Public Value Creation: Exploring Partnerships in Value Capture Projects in China

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Abstract

The urban planning literature has identified a positive relationship between public transport investment and the land value of adjacent properties. In many cities worldwide, the increase in land value has been captured (called value capture (VC)) to fund public transport infrastructure and services. However, the key issue for the planning and implementation of VC is the complexity of the multiple stakeholders' collaboration and coordination in the process, and few studies have investigated this complexity. This research aimed to fill this gap and explore how different stakeholders have worked together to plan and implement VC policies and projects in China.

This research developed a theoretical framework based on public value and partnership theories. These theories provide a comprehensive strategic triangle framework to explore interdependent processes of enabling environment, operational capabilities, and goals to create public value of VC development. Based on the framework, this research proposed three types of partnerships for investigating the VC process. The *political–institutional partnership* analysed how government organisations and local transport agencies create an enabling political and institutional environment to take the initiative and plan for VC projects. The *financial partnership* focused on how local transport agencies develop partnerships with other public and private organisations to share the risks, responsibilities, and benefits of developing real estate in VC projects. The *social partnership* examined what role culturally sensitive communication and trust play in building relationships between local government and local communities. This research used a qualitative research approach by applying the case study method. Two Chinese VC projects, the Qianhai project in Shenzhen and the Luxiao project in Chengdu, were selected as case studies in this research. Data were collected from 55 semi-structured interviews with relevant stakeholders, and from policy and planning documents produced at the central, provincial, and local government levels, supplemented by enterprise reports, media information, and research papers.

Firstly, the research found that stable and sustained political–institutional support is crucial to the initiation planning, and implementation of a VC project. Because of continuous political support, Shenzhen initially adopted the Hong Kong model but later developed its own model and institutional capacity for VC projects. In contrast, VC projects in Chengdu suffered as a result of uncertain political support, a fragmented planning framework, an insufficient land exchange market, and a lack of experience and knowledge of VC projects. Both case studies showed that creating a partnership between local government and local transport agency is vital for mobilising land resources, sharing planning power, and generating institutional innovation in land transactions.

Secondly, the research illustrated that a financial partnership between local transport agencies and developers is fundamental for implementing VC projects. In Shenzhen, the local transport agency established proactive working relationships with developers, creating a flow

of the resources necessary for implementing the projects. In contrast, the local transport agency in Chengdu ignored developers and worked directly with the district-level government without a competitive selection process. This process created concerns for real estate development in the later stages of implementation.

Thirdly, the research identified that developing a trustworthy social partnership between the local government and the local communities is beneficial for enhancing the legitimacy of VC projects. Shenzhen adopted both top-down and bottom-up public participation processes to engage local communities. In comparison, weak communication in Chengdu led to limited community involvement and a lack of public awareness of the VC project. Both case studies showed a strong emphasis on expert opinions and little contact with non-governmental organisations in China's VC projects.

This research concluded that political–institutional, financial, and social partnerships have contributed significantly to VC planning and implementation in China. These partnerships worked together and developed an enabling environment, promoted legitimacy, and established operational capacities to deliver the VC projects. However, these partnerships were not developed in a vacuum, and macro and contextual factors played an essential part in the planning and implementation of the VC projects.

Declaration

I hereby declare that this PhD thesis entitled “Public Value Creation: Exploring Partnerships in Value Capture Projects in China”, is my original work, and has not been submitted for the award of any degree in any university previously. This thesis is less than 100,000 words, excluding appendices and bibliographies. All sources of information are used in the thesis have been acknowledged.

Xinning Wang

4th July 2022

Preface

One paper was published during the writing of this thesis (see Appendix 1 for the DRC 16 Statement of Contribution form), as shown below:

Parts of Chapters 2, 5 and 6 have been published as a journal paper: Wang, X., Imran, M., Tsui, K. W. H. & Sturup, S. 2019. The use of value capture for transport projects in China: opportunities and challenges. *Asian Transport Studies,* 5**,** 784-810.

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Writing these acknowledgements reminds me of the happy and frustrating times I have experienced throughout my PhD. When I stepped into Massey University, I was unsure and anxious about my future research life. However, a PhD journey is a process of knowing oneself and exploring oneself. In this process, I have learned how to break through my limitations, both in the academic setting and in life. During my PhD journey, I have found so many people who deserve my gratitude for the love, help, and support they have always given me.

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Table of Contents

List of Tables

List of Figures

List of Abbreviations

BRT	Bus Rapid Transit
CBD	Central Business District
CCP	Chinese Communist Party
CDMDRC	Chengdu Municipal Development and Reform Commission
CDMFB	Chengdu Municipal Finance Bureau
CDMG	Chengdu Municipal Government
CDMHURD	Chengdu Municipal Housing and Urban-Rural Development Bureau
CDMLRB	Chengdu Municipal Land Resources Bureau
CDMPB	Chengdu Municipal Planning Bureau
CDMTB	Chengdu Municipal Transport Bureau
CDRTG	Chengdu Rail Transport Group Co., Ltd.
CDSASAC	Chengdu State-owned Assets Supervision and Administration Commission
CSCEC	Construction Engineering Corporation Ltd
FAR	Floor area ratio
GPG	Guangdong Provincial Government
HKSAR	Hong Kong Special Administrative Region
JNR	Japan National Railway
LVIC	Land value as investment capital
MOHURD	Ministry of Housing and Urban-Rural Development
MOT	Ministry of Transport
MTRC	Hong Kong Mass Transit Railway Corporation
NDRC	National Development and Reform Commission
NGO	Non-governmental organisation
PPP	Public–private partnership
PRD	Pearl River Delta
RTO	Rail Transport Office
SEZ	Special Economic Zone
SPG	Sichuan Provincial Government
SZLREEC	Shenzhen Land & Real Estate Exchange Centre
SZMC	Shenzhen Metro Corporation
SZMDRC	Shenzhen Municipal Development and Reform Commission
SZMFB	Shenzhen Municipal Finance Bureau
SZMG	Shenzhen Municipal Government
SZMHURD	Shenzhen Municipal Housing and Urban-Rural Development Bureau
SZMPNRB	Shenzhen Municipal Planning and Natural Resource Bureau
SZMTB	Shenzhen Municipal Transportation Bureau
SZSASAC	Shenzhen State-owned Assets Supervision and Administration Commission
TAD	Transit adjacent development

TJD	Transit joint development
TOD	Transit-oriented development
UK	United Kingdom
US	United States
VC	Value capture
WMATA	Washington Metropolitan Area Transport Authority

Chapter 1: Introduction

1.1 Problem Statement and Importance of the Research

Public transport development has the potential to address the negative impacts of rapid urbanisation, such as traffic congestion, air pollution, energy consumption, and social inequity (Gwilliam, 2003; Cervero, 2013; Suzuki et al., 2013). However, traditional funding mechanisms struggle to meet the growing demand for public transport infrastructure investments as well as the operating and maintenance costs (Medda, 2012; Mittal, 2014). There is a need for innovative funding mechanisms to relieve the financial stress of governments and to guarantee public transport infrastructure and services in the long term (Mathur and Smith, 2012; Imran and Pearce, 2013; Verma and Ramanayya, 2015). In line with this trend, academics and policymakers have started to focus on capitalising on the effects of proximity to public transportation on property values (e.g.,Cervero and Duncan, 2002a; Cervero and Duncan, 2002b; Pan and Zhang, 2008; Salon et al., 2014). The land value capture (VC) mechanism seeks to identify and extract some or all of these increases in land values arising from transportation improvements, which can then be used for supporting public transport systems (Doherty, 2004; Cervero, 2009; Mathur and Smith, 2012).

