirana. For instance, a high political will of the central government made possible access to regional funds in the Skanderbeg Square project (see 4.4.2).

However, data did not confirm public acceptance as a significant factor influencing Tirana's local government's access to finance. The reasons behind this might be the generally low level of public involvement in Albania, as also confirmed by interviewees, or even a lack of acknowledgment of the critical role of public participation in these processes. Overall, it was noticed that the public is not involved in the decisions behind financing urban infrastructure, and as such, public acceptance does not constitute a concern for the city.

A factor that was not considered by the researcher but was identified in data collection is political instability. According to respondents, a highly unstable political context impedes access to finance in the municipality of Tirana. However, political instability is presented as affecting other factors such as local capacities and legal frameworks (see 4.3.4) rather than directly influencing the level of access to finance.

5.1.2d Local Government Capacity

Theoretically speaking, low levels of local government capacities are considered to be quite influential in hindering financial access and management in developing countries (Smoke, 2017). While the researcher assumed that local government capacities would be a significant influencing factor, data shows that this is not the case in Tirana's municipality. Respondents argue that, in general, the city of Tirana is large and holds the necessary capacities. According to data, there could be some progress in capabilities to administer land finance instruments and PPPs, but it is not a significant factor. The number of staff is not only sufficient, but it actually might also be excessive. Representatives from the city argue that they often feel that the municipality is overstaffed, and responsibilities overlap.

5.1.2e Interrelation among factors

The research also inquired into how factors interact with one another. Data shows that political aspects are the most influential factor amongst all others. Particularly political will, and political instabilities strongly influence both local government capacities and governance and institutional frameworks. For example, a higher political will strengthens inter-institutional relationships and eases administrative processes, which in turn increases the city's access to finance. Political instabilities have a reverse effect. Continuous political fluctuations (created by the constant changes of political leaders) negatively affect local government capacities. When political leaders changed, the whole staff is also changed, and the already established knowledge in the city government gets lost. Political instability was not considered in the conceptual framework but was identified during data collection as an essential aspect.

5.1.3 Finance and sustainable urban mobility

How does the level of access to finance and financial management impact the level of project implementation in sustainable urban mobility? (Q3)

5.1.3a Access to financial instruments

The level of diversity of financial instruments in Tirana's municipality is one of the main factors impacting project implementation in sustainable urban mobility. Based on the analysis of seven projects, this study proves that the city needs to diversify the financial instruments used for funding sustainable urban mobility. For example, parking charges, introduced only in 2015, can potentially yield high revenues that could fund sustainable urban mobility projects. Before 2015, the city did not charge for parking, thus losing a precious revenue source. Moreover, Tirana's access to land finance instruments, urban borrowing, and bonds is limited. The inability to access urban borrowing and bonds has clearly hindered capital investment for large projects, especially public transport. Low decentralization levels and legal obstacles explain low access to urban borrowing. However, it is argued that through central and local government collaboration, Tirana can benefit from this instrument. Access to PPPs in the local government is also very low. Examples show that in those few cases, there have been issues with accountability, transparency, as well as local governance capacities to deal with this instrument.

Literature suggests that leveraging land finance instruments has proven to be a very positive method of diversifying instruments for sustainable urban mobility (see 2.3.3b) (Gwilliam, 2002; Roukouni et al., 2018; Zorlu, 2018). Mishra (2019) argues that based on the MHT and HGT theory (see 2.2.2, 2.2.3), cities create externalities that should be exploited as a resource to finance urban infrastructure. Respondents state that construction has always been very beneficial in Albania, so it could have been exploited to invest in urban infrastructure. However, others argue that Tirana still faces challenges with minimal financial requirements; thus, the discussion about innovative instruments seems very far-fetched. However, property tax, and land value capture, followed by adequate legal frameworks, would yield high revenues which could be used for capital, operation, and maintenance in both public and non-motorized mobility. Therefore, with respective bylaws detailing its implementation, a stronger legal framework would guarantee the proper usage of these instruments. Additionally, institutionalizing land finance would discourage informal land value capture as in-kind contributions, a procedure that is untransparent and might create serious precedents.

In principle, projects in sustainable urban mobility would benefit from a combination of various instruments to finance capital and operational expenses. From a long-term perspective, a combination of sources would ensure a stable financial setting for the implementation of these projects (Turró et al., 2018). In Tirana, due to the weak fiscal system, a combination of resources

is usually not applied. As mentioned above, funds are all merged into one general fund. Consequently, it is currently impossible to understand what revenues from different instruments finance exactly since they are merged into one fund. A better clarity, with accountable and transparent processes into this issue would facilitate the analysis and lead to better decision-making.

5.1.3b Financial management

Financial management is another aspect of access to finance that was not initially included in this study. During data collection, this aspect was identified as one of the most pressing issues in the municipality of Tirana. Planning is done independently from budgeting, and in most cases, there is no coherence. Because financial sources are seldom envisioned in plans, it becomes difficult for the implementers to allocate the necessary funding. Moreover, if these projects would be followed by a respective financial plan, it would be easier for the city to apply for funds externally, given a robust feasibility study is developed. Respondents argue that the lack of a comprehensive document incorporating financial analysis as a tool to raise finances is a significant issue. The city carries out a medium-term budget plan (every two years), but this plan, according to data from interviews, is often not carefully consulted among all city departments. Municipality representatives argue that there are many cases when different departments' responsibilities and initiatives overlap, which creates inefficiencies. There is no earmarking of sources for infrastructure or sustainable urban mobility. In this context, the transport department cannot rely on a continuous yearly fund for their projects. Instead, they make their decisions on an ad-hoc basis, depending on resource availability. This creates contingencies and deters the implementation of planned projects (Diaz and Bongardt, 2013; Zegras, 2003).