To date, various VC mechanisms have been utilised successfully in many developed regions. For example, in the United States (US), all states use special assessment districts to fund urban infrastructure construction and operations (McIntosh et al., 2017; US Federal Highway Administration, 2017). Since the early 1990s, developer contributions and betterment taxes have been the primary means by which local governments in the United Kingdom (UK) have obtained a share of land value (McAllister et al., 2018). Hong Kong has acquired a high-quality railway service with limited government fundings input because of the use of the rail + property model (Cervero & Murakami, 2009). Japanese development entities have applied VC through urban redevelopment and land readjustment schemes to fund urban transport systems (Chang and Phang, 2017).

However, VC is an emerging funding mechanism in developing countries such as China that still faces various challenges and difficulties. For example, Suzuki et al. (2015) argued that cities in most developing countries have an inadequate property tax structure, limited expertise in property development in conjunction with transportation investment, and an obsolete or inconsistent planning framework. Nguyen et al. (2017) investigated VC in the context of Vietnam, and they argued that project transfer and post-permit negotiations, the property tax system, and the incapacity of governmental authorities to capture value were common

problems. Mathur (2019) studied the Delhi Metro in India and found that the main challenges to using VC included a lack of land use or zoning power, an unclear intergovernmental collaboration framework, the inability to capture incremental land value, perceptions of corruption, and a focus on short-term profit.

In fact, the planning and implementation of VC is a very complex process, but stakeholders usually lack sufficient knowledge of the complexities of VC (Cervero et al., 2002). The complexity arises because VC requires a higher level of coordination and collaboration among different stakeholders in the process (Zhao et al., 2012b; Mathur, 2014). For example, VC usually involves governments, public agencies, the private sector, and local communities with different goals, interests, and values. Although these parties can work together to create greater development opportunities, their interests and responsibilities are not easily aligned (Suzuki et al., 2015; Van der Krabben et al., 2019). Moreover, the importance of public involvement is often overlooked in the VC process, and thus the process may lack clarity about the redistribution of captured land value (Jillella et al., 2015).

As is the case in most fast-growing developing countries, China's huge population size, rapid economic development, longer travel distances, and increasing energy consumption have led to booming demand for public transportation. Therefore, China's central government released the *Suggestions on Prioritising the Development of Urban Public Transport* in 2012, emphasising investment into the urban public transport network (State Council, 2012). In this regard, public rail transport has become an affordable and reliable alternative to private vehicles in China, reducing traffic congestion and environmental threats (Cervero and Day, 2008; Luan et al., 2014; Yang et al., 2016b). By the end of 2021, 50 cities in mainland China had opened urban rail transport systems, with 283 operating routes and a total length of 9206.8 km. A further 6096.4 km of urban rail transport system need to be constructed, with an estimated investment of 4555.35 billion yuan (China Association of Metros, 2022). Faced with the vast investment needs for urban rail transport development, China's central government has recognised funding gaps. It officially called for the need for VC to become an effective funding mechanism for public transport development in the *13th Five-Year Plan (2016–2020)*[1] *for a Modern Comprehensive Transport System* in 2017. In line with this plan, many megacities in mainland China, such as Beijing, Chengdu, Chongqing, Hangzhou, Shanghai, Shenzhen,

[1] The 13th Five-Year Plan refers to the 13th Five-Year Plan for Economic and Social Development of the People's Republic of China (2016–2020).

and Wuhan, have opted to support transit-oriented development (TOD) by the VC mechanism. TOD can guide sustainable urban development by establishing high-density, mixed land uses and pedestrian-friendly environments (Cervero et al., 2002; Suzuki et al., 2015). Moreover, the emergence of VC in mainland China is informed by the experience of Hong Kong; thus, the rail + property model has been introduced (Yang et al., 2020a).

Because of decentralisation attempts in China, powers related to administration, finance, and land use have largely been transferred from central to local governments. Although decisions on urban development are made by local governments, enterprises, developers, and many other stakeholders (Qian, 2013), the provincial and central governments' intentions, policies and plans still provide important guidance for local development in China (Ng and Tang, 2004a). In such a multi-stakeholder environment, addressing and managing the interests and concerns of different stakeholders is becoming increasingly important in Chinese transport planning (Wei et al., 2016). Therefore, there is a need to foster mutual recognition, goal alignment, and communication, and to manage interactions to address the tensions and conflicts among various stakeholders (Mu and de Jong, 2016). However, the existing literature relating to VC in China has paid more attention to quantitative research into property price increases (e.g., Tian, 2006; Pan and Zhang, 2008; Xu et al., 2016; Zhang et al., 2016) and has only recently started to show interest in institutional analyses of VC (Wang et al., 2019a; Wang et al., 2019b; Yang et al., 2020a). There is still a lack of in-depth studies on the underlying stakeholder relationships in the VC process under certain institutional and market conditions. Therefore, it is crucial to investigate how different stakeholders can work together to enable VC to become an effective funding mechanism for public transport development in China.

1.2 Research Design

This thesis used qualitative research with a case study approach. For an in-depth investigation, the Qianhai project in the city of Shenzhen and the Luxiao project in the city of Chengdu were selected as case studies for exploring how different stakeholders have worked together in the planning and implementation of VC. To understand the complexity of the stakeholders' collaboration and coordination in the VC process, this research explored the external environment, social phenomena, the policy and planning processes, and the stakeholders' relationships and behaviours, which justified the use of qualitative research via the case study method (Yin, 2014). To obtain the data, 55 semi-structured interviews were conducted with key informants from diverse organisations, including governments, local

transport agencies, developer corporations, consulting firms, research institutes, universities, local media, and nearby residents in the case study areas. The research also critically analysed policy and planning documents related to urban planning, urban rail transport planning, fiscal environment, and land use planning; reports by local transport agencies and developer corporations; media information; and internally published documents. This data triangulation enriched the interpretation of the interviewees' narratives and offered a better understanding of the working process of VC.

The data analysis adopted the guidelines of Creswell and Creswell (2018), namely organising the data, reading and examining all the data, coding and organising the themes, representing the data, and forming an interpretation. This research used Microsoft Word to highlight and comment on the data for coding. The broader themes were used as a reference for coding, and each of the themes included subthemes as well as subthemes that emerged from the interviews. Text that was irrelevant to the research topic and the research question were not coded in this research. Once the work of coding was finished, the strategy of collaborating with supervisors was adopted to check and review the results and to make any necessary revisions, e.g., further conceptualising the names of the codes, merging similar codes, and deleting unrelated and unimportant codes. Notably, some subthemes could be of high relevance and conceptual importance even if they appeared only once or a few times or were mentioned by only one interviewee. The overall aim of the data analysis was to find how the collaborative and coordinative system works in the VC process where are barriers and opportunities to improvement. The storytelling approach was adopted for presenting and interpreting the data. This approach helped to maintain a holistic narrative to examine the contextual factors in the use of VC; explore the reasons behind the differences and similarities in the phenomena of the two case studies; and reveal the logic of what, how, and why in the key actions of stakeholders in the VC process.

1.3 Research Objectives and Questions

This research aimed to explore VC as an innovative source of funding for public transport developments in China from the perspective of creating public value through partnerships. It investigated the underlying collaboration and partnership relationships among governments, local transport agencies, developers, and local communities. In this regard, the research further developed the following research objectives:

1. To draw on the literature and identify the critical characteristics of VC and the factors that make VC planning and implementation smoothly.
2. To build a theoretical framework using the public value and partnership theories to investigate the political–institutional partnership, financial partnership, and social partnership in the VC process by using two case studies in Chengdu and Shenzhen, China.
3. To refine the concepts of three types of partnerships and extend the public value theory in terms of how VC works in China.

This research aimed to deal with one primary research question, namely "How do different stakeholders work together to plan and implement VC in China?" In order to answer the primary question, three secondary research questions also needed to be addressed:

1. How do government organisations and local transport agencies create an enabling political and institutional environment to take the initiative and plan for VC projects?
2. How do local transport agencies develop partnerships with other public and private organisations to share the risks, responsibilities, and benefits of developing real estate in VC projects?
3. What role do culturally sensitive communication and trust play in building relationships between the local government and local communities regarding VC projects?

1.4 Clarification of Terms

Collaboration/Partnership

This thesis used collaboration and partnership interchangeably (Huxham and Vangen, 2005; Bryson et al., 2006). The concept of collaboration or partnership involves a long-term relationship, including dynamic comprehensive planning, setting common tasks, formulating joint strategies and measures, and often establishing a new organisational structure that is independent of a single organisation. It encourages a shared vision for risks, resources, and benefits (Wood and Gray, 1991; Mu et al., 2019). Osborne and Murray (2000) conceptualised collaboration as a multiphase process in their exploration of the partnership process. Thus, these studies showed that collaboration and partnership can be used to understand each other.

Partnership

This thesis adopted the broad concept of partnership, rather than the tight concept, which means a public–private partnership relating to financial contracts regarding infrastructure. In

this thesis, partnership was seen as an approach to tackling challenging public service problems and exploring the complex relations and interactions in a modern networked society (Brinkerhoff, 2002a; Teisman and Klijn, 2002). This research aimed to shed light on the complexity of the partnerships among the public, private, and community sectors in the VC process, rather than just considering the single perspective of stakeholders' financial arrangements.

Public Value

In this thesis, VC was considered as a project that can provide public value (economic value, social and cultural value, political value, and environmental value) to the wider city and a region. On the basis of the strategic triangle framework of public value (Moore, 1995), this study considered the creation of public value as a process involving multi-stakeholder collaboration. This process required an examination of the enabling environment and operational capabilities that stakeholders need to create or acquire in order to deliver VC.

Successful VC

The meaning of successful VC in this research was defined as when VC projects were planned and implemented smoothly. More specifically, the criteria of success for VC projects in this study referred to the planning and implementation of VC through partnership approaches under favourable macro-conditions and real estate markets, as well as supportive regulatory and institutional factors. This thesis did not discuss whether the VC was successful or not on the basis of outcomes such as equity, affordability, and justice. Therefore, this thesis's review of VC success stories (Chapter 2) was based on the common use and perceived best case of VC in developed countries. The problems in the use of VC in developing countries mentioned in this thesis were not meant to suggest that they are failures. Rather, the research aimed to identify the challenges and obstacles that exist in the VC process, and to explore the opportunities for improvement.

1.5 Theoretical Framework

This research applied public value and partnership theories to investigate the underlying stakeholder relationships in the VC process. The public value theory provides a comprehensive strategic triangle framework to discuss the importance of aligning the enabling environment, the operational capabilities, and the values/goals/mission to create public value (Moore, 1995). From this perspective, public value can be used to examine how "policy and management

strategies must be substantively valuable to the citizenry, politically legitimate, feasible and sustainable, and operationally possible and practical" (O'Flynn, 2007, p. 359). However, it can be argued that one government department alone cannot produce the new and coordinated solutions that are needed to create public value (Crosby et al., 2017). The appropriate government department is increasingly expected to partner with many governmental and nongovernmental actors to tackle challenging public issues (McQuaid, 2000; Bryson et al., 2006). Therefore, theories of partnership were selected in the thesis to explain the complex relationships and interactions within a process (McQuaid, 2000; Teisman and Klijn, 2002). The partnership concept can be used to understand institutional cooperation in joint production and risk sharing, long-term infrastructure contracts, public policy networks, and the development of civil society and community (Hodge and Greve, 2007). In this regard, this thesis constructed the following theoretical framework by using insights from the public value and partnership theories to explore three domains of relationships in the VC process:

1. Political–institutional partnership provides a helpful lens for analysing how government sectors and local transport agencies work together to create an enabling environment to take the initiative and plan for VC projects.

2. Financial partnership focuses on local transport agencies developing partnerships with other public or private organisations to share the risks, responsibilities, and benefits of developing VC properties.

3. Social partnership refers to the roles of communication and trust in improving the local community's understanding of and support for VC projects, and the local community's response to VC projects.

1.6 Case Studies

This thesis chose the first VC projects in Shenzhen (the Qianhai project) and Chengdu (the Luxiao project) in China to explore complex process of stakeholders' collaboration and coordination. Shenzhen has been a priority development area for decades and has undergone continued planning reform. Moreover, Shenzhen's location (adjacent to Hong Kong) and special economic zone status have been critically important for its advancement and institutional development in support of VC development. Compared with Shenzhen, Chengdu has much less advantageous conditions for supporting VC to fund its public transport system. However, under immature conditions, Chengdu has still developed VC projects. It is therefore interesting to explore how different stakeholders have worked together to plan and implement

VC investments in similar but different and complex institutional environments at the local level. This analysis of case studies aimed to understand how the collaborative and coordinative system works, and where there are barriers and opportunities in VC processes.

1.7 Structure of the Thesis

The structure of the thesis is as follows. Chapter 2 begins with the advantages of VC as an innovative funding option, integrated land use and transportation as the planning foundation of VC, the logic of land value creation, and the instruments of VC. The chapter ends by identifying the key components of VC by reviewing international best practices for using VC mechanisms. The chapter identified the well-designed partnerships among the different stakeholders is vital to VC planning and implementation, which need to be investigated in depth.

Chapter 3 reviews possible theories for addressing the research question and develops a theoretical framework based on public value and partnership theories. These theories have been extended into three types of partnerships (political–institutional, financial, and social partnerships) to explain the relationships among different actors of VC in China.

Chapter 4 explains the use of qualitative research through the case study approach. It presents the selection of case studies, data collection, and data analysis used in the research. It also explains the ethical behaviour, positionality and reflexivity in the research process, and the rationale for the data reporting structure.

Chapter 5 explores China and the two Chinese case study cities of Shenzhen and Chengdu in terms of the institutional context of VC planning and implementation. It identifies the enablers and barriers of the macro-environment and institutional environment regarding the use of the VC mechanism at central and local levels.

Chapter 6 examines how Shenzhen's VC achieved a pioneering role in China. It sheds light on the efforts of political–institutional, financial, and social partnerships in Shenzhen's VC process. Chapter 7 analyses the VC process in terms of these three types of partnerships among different stakeholders in Chengdu and explains the barriers and challenges in the VC process in Chengdu.

Chapter 8 discusses the findings on the basis of the similarities and differences of the two Chinese case studies, reflecting on the theoretical framework and the literature. It highlights that the partnership approach is needed to rationally accommodate and coordinate different purposes and capabilities for effective collective action in shaping VC projects in this context.

The findings of the sampled case studies illustrate that all three types of partnership are crucial for their respective VC projects, helping to align the enabling environment and develop operational capabilities to create public value.

Chapter 9 concludes the thesis. A summary of the research is provided, along with the academic and practical contributions and implications for China and New Zealand, and it discusses the research limitations and possible future research directions.