One aspect that this research did not consider but was revealed during data collection is procurement processes. In the cases of BRT and Bus Terminal projects, inefficient procurement practices impacted the implementation of these projects. Respondents argue that the city of Tirana needs to strengthen local government procurement know-how to carry out such large projects.

5.2 Answering the main research question

RQ: How do constraints of access to and management of finance in the local government of Tirana affect the implementation of projects in sustainable urban mobility?

The main research question incorporates three main variables and explores the relationship between them. Factors represent the independent variable; the access to and management of finance is the intermediate one, and project implementation the dependent one.

Overall, legal frameworks, fiscal decentralization, administrative processes, inter-institutional relations, accountability and transparency, and political will represent the main impeding factors behind access to and management of finance in sustainable urban mobility investment. The lack of comprehensive legal frameworks, low fiscal decentralization, complicated administrative processes, fragmented inter-institutional relations, and insufficient political will have resulted in a lack of diversity of financial instruments, low levels of access to land finance, and urban borrowing, as well as inadequate budgeting processes. In annex 7, a series of diagrams further details the relationships between factors, access to finance, and project implementation in sustainable urban mobility.

Nevertheless, few respondents mention that generally speaking, other factors impede project implementation, which might sometimes be more crucial than financial ones. According to them, there is a need for the municipality to show a predisposition to carry out such projects, and the financial issues might be solved. They argue that no financial matter, but a lack of interest or vision from the city government impacts sustainable urban mobility projects the most. However,

this statement can have other interpretations, as well. In the Albanian context, there is an overall lack of discourse regarding urban infrastructure financing. As such, there is low awareness of the strong influential relationship between finance and urban infrastructure development.

5.2.1 Public Transport

In the sector of public transport, four projects were studied: BRT/Tram system, which was not implemented; the bus lanes, only partially implemented; the bus e-ticketing, and the multimodal station, both not implemented.

Overall, a need to diversify and combine different instruments is necessary. But, to do so, the city needs to acquire higher fiscal independence from the local government, build stronger inter-institutional relationships, and, overall, a stronger political will from both local and central decision-makers is required. Another crucial component is strengthening local staff capacities through establishing know-how of urban infrastructure finance and the necessary software.

Building on the four examined projects, a lack of access to urban borrowing and bonds has negatively impacted the implementation of high investment projects such as BRT/Tram or the multimodal station. The low fiscal decentralization level can explain the lack of access to urban borrowing. However, this relationship is also affected by political will and inter-institutional relations since acquiring a loan in these conditions requires a sovereign guarantee (see 4.3.2). Respondents argue that an asymmetrical local government decentralization, where the city of Tirana acquires more fiscal decentralization, would address such issues, as also supported by scholars (Bahl et al., 2013; Bahl and Bird, 2018).

The lack of implementation of projects in public transport can also be tied to low access to land finance instruments, which derives from incomplete legal frameworks, lack of fiscal cadastre, and political will from the central and local levels. However, few respondents state that issues property tax also reflects ongoing cultural issues with property reform in Albania. However, they all confirm that the implementation of a comprehensive fiscal cadastre would have a considerable impact on this revenue. A holistic understanding of property tax potential would be provided through a separate study. Based on the example of bus lanes and referring to cases in the literature (see 2.3.3b), a lack of funds earmarked for sustainable urban mobility impacts the fragmented implementation of bus lanes in Tirana. A stronger political will to invest in public transport should be reflected in funds earmarked for this sector. The lack of earmarked funds also creates problems in the stability of revenue sources for this sector.

A lack of integration between planning and budgeting is evident in the city of Tirana. Plans are almost never followed up by budget lines. Regulation does not require that plans need to be followed by respective financial expectations. Medium-term budgeting is carried out, but it is often not in line with these plans. In addition, a lack of horizontal integration is identified in the process of drafting these budgetary plans.

Data demonstrates that competitive and transparent procurement procedures are vital to raising funds, especially in the cases of loans from international organizations. Data demonstrates that lack of capacities in the local government and political will hinders the development of competitive procurement. This aspect was not considered in the research framework but was revealed during data collection.

5.2.2 Non-motorized transport

Three projects were examined in non-motorized projects. Bike-sharing systems and bike lanes are considered to be partially implemented, while the pedestrianization of the Skanderbeg square is fully implemented.

The implementation of the Skanderbeg square project is related directly to diversity and a combination of sources. The project benefited from Tirana municipality revenues in combination with a dedicated fund from the regional development fund, administered by the central government. Additionally, the central government's allocation of this fund is a direct effect of a strong political will and inter-institutional relations between the central and local governments. Data shows that access to funds for the maintenance and operation of this project is also a direct influence of a high political will towards this particular project. Generally speaking, there are no funds earmarked for walkability projects. In this case, O&M revenues originate from the general fund of the city.

In biking infrastructure, a lack of recurring earmarked funds for this infrastructure explains the continuous delays of bike lane construction. However, the reasons behind bike lane implementation might also derive from aspects other than financial, but the study does not consider those factors (see 5.3.2-Limitations). Data shows that an incomplete legal framework, coupled with a lack of local government capacities on PPP arrangements and a lack of diversity of instruments, has impeded the full implementation of bike-sharing facilities. Using advertisement has been discussed as an option, but the legal framework does not incorporate such instruments, and the city is not yet sure how to make use of it.