Chapter 2: Value Capture: An Opportunity for Public Transport and Land Use Development

2.1 Introduction

This chapter reviews the literature on VC as an innovative funding source in public transport development. First, the literature reviews the traditional and innovative ways of public transport funding and the importance of land use and transportation integration to capture land value. Second, the VC principle and planning strategy are explored in international best practice case studies. Finally, the chapter explores how the VC mechanisms work in the presence of different macro conditions, institutional and regulatory environment, and the presence of multiple stakeholders.

2.2 Traditional and Innovative Public Transport Funding

This section discusses the traditional and innovative funding sources for public transport development. The public transport system can provide various economic, social, and environmental benefits (Cervero, 1998; Litman, 2014). Because of the high cost of building and operating public transport systems, and the insufficiency of traditional funding, the importance of innovative funding sources has been widely recognised (Ubbels and Nijkamp, 2002).

Traditionally, the majority of public transport funding is provided by local or national governments (Mathur, 2014). Specifically, governments collect revenues from various general taxes (e.g., income tax, property taxes, goods and services taxes) and dedicate some of these funds to support the construction and operation of public transport infrastructure. However, this form of traditional funding has some issues. General taxes have been criticised because of the issue of higher taxes. If taxes continue to increase, people will become increasingly reluctant to accept the idea of funding public transportation through general taxes (Imran and Pearce, 2013). Moreover, competition for government funds is fierce, and public transportation may lose out to expenditure on education and health (Ubbels et al., 2001). In this case, general taxes should not be seen as a stable source of funding for public transportation. Earmarked government grant programmes are also considered as traditional funding sources (Squires et al., 2021). For example, in China, central and local budgetary allocations provide fiscal transfers and special funds for maintaining and constructing transport systems (Cao and Zhao,

2011). In the US, traditional transportation funding centred on the federal aid grant program has contributed to the construction of a wide range of transportation systems (Chen, 2012).

The process of global urbanisation has accelerated. According to the latest report from the United Nations, 55% of the world's population lives in cities and this number will grow to 68% by 2050 (United Nations, 2018). Although urbanisation promotes economic and technological development, it also brings unprecedented challenges caused by urban sprawl and motorisation (e.g., air pollution, energy consumption, social inequity, and traffic congestion). In this case, the provision and use of public transportation are needed to address these urban challenges (Suzuki et al., 2013). However, traditional funding sources struggle to ensure adequate and sustainable transportation investment, innovative funding mechanisms for building and maintaining public transport infrastructure should be sought (Jillella and Newman, 2016).

There has been a shift from publicly funded projects to public–private partnerships (PPPs) in public transportation investments. Over the past decades, governments worldwide have adopted different methods for granting and implementing long-term (25–50 year) concession contracts to the private sector and formulating policies for this. These different contractual agreements are grouped together under the general term PPP. A PPP is designed to fund the design, construction, and operation of infrastructure assets (e.g., transportation) that were traditionally funded and operated by the public sector (Roumboutsos, 2015). Internationally, modern PPPs have experienced four periods. In 1992–2001, the UK's Private Finance Initiative was announced and PPP projects first occurred in the UK and Australia. In 2002–2007, PPP models spread to Canada, France, Spain, and many other countries. However, during 2008–2012, the Global Financial Crisis affected PPP as banks suddenly stopped financing projects, and governments had to rescue the PPP projects. From 2013 to today, PPPs have received increased interest from Africa, China, Latin America, and other countries (Hodge et al., 2018).

Nevertheless, as global demands for transportation PPPs continues to increase, more problems and partnership failures are being observed (Soomro and Zhang, 2011). For example, in the UK, the London Underground PPP allowed the private sector to take over the maintenance and rehabilitation of the London Underground infrastructure (Williams, 2010). Beginning in 2003, three 30-year contracts were signed for the PPP arrangement. However, two of the three private consortia (Metronet BCV and Metronet SSL, known collectively as Metronet) failed to modernise the infrastructure on time and overspent the budget. Finally, the control of the London Underground was returned to the government, and the loss to the taxpayer was estimated to be around £170–410 million (House of Commons, 2010). There were many reasons behind the failure, including Metronet's corporate governance issues, legal

and financial reasons, the London Underground's limited ability, conflicts of interests, and the failure of the PPP arbiter (Margarita and Daria, 2017). In China, taking the construction of the first metro in Chongqing city can be used as an example. This project was initially built by Chongqing city government and a Hong Kong construction company via the PPP model. No competitive bidding was conducted because there were not enough qualified bidders. However, the PPP contract was terminated because of the capital structure of the builder and the lack of a sufficient legal basis for negotiation. As a result, the private actor withdrew and left the project unfinished. After the Chongqing city government took over the project, it took 10 years to find a new partner (Mu et al., 2011). Therefore, although PPP has potential to deliver more public transport infrastructure, it is not a panacea for meeting all investment and financial needs (Lammam et al., 2013).

VC mechanisms are gaining popularity globally as an innovative source of transportation funding (Smith and Gihring, 2006; Fischer, 2019). In developed regions, the UK's London Crossrail project used the VC mechanism as part of the funding package for the project. The project generated £4.1 billion from a 2% additional Business Rate Supplement and £0.6 billion from Community Infrastructure Levy (Salon et al., 2019). In the US, VC funded infrastructure at San Francisco's Transbay Transit Centre. The area developed 3 million square feet of new office and commercial space, 100,000 square feet of retail stores, and 2,600 residential units. The project is expected to generate USD 1.4 billion in income within 45 years through the VC instrument (American Public Transportation Association, 2015). In Hong Kong, VC allowed the mass transport rail system to be completely constructed, operated, and maintained without subsidies from the government (Salon and Shewmake, 2011).

The widespread interest in the VC mechanisms also appears in the developing world. VC as an innovative funding mechanism has attracted scholars and decisionmakers in Africa (Biitir, 2019), mainland China (Sun et al., 2017; Van der Krabben et al., 2019), India (Jillella et al., 2015; Sharma and Newman, 2018), and Vietnam (Nguyen et al., 2017). In this context, it is timely to conduct research into VC as an innovative funding source of investment into public transportation. VC can not only provide revenue for developing public transport but also has potential to fulfil other objectives, such as local improvements and economic agglomeration (Litman, 2014). To achieve these objectives, it is important to investigate the level of integration required for land use and transportation to unlock VC opportunities. The next section aims to explore the importance of integrating land use and transportation to provide VC opportunities.

2.3 The Integration of Land Use and Transportation: Planners' Holy Grail

The planning and implementation of VC are closely related to the integration of land use and transportation. Successful integration of land use and transportation can help to capture land value by developing lands and properties and air rights (Suzuki et al., 2013). The integration of land use and transport planning has been advocated in the urban planning literature for many years (Curtis and James, 2004; Hrelja, 2015). In recent years, transit-oriented development (TOD) has become popular as an example of land use and transport integration in developed and developing countries (Suzuki et al., 2013; Renne and Appleyard, 2019). However, implementation of this concept has varied in different cities around the world because cities are different in their unique conditions such as geographic characteristics, economic conditions, and policy and planning strategies (Suzuki et al., 2013; Thomas et al., 2018; Liang et al., 2020)

TOD refers to the construction of a high-density, mixed land-use, and pedestrian-friendly environment close to and well served by a transport system (Calthorpe, 1993; Cervero et al., 2004). Notably, the development is required to occur within a certain radius of a transport station and generally the distance is "2,000 feet (about 610 m) to include areas which are the equivalent of 10 minutes" (Calthorpe, 1993, p. 66). The development district also can be described as a circle centred at the transport station with a radius of quarter to half a mile (about 400–800 m) (Zhang, 2007). The radius here refers to the comfortable walking distance of most people. However, the actual suitable walking distance is related to the climate, landscape, traffic conditions, street design, and other material conditions, so different cities' and sites' development radii may be different (Calthorpe, 1993). TOD has been seen as an effective means to address automobile dependence, increasing traffic congestion, rising air pollution, growing energy consumption, and housing shortages (Cervero et al., 2002; Jiang et al., 2009).