There are no funds earmarked for non-motorized transport either, which translates into a lack of recurrent funds for such projects. Respondents state that earmarking is not possible as a result of the weak financial system of the city. Such practices are also not considered in the legal and regulatory framework. What this means is that in case of crisis (and not only), investment for non-motorized mobility would rely on the political will of the mayor, which might result in neglected biking and walking facilities. As the data from this research demonstrates, this is often the case in Tirana.

Nevertheless, this study shows that compared to non-motorized mobility, in public transport projects, the causal relationship between finance and project implementation is stronger and more direct. The low access to and management of finance has mostly impacted projects in public transport than the ones in non-motorized mobility. We can assume that this is due to the relatively lower investment needs for non-motorized mobility (see 2.3.2c).

5.3 Discussion

5.3.1 Reflections

This study aimed to build on an already existing international academic knowledge on financing urban infrastructure in developing countries. Drawing from the case of Tirana, this research confirmed already existing knowledge but also identified surprising aspects particularly relevant for the case of Tirana.

While some assumptions regarding finance bottlenecks were confirmed, the study identified new dimensions that were not initially considered in the conceptual framework, and others were not confirmed. For instance, while, in theory, public acceptance is regarded as an essential factor hindering access to specific instruments (Litman, 2019), this is not the case in Tirana. This finding can be interpreted in two ways: the aspect of public acceptance is not inherent in Albania's decision-making processes, or experts interviewed are not aware of its impacts. Another study could be developed to understand the implications of public acceptance in introducing new instruments in local governments of developing countries. In addition, initially, financial management processes were not included in the conceptual framework, but data revealed that budgeting, earmarking, and integration of planning and budgeting processes highly influence project implementation. These aspects were included at the beginning of data collection. Although not incorporated in the conceptual framework, procurement processes are essential to consider,

especially in the case of large PPP or urban borrowing projects, typical for public transport. Political instability was also not considered in this research but was identified as a significant factor influencing financial processes. Data demonstrates that political instability affects other factors, such as local government capacities, legal frameworks, etc., and needs to be addressed.

The influence of political instability is relatively underestimated in infrastructure financing. It is not clear whether this is done deliberately, since addressing such an issue is challenging and often outside of the hands of technical experts, or its effects are not entirely understood. Especially in developing countries, political instabilities become the major obstacle to financing urban infrastructure. Moreover, discussions about financial management procedures are not that common in the field of sustainable urban transport. To improve project efficiency, it is crucial to become aware of the necessity of integrating planning and financing, carrying out comprehensive budgeting processes, and improving procurement capacities.

Assumptions that were confirmed were the impact of legal frameworks, accountability and transparency, fiscal decentralization, and political will.

The conceptual framework used for this research was quite broad in scope. The researcher intentionally chose this framework to circumvent difficulties that lack of data in the city of Tirana might create. However, as a post-research reflection, the study might have been a bit more detailed if only one factor (e.g., governance, decentralization, etc.) and one dimension of access to and management of finance would have been considered (e.g., only access to finance, or only management). Nonetheless, the results of this research are necessary to understand an overview of the context, from which further studies can be carried out.

5.3.2 Scope

In terms of scope, the research focuses only on some of the aspects of access to and management of finance in the local government based on the theories of ability-to-pay (UN-Habitat, 2016) and who-benefits-pays (Ardila-Gomez and Ortegon-Sanchez, 2016; Freire and Garzón, 2014; Sakamoto and Belka, 2010; UN-Habitat, 2016) (see 2.1.1a). The literature identifies other aspects as well, but for this research, they will not be considered. Additionally, regarding the sustainable urban mobility concept, referencing the Avoid-Shift-Improve theory (Wright, 2012), the only implementation of projects in public transport and non-motorized modes of transport was considered. The study examined seven projects, one per each mode (public transportation, biking, and walkability), and drew conclusions based on understanding each of these cases. This approach might be limited since not all projects will be considered. However, the researcher decided to follow this approach to provide a deep and comprehensive understanding by narrowing the study subjects and avoiding assumptions.

Furthermore, due to Tirana's non-complex structure in infrastructure projects, we argue that the results can be applied to other sustainable urban mobility projects in the city. Only the perspective of experts and individuals working in the field was taken into consideration for this study. This approach was followed so that we can get a holistic understanding of the institutional aspects of this study.

5.3.2 Limitations

This research looks deeply into the institutional dynamics in the city of Tirana. Consequently, accessing the necessary data presented various challenges. However, the study addresses such issues by approaching experts from different institutions (see 3.2.1), making use of the author's network, and the snowball tool (Van Thiel, 2014).

Additionally, due to the unexpected events of the Covid19 pandemic, interviews were conducted online. The respondents were sent a list of questions beforehand (to get them acquainted with the

topic. The researcher believes that the inability to meet live with some of the respondents affected (1) the number of respondents (it could have been higher if the researcher would have been able to travel to Tirana) and the (2) amount of information. Respondents from the municipality of Tirana did not always feel comfortable with online communication. However, within the means possible, the researcher managed to get a considerable amount of interviewees. In the cases where hesitation was noticed, the researcher made sure to acquire the necessary information, via written format, through an iterative communication process with the respondents.

A particular limitation of the study is the lack of precise data in some instances. As explained in chapter 4.2.1, because Tirana's city does not keep regular records and detailed financial sheets, it was often difficult to understand the exact source of finance for some projects. Respondents state that all the revenue sources are merged into one general fund, from where the money for projects is distributed. Moreover, there is a lack of experts in financing infrastructure in the Albanian context, especially urban mobility. As a result, the researcher interviewed experts in public finance, experts in sustainable urban mobility, experts currently or previously involved in this field, and developed the causal connections based on the data gathered from them separately. The choice of focusing on seven specific projects made this process easier and more reliable since causal explanations were drawn from a tracing process for each of these projects.