The TOD concept originated in the West, and it has been widely adopted in Asian cities, where the population distribution and land development are generally characterised by high density (Liang et al., 2020). However, the goal of using TOD may be different in different contexts. For example, TOD has been used to redevelop railway stations and their surroundings in European cities (Bertolini et al., 2012). In the US, the focus of TOD is mostly on repositioning suburban sprawl around rail transport and public transportation facilities (Cervero et al., 2004). In Asia, TOD is regarded as a means of formulating mass transport corridors for the growth of megacities (Yang and Lew, 2009). Thus, TOD should be carefully planned and designed to reflect the contextual factors, social and cultural considerations, and market realities.

Integrating land use and transportation by TOD should achieve five primary goals as follows (Dittmar and Poticha, 2004):

- Location efficiency: The station is located in a TOD centre or a place with convenient services. Passengers can easily reach their destination, and there are enough customers within walking or cycling distance of the station. The street network is also friendly to pedestrians.
- A rich mix of choices: TOD offers a broad range of housing, mobility, and shopping, and other activity choices.
- VC: Various stakeholders such as landowners, developers, investors, governments, and residents can capture the value from effective TOD, leading to financial returns and affordable lifestyles.
- Placemaking: The TOD is made to be attractive and offers enjoyable and convenient places to meet various community demands. Understanding the market conditions is important for attracting developers. Flexibility in the change in land use is also needed.
- Resolution of the tension between node and place: It should resolve the problem of integrating and balancing the station and the community.

Regarding the principles in the design of a TOD, Cervero and Kockelman (1997) thought the built environment had three Ds that affect traffic patterns: density, diversity, and design. Density means having enough population and employment, dwelling units, and building floor area to generate high passenger flows. Diversity requires mixed land uses and housing types within the community. Design embodies the physical features, site layout, aesthetics, and facilities that encourage walking, cycling, public transportation, and social engagement (Cervero and Murakami, 2008). Later, destination accessibility and distance to transport were added to TOD design principles, increasing the list to five Ds (Ewing and Cervero, 2001). Based on these design principles, TOD encourages non-automobile travel patterns, and increases public transport ridership. This phenomenon has a significant relationship with increased housing development. For example, Cervero (2016) examined Arlington County station areas and found that for every additional 100,000 square feet of office and retail space, the average daily ridership increased by 50. Tang et al. (2004) indicated that high-density population and employment were related to ridership at Hong Kong's metro stations. Within 500 m of the station, each additional public housing unit and private residential unit will add approximately 1.97 and 1.62 passengers, respectively.

Two other terms are often presented in the literature: transit adjacent development (TAD) and transit joint development (TJD). TAD is distinctly different from TOD in that TAD means that the development is merely physically close to the transport but lacks a functional connection between land use and transportation in terms of land use composition, station design, and station access methods (Cervero et al., 2002). TJD can be seen as small-scale TOD, which can constitute an important strategy for implementing TOD based on the revenue-sharing and cost-sharing arrangements between the transport agency and private developers (Cervero, 2009). Successful TJD benefits from a healthy local real estate market, the entrepreneurial spirit of transport agencies, inter-agency coordination, and the recognition of TOD's non-revenue benefits (Landis et al., 1991).

Regarding the social benefits of TOD, affordable housing is worth focusing on because it is an effective way to ensure that society shares the benefits of improved transportation (Suzuki et al., 2015). In some cases, the construction of affordable housing has generated public opposition, particularly in suburban areas. People picture affordable housing as a place with crime and a low quality of life (Goetz, 2008). However, the provision of affordable housing within TOD is crucial for social equity and reduces housing costs through a compact growth pattern (Cervero et al., 2002). Cervero et al. (2004) argued that because of location efficiency, people living in TODs have less demand for car use and parking, which frees up their income for buying houses. In this case, TOD makes it easier for low-income residents to afford higher rents and housing prices. Moreover, when real estate prices in the market are increasing exponentially, local authorities require affordable housing to achieve VC through changing plans or rezoning land for more intensive use for public benefit purposes (Nzau and Trillo, 2019).

In TOD, the relationship between land use and transportation is symbiotic because TOD may increase public transport passengers and pedestrian travel, which, in turn, supports node-type commercial development (Gihring, 2001). A successful TOD strategy may have a positive effect on land and property values. For example, Cervero and Murakami (2008) revealed that a rail + property station with a TOD design in Hong Kong added an average of 35,000 passengers on weekdays, and the increase in property price was between 5% and 30%. Similarly, Mathur (2014) pointed out that ridership more than doubled between 2004 and 2009 after the construction of the New York Avenue Metro Station, and the total value of properties in the 35 blocks surrounding the station grew by more than four times in six years. In turn, the increased property value can be captured (VC) to fund the construction of TODs via the mechanism (Cervero, 2009; Suzuki et al., 2015). The next section reviews the rationale of VC,

particularly identifying how the land value increases as a result of the improved public transportation, and the principles of using the VC mechanism.

2.4 Land Value Creation and Capturing Land Value

2.4.1 Land Value Increases Attributable to Public Transport

This section aims to understand the positive impact of public transportation investments on land value. Numerous studies have demonstrated a positive link between proximity to urban rail stations and land value in developed and developing countries (e.g. Cervero, 1997; Cervero and Duncan, 2002b; Pan and Zhang, 2008; Cervero and Murakami, 2009; Xu et al., 2016; Sharma and Newman, 2018; Yang et al., 2020b). However, there is an indication that proximity to transport corridors itself may have adverse effects on nearby property prices because of negative externalities such as noise, pollution, vibration, and crime (Landis et al., 1994; Kilpatrick et al., 2007; Medda, 2012). Thus, the holistic property value effect of a public transport system is a trade-off between positive and negative effects. To further investigate the underlying reasons for the increase in land/property value resulting from improved transportation, scholars have mainly paid attention to three perspectives, namely accessibility, amenity, and agglomeration (Cervero, 1997; Baker and Nunns, 2015).

Firstly, accessibility refers to "both to the physical distribution of land uses within the urban areas and the availability of transport, and to the needs of the people to use the services provided" (Banister and Berechman, 2000, p.113). It reflects the possibilities for travel and activities available to the people, and is determined mainly by the land use patterns and the transportation system in the area (Handy and Clifton, 2001; Du and Mulley, 2006; Papa and Bertolini, 2015). Improved accessibility can enhance access to needed and desired activities through the co-location of services, facilities and homes, and the increased travel options to reach these activities (Handy, 2002; Salon and Shewmake, 2011). In this situation, the attractiveness of a particular location can be improved, while the travel distance, time, and cost may reduce. Therefore, householders and businesses typically prefer to locate themselves in high-access areas where a broader range of travel and activity possibilities has been provided. Such accessibility-based benefits make people willing to pay a higher price to be located at this place (Ma et al., 2014; McIntosh et al., 2014). As Cervero (2005) stated, "the real estate industry's mantra that 'location, location, location' confers land values more accurately reflects the benefit of 'accessibility, accessibility, accessibility' (p.14). Thus, public transport investments provide the potential to improve accessibility for people, and the improvements in accessibility

can be capitalised to increase the land value, which reflects higher purchase and rental prices (Cervero, 1998; Duncan, 2011; Mathur, 2014). For example, a new urban rail transport line linking a central business district (CBD) and dwelling areas can raise the value of dwellings close to the stations because of the improved accessibility to more employment and leisure opportunities.

Secondly, amenity refers to the high quality of a place or life, which could be described as attractive, convenient, desirable, comfortable, and enjoyable. In the transportation field, amenities imply the feelings related to using the public transport infrastructure determined by several factors (Handy, 2003). For example, in terms of the quality of a bus or rail transport system, reliable services, and the design of stops and stations (e.g., enclosed waiting areas, convenient transfer stations) contribute to the amenity of the public transportation system for its users. Moreover, the design of the community also impacts the amenity of the public transportation system. Service facilities that are offered in the community, such as schools, parks, hospitals, parking, shopping malls, entertainment, and cultural and recreational centres, contribute to a more or less enjoyable experience so that amenities can be increased (Davidson, 1995; Li et al., 2019a). In addition, what cannot be ignored is that external factors may affect the amenity, such as increased noise levels, decreased air quality, and hidden dangers to surrounding community safety, thereby reducing the amenity (Handy, 2003; Duncan, 2011).

In this situation, high amenity is a critical component of local attractiveness, which has been closely linked to immigration, housing affordability, employment, housing values, and urban development (Glaeser et al., 2001; Clark et al., 2002; Li et al., 2016a). Therefore, amenities can be perceived as the features that respond to the marketing of comfort, aesthetics, and convenience, which can be converted to the capitalisation of amenities into land prices (Ingram and Hong, 2012; Mathur, 2014). For example, in the UK, the US, and China, scholars have pointed out that house prices are significantly associated with educational facilities and resources (Banister and Thurstain-Goodwin, 2011; Feng and Lu, 2013; He and Giuliano, 2018). Cervero and Murakami (2008) argued that one of the successful reasons for Hong Kong's rail + property stations is that they create attractive locations with amenities such as public art and street furniture, public squares, parks, green corridors.

Thirdly, accessibility and amenity support agglomeration, making it easier for public transport infrastructure investments and service improvements to interact with more individuals, companies, and industries. This leads to higher-density employment clusters and even to larger, denser, and more diverse cities (Chatman and Noland, 2011). In other words, agglomeration depends on the trade-offs of accessibility (e.g., travel time and travel distance)

and amenities, encouraging workers to be willing to work and commute. As Banister and Berechman (2000) summarised, transportation investment creates agglomeration benefits by increasing the level of firms' spatial proximity and concentration. The increased number of people entering the labour market leads to greater competition and thus greater willingness to work longer hours. Similarly, Chatman and Noland (2013) and Suzuki et al. (2013) stated that the benefits of agglomeration resulting from public transport improvements could be explained by the advantages of the location, including improved labour market accessibility, increased information exchange and knowledge spillovers, and matches between the needs of a job and the skills and interests of the workers.

In this situation, when agglomeration benefits occur around stations through lower transport costs, they can be converted into transport-induced land capitalisation, which leads to increased rental or house prices, especially in CBDs because of the higher urban productivity and higher wage level (Venables, 2007; Suzuki et al., 2015). For example, Cervero and Landis (1997) found that direct contact in the US's Bay Area Rapid Transport System and the specialised labour opportunities provided by the urban agglomeration of enterprises and occupations led to the increased demand for apartments and premium rents in the area. Song et al. (2012) found that most industrial clusters are located in the CBDs in Seoul, and the accessibility of transportation is positively correlated with agglomeration. Specific industries (such as public services and real estate) are clustered in high-density residential areas, and the average rental fees reflect the location characteristics of the CBDs.

Therefore, improved accessibility, amenity, and agglomeration are key external economic gains from transportation investments, which can be capitalised into land values near transport facilities. However, transportation investment is a necessary but insufficient condition for increasing property values and development. Many other factors may influence land values in transport station areas or corridors and need to be considered in VC. For example, the policy and regulatory environment, the overall situation of the city (e.g., population, city size, degree of urbanisation), the real estate market conditions, institutions, technological skills, and the availability of funds will all affect the improvements in accessibility, amenity, and agglomeration, and the ways to convert these into an increase in land/property values (Banister and Berechman, 2001; Mathur, 2014; Suzuki et al., 2015). This is why VC has a variety of different tools used for planning and implementation, which is explained in the next section.

2.4.2 Capturing Increases in Land Value

VC is a vague concept that can mean many different things depending on the situation (Neville et al., 2015). Suzuki et al. (2015, p. xxii) provided an elaborated definition as: "a public financing method by which governments (a) trigger an increase in land values via regulatory decisions (e.g., change in land use or FAR) and/or infrastructure investments (e.g., transport); (b) institute a process to share this land value increment by capturing part or all of the change; and (c) use VC proceeds to finance infrastructure investments (e.g., investments in transport and TOD), any other improvements required to offset impacts related to the changes (e.g., densification), and/or implement public policies to promote equity (e.g., provision of affordable housing to alleviate shortages and offset potential gentrification)". A more concise definition is that VC is a mechanism by which the public sector can recoup part or all of the cost of high-quality public transport systems by capturing the increased value of nearby land and property that results from the transport development (Doherty, 2004; Cervero, 2009; Mathur and Smith, 2012; Zhao et al., 2012a).

The logic of capturing increases in land value is that if the government or public service providers has made a change that increased land values (e.g., changes in land-use regulations, population growth, economic development, and infrastructure investment and public services) and thus has a right to collect a reasonable proportion of that increased value to pay for the thing that happened that created it (Hong and Brubaker, 2011; Suzuki et al., 2015). Therefore, the VC mechanism provides an opportunity to open up new and fair funding because the burden is spread to a broader range of beneficiaries (Mulley and Yen, 2020). Figure 2-1 shows the components of land value and the corresponding beneficiaries.

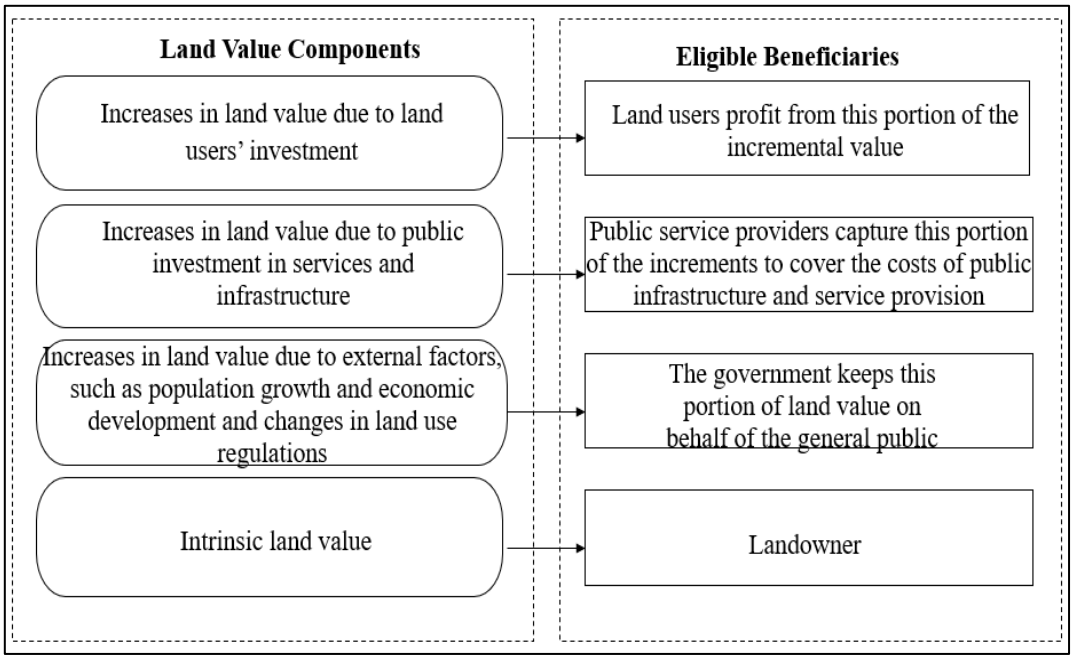

Figure 2-1: The Relationship Between Beneficiaries and Land Value

Source: adapted from Hong and Brubaker (2011, p. 168).