The decision to focus only on financial explanations behind project implementation might also be a limitation since other aspects affect project implementation in sustainable urban mobility, and the study does not consider them. Therefore, the causal relationship might not be complete. However, the researcher chose this approach to bring attention to the financial aspects of infrastructure and time and resource limitations.

5.4 Recommendations

5.4.1 Recommendations for the city of Tirana

Based on this research's findings, a list of recommendations for the city of Tirana is drafted as below. However, since the study's scope does not include looking into future proposals, the suggestions below are just a modest attempt to provide practical directions for Tirana.

What are the options for the Tirana municipality to improve the level of project implementation regarding sustainable urban mobility by influencing access to and management of finance, and could these challenges be overcome?

(1) Tirana should be subject to a separate law on local government finance. All respondents argue that Tirana displays different characteristics from the rest of the LGUs. Consequently, a redistribution of rights and responsibilities between Tirana and the central government is necessary for more efficient financial management and better resource allocation. Such a change would facilitate the city's access to urban borrowing and the bond market.
(2) Raise the collection base, not the tax rates. Tax collection efficiency is a severe issue, especially in the case of property tax. Respondents argue that political will coupled with administrative matters hinder this tax's collection efficiency. The municipality of Tirana has all the necessary capacities to improve these rates.
(3) Need for a standardized financial management tool in local governments in Albania. Such software would facilitate financial administration and increase accountability and transparency.
(4) Focus on building stronger inter-institutional relations, horizontal and vertical ones. Data displays fragmented institutional connections, both horizontal and vertical. Tirana's municipality needs to allocate considerable effort to ensure the institutionalization of inter-departmental cohesion and a more vital continuous collaboration with the central government.

(5) Institutionalize processes: to address political instabilities in a long-term perspective, it is necessary to institutionalize legal frameworks and long-term, strategic planning procedures. Consequently, the effect of political instabilities would be lower.
(5) Especially in the case of land finance instruments, laws must be followed up with the required normative acts that describe how these laws can be implemented. Otherwise, while specific instruments might be accessible in paper, they are impossible to implement in practice. Such an action would help in the diversification of financial instruments.
(6) Earmarking revenues for sustainable urban mobility provide stability to this sector and demonstrate that action is taken for strategic plans and political undertakings that until now are not visible in the city. We need to reconsider the service of public transport as strictly a private one and acknowledge its public good aspects. Public transportation provides economic and social development, as well as is beneficial to the environment. Funds earmarked could be part of revenues from parking fees or land finance instruments.
(7) The city government needs to ensure coherence between what is budgeted, planned, and implemented in urban mobility projects. In this way, there will be consistency in these processes, and the system will be less fragile to political instabilities. Plans should always be followed by precise, transparent budget predictions. This will increase efficiency in financial administration.

5.4.2 Recommendations for future research

This study aims to introduce new directions to research in sustainable urban mobility in Albania. The financial implications of financing infrastructure are rarely examined in the Albanian context. Due to these reasons, the study kept a relatively broad scope so that it serves as a first step to exploring this field. Firstly, given more time, a study including more sustainable urban mobility projects could be carried out. Based on data availability, which is a common issue in the Albanian environment, further studies could focus on land finance instruments' potential to finance sustainable urban mobility. The possibility of earmarking a part of the revenue from parking fees for public transport or non-motorized transport could also be explored further. A particularly interesting topic would be looking into how governance, institutional frameworks, and political aspects impact finance access for projects in public transport in Tirana. Examining factors other than financial behind projects implementation in sustainable urban mobility would also provide valuable information and complement this study.

Furthermore, this study draws attention to embed financial thinking into urban infrastructure planning in other contexts as well. “There is a need to integrate lessons from urban economics, transport economics, environmental economics, infrastructure economics, public finance, and urban and regional planning in the design of financing instruments for core urban infrastructure in developing countries” (Mishra, 2019, p. 29). This study’s methodology could be applied to similar cases in other large cities in Albania or other developing countries.

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Annex 1: Research Instruments

ERASMUS UNIVERSITY, ROTTERDAM, THE NETHERLANDS
INSTITUTE FOR HOUSING AND DEVELOPMENT STUDIES (IHS)
MSc. URBAN MANAGEMENT AND DEVELOPMENT – UMD 16
June 2020

1) Interview with experts/decision-makers in municipal finance

My name is Erisa Nesimi. I am a master's student at the Institute for Housing and Development Studies at Erasmus University Rotterdam. This research investigates the level of access to finances in Tirana's municipality, their current availability, factors that influence current conditions, and how they impact the implementation of projects in sustainable urban mobility. This interview intends to help gather information and data for academic purposes and should take approximately forty minutes. If I have your permission, I would like to record our conversation to facilitate the data analysis process later. Please be assured that all information you provide will be confidential and not used for purposes other than this research.

Part 1: Introduction

Q1: How long have you been working in this field?
Q2: What is your involvement in the field?

Part 2: Financial instruments

What is your perception of the level of diversity of financial instruments being used in the municipality of Tirana?

Specifically:

Q1: Level of the diversity of taxes

Q2: Level of the diversity of user fees

Q3: What is your perception of intergovernmental transfers in the municipality of Tirana?

Q4: What is your perception of intergovernmental grants in the municipality of Tirana?

Q5: What is your perception of the current access to urban borrowing

Q6: What is your perception of the current access to PPPs?

Part 3: Factors that explain current levels of financial instruments

Q7: What is your perception of the division of expenditure and revenue responsibilities in the local government?

Do you think there is a clear division?

Do you think it's done accurately, according to the capabilities of the local government of Tirana?

Q8: Based on your knowledge, what is the current level of fiscal decentralization of the municipal governments in Albania?

Q9: What is your perception of the local government's capacities to handle municipal finance?

Q10: How would you evaluate the level of knowledge of the staff on municipal financial instruments?

Q11: How would you evaluate the level of instruments available to the municipality staff in managing municipal finance?

Q12: Do you think the current number of staff in the local government is sufficient for the management of the municipal financal system?

Q13: Could you explain to me the government level in charge of approving and putting in place new financial instruments?

Q14: Could you describe the processes needed to be taken to use each of the financial instruments?

Q15: Based on your perception, what is the efficiency of which financial instruments from different groups (tax and fees, intergovernmental transfers & grants, urban borrowing, and PPPs) can be implemented

Taxes and fees

Intergovernmental transfers & grants

Urban borrowing & PPPs

Q16: Based on your perception, what is the level of administrative ease of financial instruments from different groups

Taxes and fees

Intergovernmental transfers & grants

Urban borrowing & PPPs

Q17: Based on your perception, what is the level of transaction costs of financial instruments from different groups

Taxes and fees

Intergovernmental transfers & grants

Urban borrowing & PPPs

Q18: Do you think the existing legal frameworks support the diversity of financial instruments?

Q19: In your perception, which financial instruments have a priority from the existing local government?

Q20: In your perception, which financial instruemnts are more readily accepted by the general public (and which are not)?

Q21: What other factors would you recognize as influencing the level of access to finance in the local government?

These are all the questions I have. Would you want to add something else?
Is there someone else you would recommend me to talk to?
Could I contact you later if I have questions regarding what we discussed today?
As I stated before, this information will only be used for academic purposes, and it will be treated with confidentiality.
Thank you for your time and attention.

ERASMUS UNIVERSITY, ROTTERDAM, THE NETHERLANDS
INSTITUTE FOR HOUSING AND DEVELOPMENT STUDIES (IHS)
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Part 1: Introduction

Q1: How long have you been working in this field?
Q2: What is your involvement in the field?

Part 2: Implementation of projects in public transport and non-motorized transport

Q3: To what extent do you think that the level of access to finance has impacted the implementation of projects in sustainable urban mobility in Tirana?
Let's talk about the project (see below)
Q4: What is the implementation level of that project?
Q5: Can you tell me something about the process of these projects?
Q6: Which financial instruments were used for each of these projects:

A. Pedestrian Streets/"Traffic Cell System" inside and outside the inner ring (JICA)
B. Mobike: Dockless bike rental system: (GCAP)
C. Bike lanes
D. Tramlines + BRT
E. Electronic ticketing
F. Intercity bus terminal
G. Bus lines extensions

Part 3: Financial instruments for sustainable urban mobility

What is your perception of the level of diversity of financial instruments being used in the municipality of Tirana?

Specifically:

Q7: Level of the diversity of taxes

Q8: Level of the diversity of user fees

Q9: What is your perception of intergovernmental transfers in the municipality of Tirana?

Q10: What is your perception of intergovernmental grants in the municipality of Tirana?

Q11: What is your perception of the current access to urban borrowing

Q12: What is your perception of the current access to PPPs?

Q13: Do you think that the level of access to finance in the municipality has impacted the implementation levels of these projects?

Q14: What other instruments could have been explored?

These are all the questions I have. Would you want to add something else?
Is there someone else you would recommend me to talk to?
Could I contact you later if I have questions regarding what we discussed today?
As I stated before, this information will only be used for academic purposes, and it will be treated with confidentiality.
Thank you for your time and attention.

Annex 2: Data samples

The table below illustrates the primary data samples of this research.

Table 7: Respondents' list

Code	Respondent description	Sample method	Interview duration
E1	Independent expert in the field of urban mobility. Has been engaged in several studies and research on mobility issues in the city of Tirana between 2007-2015.	Purposive – contacted through email - actors mapping	49 min
E2	A local governance specialist working with the Ministry of Finance in Albania for 5 years.	Purposive – contacted through email - actors mapping	64 min
E3	An independent expert in local government finance, working with international organizations. Has been engaged in local governance finance for 10 years.	Purposive – contacted through email - actors mapping	89 min
E4	Director of the Association of Albanian Municipalities since 2015. Has 24 years of working experience with local government	Purposive – contacted through email - actors mapping	52 min
E5	An independent expert working with local NGO specialized in local government finance	Purposive – contacted through email - actors mapping	61 min
E6	Local government: Head of sector in the Strategic Planning Department	Purposive – contacted through email - actors mapping	47 min
E7	Independent expert in urban mobility. Involved with the SUMP drafting process	Purposive – snowball	59 min
E8	Independent expert in urban mobility. Former director of the transportation sector in Tirana municipality (2011-2015)	Purposive – snowball	43 min
E9	Independent expert in urban mobility. Former advisor to the mayor in strategic projects (2011-2015)	Purposive – contacted through email - actors mapping	85 min
E10	Independent expert. Involved in the drafting of mobility plan in Tirana in 2016	Purposive – snowball	35 min
E11	Head of the association of Public Transport in Tirana	Purposive – snowball	36 min
E12	Key informant: representative of an international organization	Purposive – snowball	36 min
E13	Key informant: independent expert in mobility	Purposive – contacted through email - actors mapping	42 min
E14	Independent expert in urban mobility in Tirana	Purposive – contacted through email - actors mapping	59 min
E15	Independent expert involved with the drafting of Tirana Green City Action Plan	Purposive – contacted through email - actors mapping	45 min
E16	Local government: Director of Urban Planning	Purposive – contacted through email - actors mapping	25 min
E17	Central government: Representative of the Albanian Development Fund	Purposive – contacted through email - actors mapping	67 min
E18	Local government: Head of sector in the Transportation Department	Purposive – snowball	40 min + some written responses
E19	Local government: Expert in the Planning Department	Purposive – contacted through email - actors mapping	20 min + some written responses
E20	Local government: Head of sector in Economic Development	Purposive – snowball	72 min
E21	International Development Bank: Representative in Albania	Purposive – contacted through email - actors mapping	45 min

Annex 3: Pre-data collection operationalization of intermediate variable

The table shows the operationalization of the intermediate variable pre-data collection. During data collection, the researcher identified new dimensions that were crucial for the research. Once these dimensions were identified at the beginning of data collection, they were incorporated into the study.