Regarding the categories of VC, Suzuki et al. (2015) distinguished two types of VC: development-based VC, and fee- and tax-based VC. Development-based VC uses direct land and property transactions to capture the increases in value by selling or leasing land or property, air rights, joint property development, land readjustments, and urban redevelopment schemes (Salon and Shewmake, 2011). In this case, transport agencies and private developers plan the land near railway stations, bus stops, or airport terminals for the future development of high-density properties such as residential and commercial buildings. Hong Kong and Japan both have the best practices for this VC instrument (Cervero, 2009; Suzuki et al., 2015; Chang and Phang, 2017). Fee- and tax-based VC refers to charging or levying extra or special taxes or fees on existing developments located in "transport investment benefitting areas" to capture the increases in land and property value (Walters and Rosengard, 2012). In this situation, VC tools such as tax increment financing, special assessments, land or property taxes, and betterment levies are often used (Chapman, 2017). Table 2-1 illustrates the main VC instruments used for transport infrastructure.

Table 2-1: VC Instruments for Transport Infrastructure

Types of VC	VC instruments	Characteristics
Development-based VC	Land sale or leasing	The government can capture the land value added by public infrastructure investments or regulatory changes (such as floor area ratio and land use) by selling its public land or land acquired from private landowners to developers.
	Joint development and Air rights	The public transport agency partners with the developer to build a real estate project on land or air rights owned by the transport agency itself, through a sharing mechanism.
	Land readjustments	The landowners pool their lands for reconfiguration and upgrading. After the community has been rebuilt, smaller but fully serviced residential and commercial lands will be returned to the original landowners. The remaining land will be used to develop public infrastructure and services and be sold to developers to raise funds to cover the reconstruction costs.
	Urban redevelopment	Multiple property owners form an association to merge a single plot of land into a developable site. The local planning sector changes the zoning and floor area ratios for development. The new development will accommodate the original landowner, and provide more residential, commercial, or office space for sale or lease. The income can be used to pay for the reconstruction costs.
Fee and Tax-based VC	Land value taxation	It aims to capture the value created by the provision of public goods generally, such as the improved accessibility brought about by transportation networks. It is not applied to specific projects.
	Tax increment financing	It uses taxes levied on incremental increases in the value of property in a development area to fund development-related costs. The increase in property tax is caused by improvements in the area.
	Development impact Fees	This is a one-time fee collected by local government from the developer for the purpose of raising funds for new infrastructure and services within a defined area.
	Special assessments and betterment charges	They may be levied on property owners based on the direct benefits resulting from geographic proximity to a new facility, usually for the provision of transportation or other types of infrastructure.

Source: adapted from Medda and Modelewska (2009), Suzuki et al. (2015), Cervero (2009), Lari et al. (2009), Mathur and Smith (2012), Mulley and Yen (2020).

Different types of VC mechanisms have different implications for capturing increased land value in practice. In the case of development-based VC, it is a one-time funding source that depends on the accuracy of the assessment of increases in land and property value. Salon and Shewmake (2011) pointed out that this is a fair system for all stakeholders if the value assessments are correct. However, some stakeholders will be unfairly treated if the expected value is much higher (or lower) than the realised value. Also, it can generate sustainable income through the high passenger flows near the station and to retail shops, leisure facilities, parking lots and rental buildings. Nevertheless, because of its excessive reliance on the real estate market, the development-based VC may open the door to government rent-seeking or malfeasance without proper public supervision (Ingram and Hong, 2012).

By contrast, taxation-based VC is a category of continuous funding that can be used to subsidise the ongoing construction and operating costs of transport infrastructure (Medda and Modelewska, 2009). As the capitalised market value of the public transportation system is revealed, the revenues of taxation-based VC instruments are gradually and naturally self-correcting over time (Muñoz Gielen, 2011). However, there is a high probability that the public and key stakeholders will oppose the additional taxes or fees intended to capture land value for land-based financing, making it difficult to achieve (Suzuki et al., 2015). In this regard, scholars have argued that development-based VC has advantages over fee- and tax-based VC in funding public transport systems in developing countries because most developing countries have an inadequate property tax system and lack experience in using mandated taxes or charges (Suzuki et al., 2015; Chang and Phang, 2017; Van der Krabben et al., 2019). The key advantages and disadvantages of the two categories of VC are shown in Table 2-2.

Table 2-2: Advantages and Disadvantages of the Two Types of VC

Types of VC	Advantages	Disadvantages
Development-based VC	• Quickly creates a lot of VC revenue. • Show a clear linkage between transport contributions and increased land values • Bypasses the issue of inadequate property tax systems	• No ongoing source of land-based revenue. • Potential to excessively rely on the real estate market.
Fee or tax-based VC	• Generates a continuous source of revenue. • Revenues are gradually and naturally self-correcting over time based on the market value.	• Because of the extra fees or taxes, it is more likely to be opposed by the public. • Requires an efficient taxation system that has legislative and regulatory support.

Source: adapted from Salon and Shewmake (2011), Suzuki et al. (2015), Chang and Phang (2017).

In this thesis, compared with general taxation (e.g., income tax, property tax, goods and services tax), both development-based VC and fee- or tax-based VC are regarded as innovative transport funding sources (Medda and Modelewska, 2009; Suzuki et al., 2015). The general development-based and fee or tax-based VC mechanisms are the traditional VC methods (see Table 2-1). However, VC mechanisms are affected by many factors, such as the location, legislation, the type of project, willingness to pay, ease of adaptation, governance, and replicability. Thus, the applicability of a particular VC mechanism may or may not apply to another project, thus requiring case-by-case examination (Jillella and Newman, 2016). This situation has led to modern VC methods, which means that VC should be localised.

For example, many cities in mainland China are starting to imitate Hong Kong's rail + property model, and Hong Kong MTRC also thinks its model has the potential to expand to mainland China and other fast-growing cities in Asia (Cervero and Murakami, 2009). In fact, Hong Kong MTRC has tried to implement VC projects in cooperation with several local governments in mainland China, but most of the projects have been unsuccessful. Local transport agencies in Shenzhen, Guangzhou, and other Chinese cities have frequently been reported to initiate their own version of rail + property projects. The main reason for the lack of success is that the business environment of the local VC project has been incompatible with the management principles of the Hong Kong MTRC (Yang et al., 2020a). In terms of fee- or tax-based VC mechanisms, Squires and Lord (2012) studied the introduction of tax increment financing, from its conceptual origins in the US to its introduction in the UK. They concluded that tax increment financing is more of a modified policy "idea" than a transfer. There are

differences between the US and the UK in terms of property taxation, the level of nation or state central control, and taxable variables. Considering the flexible but local factors was one of the important criteria for making tax incremental financing successful (ibid). Overall, whether in developed or developing countries, or with the use of development-based, or fee- or tax-based mechanisms, VC localisation issues need to be considered.