Table 8: Operationalization of the intermediate variable pre-data collection

Level of access to finance in the local government					
Indicators		**Description**	**Data type**	**Data source**	**Data collection**
Diversity of Financial instruments					
	Financial instruments used for funding sustainable urban mobility	List of financial instruments used in the municipality of Tirana	Qualitative Nominal	Secondary	Content analysis
	Perception of the level of diversity of municipal instruments	Respondent's perspective Information from literature and reports		Primary & Secondary	Interviews Content Analysis
Combination (blending) of instruments					
``	Usage of general benefit combined with direct /indirect benefit for funding projects in public transport	Check if these instruments are combined based on the respondent's perception and reports & literature.	Qualitative Nominal	Primary & Secondary	Interviews Content analysis
	Usage of land finance instruments combined with indirect instruments	Check if these instruments are combined based on the respondent's perception and reports & literature.			
Usage of innovative instruments					
	Level of usage of Land finance instruments	Perception of the respondents Land finance instruments are/are not used for sustainable urban mobility projects based on the respondent's perception and data from reports and literature	Qualitative Nominal	Primary & Secondary	Interviews
	Level of access to urban borrowing	Perception of the respondents Urban borrowing is/is not used for sustainable urban mobility projects based on the respondent's perception and data from reports and literature			Interviews
	Level of access to Public-Private Partnerships	Perception of the respondents PPPs are/are not used for sustainable urban mobility projects based on the respondent's perception and data from reports and literature.			Interviews

Annex 4: Fieldwork schedule

Table 9: Fieldwork schedule

Dates	**Schedule**
25May- 05Jun	Preparatory phase ı Secondary Data
08Jun – 06Jul	Interview Period ı Secondary Data
06Jul -17Jul	Transcriptions

Annex 5: Analysis of the relationship between indicators

The tables illustrate the number of respondents and the number of secondary documents that confirm a causal relationship between the variables. Only the main influencing indicators are included in these tables.

Table 10: Factors that affect access to financial instruments

Access to finance	Factor	# of respondents	# secondary data
Diversity of Financial instruments			
Perception of the level of diversity of municipal instruments	**Decentralization**		
	Fiscal Decentralization level	15	8
	Accuracy of the division of expenditure and revenue responsibilities	10	NA
	Governance and institutional frameworks		
	Legal and Regulatory Frameworks	10	4
	Administrative Ease	8	4
	Institutional Frameworks	8	4
	Inter-Institutional Relations	11	2
	Political		
	Political Will	11	0
Combination of general, direct, and indirect benefit instruments	**Decentralization**		
	Fiscal Decentralization Level	8	0
	Accuracy of the division of expenditure and revenue responsibilities	7	0
	Governance and institutional frameworks		
	Legal and Regulatory Frameworks	9	2
	Accountability and Transparency	7	1
	Institutional Frameworks	8	2
	Inter-institutional relations	10	2
Usage of innovative instruments			
Level of usage of Land finance instruments	**Governance and institutional frameworks**		
	Inter-institutional relations	6	2
	Legal and Regulatory Frameworks	12	3
	Administrative Ease	10	2
	Institutional Frameworks	7	2
	Local capacities		
	Knowledge capacities of local staff	6	NA
	Access to instruments of the local staff	5	NA
Level of access to urban borrowing	**Decentralization**		
	Fiscal decentralization level	8	2
	Inter-institutional relationships	7	0
	Political		
	Political Will	10	3
Level of access to Public-Private Partnerships	**Governance and institutional frameworks**		
	Accountability and transparency	14	0
	Legal and regulatory frameworks	7	3
Management			

Consistence of budgeting and planning	**Governance and institutional frameworks**		
	Planning Frameworks	11	NA
	Inter-institutional relations	9	NA
	Legal and Regulatory Frameworks	7	0
	Decentralization		
	Fiscal decentralization level	8	NA
	Clarity of division of expenditure and responsibility levels	6	3
Funds earmarked	**Governance and institutional frameworks**		
	Accountability and Transparency	8	0
	Legal and Regulatory frameworks	8	4
	Political		
	Political Will	9	3

Table 11: Causal relation between access to finance and project implementation

Project	Access to financial instruments	# of resp.	# of doc
Public Transport			
BRT/Tram	**Diversity of financial instruments**		
	Perception of the level of diversity of municipal sources and outside sources	7	3
	Combination of general, direct and indirect benefit instruments	6	5
	Usage of Innovative instruments		
	Level of access to PPP	10	4
	Level of access to urban borrowing	8	4
	Management of finances		
	Funds earmarked in Sustainable Urban Mobility	10	NA
Bus electronic ticketing	**Diversity of financial instruments**		
	Perception of the level of diversity of municipal sources and outside sources	7	NA
	Combination of general, direct and indirect benefit instruments	6	NA
	Usage of Innovative instruments		
	Level of usage of Land finance instruments	9	NA
	Management of finances		
	Funds earmarked in Sustainable Urban Mobility	7	3
	Consistency of budgeting and planning	6	2
Bus lanes	**Diversity of financial instruments**		
	Level of diversity of Financial instruments	11	3
	Combination of general, direct and indirect benefit instruments	12	2
	Usage of Innovative instruments		
	Level of usage of Land finance instruments	8	3
	Management of finances		
	Funds earmarked in Sustainable Urban Mobility	8	2
Multimodal station	**Diversity of financial instruments**		
	Combination of general, direct and indirect benefit instruments	7	NA
	Usage of Innovative instruments		
	Level of access to PPP tool	10	2
	Level of access to urban borrowing	10	2
Non-motorized transport			
Bike-sharing systems	**Diversity of financial instruments**		
	Combination of general, direct, and indirect benefit instruments	7	0
	Usage of Innovative instruments		
	Level of access to PPP	6	0

Bike lanes	**Diversity of financial instruments**		
	Perception of the level of diversity of municipal sources and outside sources	8	3
	Usage of Innovative instruments		
	Level of usage of Land finance	7	NA
	Management of finances		
	Funds earmarked	6	NA
Walkability: Skanderbeg Square	**Diversity of financial instruments**		
	Perception of the level of diversity of municipal sources and outside sources	7	2
	Management of finances		
	Funds earmarked	8	5

Annex 6: Analysis of the relationship between factors

Table 12: Relationships of factors between each other

Access to instruments Factor	# of respondents
Decentralization and Governance & Institutional Frameworks	
Fiscal decentralization and level of decision making	10
Fiscal Decentralization and Legal & Regulatory frameworks	10
Fiscal decentralization level and inter-institutional relations	
Accountability and clarity of expenditure and revenue responsibilities	9
Clarity of expenditure and revenue responsibilities and inter-institutional relations	9
Local Government Capacities and Governance & Institutional Frameworks	
Legal framework and local government capacity	7
Planning processes and knowledge	6
Political and Governance & Institutional Frameworks	
Political will and inter-institutional relations	9
Political will and administrative ease	8
Political instability and planning processes	7
Political and Local Government Capacities	
Political instability, and local government capacity	8

Annex 7: Conclusive diagrams

Figure 14: Causal relationship 1

Causal relationship between decentralization level, access to urban borrowing and public transport.

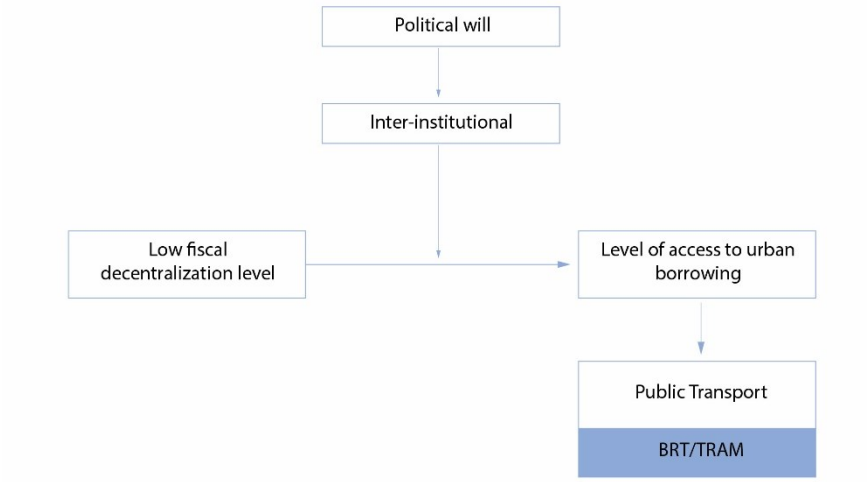


Figure 15: Causal relationship 2

(Left) The causal relationship between decentralization level, earmarking of revenues and public & non-motorized transport. (Right) The causal relationship between legal frameworks, access to land finance, and public & non-motorized transport

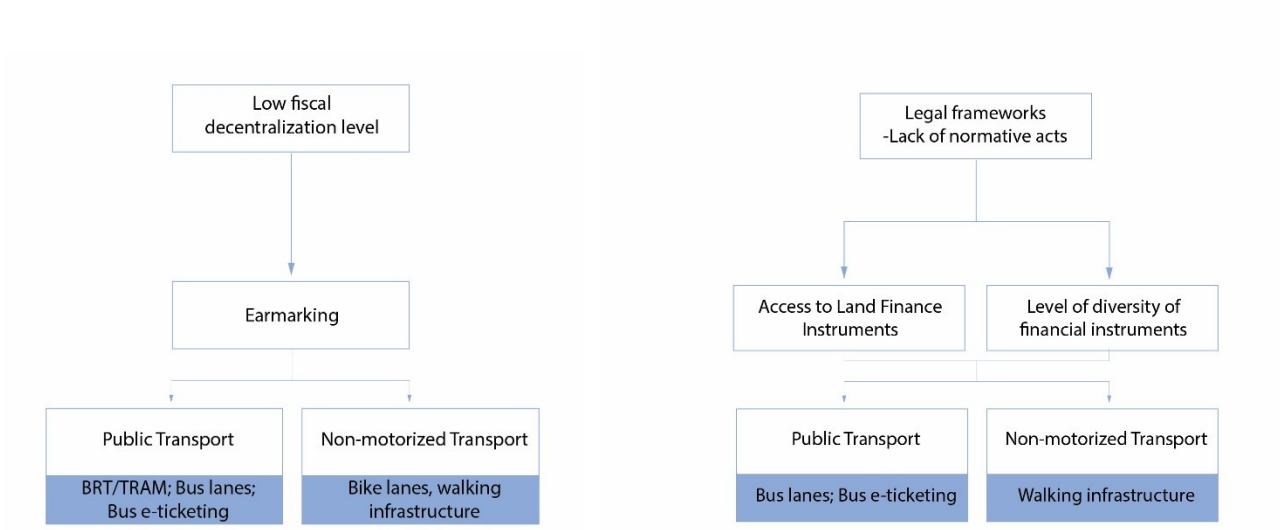


Figure 16: Causal relationship 3

The causal relationship between inter-institutional relationships, level of instrument diversity, and non-motorized transport

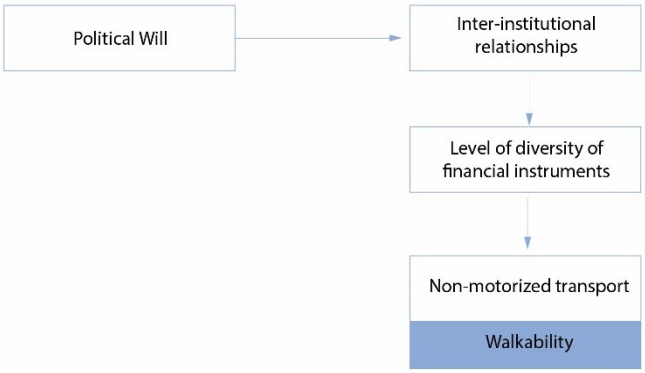


Figure 17: Causal relationship 4

The causal relationship between inter-institutional relations, planning and budgeting coherence, and projects in public & non-motorized transport

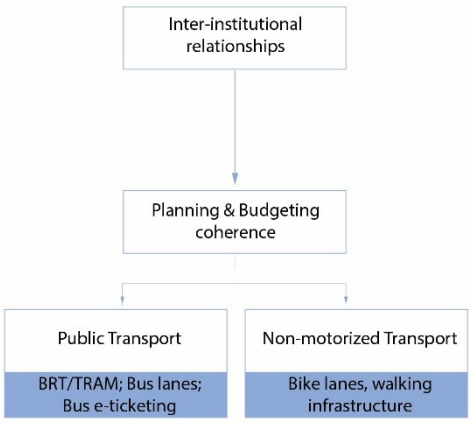


Figure 18: Causal relationships 5

The causal relationship between capacities of the local government, financial instruments diversity, and project implementation on public and non-motorized transport

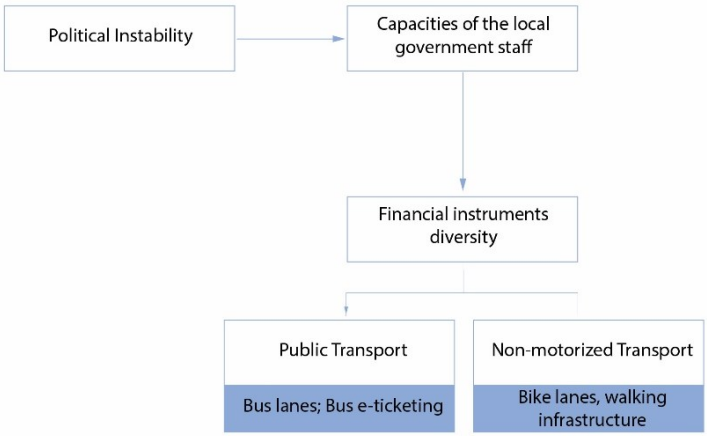


Figure 19: Causal relationship 6

The causal relationship between fiscal decentralization, inter-institutional processes, urban borrowing, and public transport

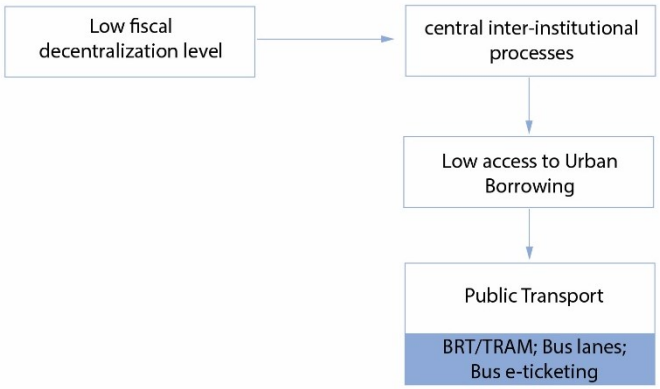
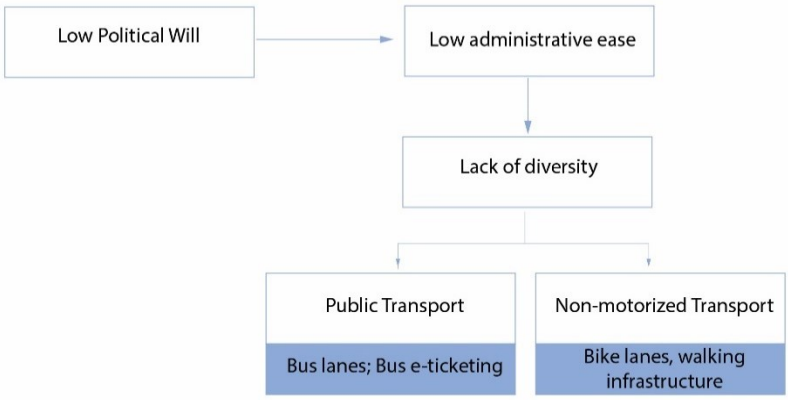


Figure 20: Causal relationship 7

The causal relationship between political will, administrative ease, diversity of financial instruments, and projects in sustainable urban mobility



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