The existing literature has also discussed the criteria for the successful use of VC mechanisms. In terms of development-based VC, for example, Landis et al. (1991) suggested four conditions for successful joint development projects including (i) the local real estate market must be active and healthy, (ii) the local transport agency must have an entrepreneurial spirit, (iii) coordination is crucial, and (iv) developers and other agents should encourage more transport usage, create more interesting station environments, and enhance other planning and urban development goals. Similarly, Tang et al. (2004) identified that the crucial success factors of rail + property included urban factors (e.g., a strong property market, and public acceptance of high-density development and use of public transportation), government policy support, the quality of rail transport operations, the quality of planning and design, and cooperation. An ideal land readjustment application should consider the legal tools and the regulatory framework, as well as supportive policies, management and operational factors (project management, cooperation, and technical aspects), external factors (political and public support, a favourable real estate market), and performance assessments (Mittal, 2014; Yilmaz et al., 2015).

For fee- or tax-based VC, a foundation of successful VC is that countries and cities must have a legislative or regulatory ability to levy special or extra fee or tax measures (McIntosh et al., 2015). Zhao and Larson (2011) found that special assessment charges could be successful when the regional economy, especially the real estate market, is growing; when a supportive regulatory or policy environment exists; when public demand for improvement is high and the public is willing to support it; and when supportive zoning for higher-density development incentivises developers. Squires and Lord (2012) argued that successful utilisation of tax increment financing should focus on localism in regulation and policy, the property market cycle, the balance of public–private development, political will, the level of the front (to back) loading of finance, and a guarantee of the social, economic, and environmental benefits.

Some academics have suggested a set of success criteria that apply to both development-based and fee- or tax-based VC mechanisms. Mathur (2014) assessed special assessment charges, joint development projects, tax increment financing, and impact fees by applying the same success criteria, including an enabling legal environment, institutional capacity, stakeholder support, revenue yield and stability, and social equity. Furthermore, Mathur (2019)

developed another framework of the factors of success for evaluating VC that included the balance between the macro-economic factors and market conditions specific to the project, clear intergovernmental collaboration, inclusive value creation, supportive and consistent land use and zoning, and entrepreneurial transport agencies.

According to the literature discussed above, it can be seen that the success of VC is generally discussed from two aspects (i.e., governance and management, and outcomes) but there is no unified definition. In this thesis, the definition of VC success focuses on the management and governance of the VC process rather than the outcomes of the VC project. Therefore, the criteria of VC projects' success in this thesis refer to the smooth planning and implementation of VC through collaborative and coordinative management under favourable urban conditions (macro-conditions and real estate market), as well as supportive regulatory and institutional factors.

2.5 Best Practice: Case Studies on Value Capture

This section reviews international experiences in the planning and implementation of the VC mechanism for public transport development. The review specifically introduces the international experience of Hong Kong, the US, and Tokyo because these experiences have been highlighted in the international literature as practices supporting the planning and implementation of VC mechanisms. The review focuses on the process of VC which is characterised by complex interactions and outcomes among various stakeholders. It also presents the institutional environment and the possible arrangement of VC for the provision of public transport infrastructure.

2.5.1 Experience in Hong Kong: Rail + Property

Hong Kong's world-class railway network and service is regarded as one of the most efficient and profitable systems globally and is famous for its successful integration of rail transport investment and urban development (Cervero and Murakami, 2009; Tang and Lo, 2010). Hong Kong is a high-density place with limited land resources. By 2020, 7.5 million people lived in a total land area of 1106 km^2, but the urban built-up area only accounts for 24.9% of the total land area (Census and Statistics Department of Hong Kong, 2020). Hong Kong's economy has grown steadily in the past 20 years, and the growth rate of gross domestic product (GDP) has exceeded 5% in most years (Census and Statistics Department of Hong Kong, 2020).

These urban characteristics were conducive to constructing urban rail systems, which could tackle congestion and accessibility. The robust real estate market also helped attract private developers to cultivate real estate plans around the rail transport station and improve the project's feasibility (Tang et al., 2004). Cervero and Murakami (2008) argued that integrating the real estate market and urban rail development was theoretically sound, socially desirable, and economically attractive in Hong Kong. These macro-conditions provided a foundation for implementing VC (a joint development called the rail + property model) developed by the Mass Transport Railway Corporation (MTRC) (Cervero and Murakami, 2008; Suzuki et al., 2015).

Moreover, the urban planning and land administration systems also provided a supportive enabling environment for Hong Kong's rail + property model. Specifically, according to Article 7 of the Basic Law, the land and natural resources in Hong Kong belong to the State and are administrated by the Hong Kong Special Administrative Region (HKSAR) government. The HKSAR government is responsible for managing, using, developing, leasing or granting these resources to individuals, legal persons, or groups for use or development, and the subsequent revenue belongs to the government (National People's Congress, 1997). Generally, the Land Department plays a significant role in land administration and the entire property development process. It stipulates the obligations and responsibilities of the potential bidders and requirements related to town planning, civil engineering, and urban development. Moreover, the Planning Department created the *Hong Kong Planning Standards and Guidelines* as early as 1979 to ensure the effective use of lands, thereby promoting social and economic development and providing public facilities (Planning Department of HKSAR Goverment, 2018). The guidelines consider residential density, retail facilities, transportation facilities, community facilities, green spaces, environmental planning, and recreational facilities. In key areas with residents and mature transportation facilities such as railway station areas, the highest density ("R1") is allowed and the maximum floor area ratio (FAR) is 10.0 (Suzuki et al., 2015).

The MTRC was established in 1975 by the HKSAR government, and 23% of the shares have been privatised since 2000. To date, the railway network in Hong Kong has 12 lines with 263 kilometres and 96 stations, carrying an average of about 4.68 million passengers per day, with a guaranteed 99.9% punctuality rate (Hong Kong MTRC, 2020). Apart from providing railway services, MTRC has also engaged in property development. The MTRC, in collaboration with private developers, has been developing several high-density residential and advanced commercial projects in Hong Kong (Tang et al., 2004). Thanks to the rail + property model, the MTRC has captured the revenue from property development and used it to construct, operate, and maintain its urban rail systems without government subsidies (Salon and

Shewmake, 2011). The HKSAR government also enjoys significant capital returns because it is MTRC's majority stockholder and does not provide subsidies for the MTRC. Nowadays, the MTRC has owned, developed, or managed about 50 rail + property projects, and its property development profit was HK$5200 million in 2020 (Hong Kong MTRC, 2020).

To enable the rail + property model, the HKSAR government provides an in-kind contribution in the form of land grants rather than funds to the MTRC. Specifically, the MTRC buys the development rights for lands above and around transport stations from the HKSAR government by the agreement at a "before rail" market price, meaning that the MTRC can acquire lands at a low price (Cervero and Murakami, 2009; Sharma and Newman, 2017). In this process, MTRC staff work with the government planners to discuss and assess several planning issues such as the costs of different routes and station options, land value, density potential, and long-term urban development goals (Tang et al., 2004). The MTRC prepares the specific rail + property proposal that it needs to apply for, obtains all the necessary statutory planning approvals for the property development projects, and negotiates the land grant terms with the HKSAR government (Cervero and Murakami, 2008).

Once approval has been granted, the MTRC enters into partnerships with selected private developers via open bidding to develop lands and sell developed property projects at an "after rail" price, capturing the increased land value (Suzuki et al., 2015). The partner selection process adopts open bidding and is determined by the developers' capacities through, for example, financial offers, knowledge and experience, and managerial capacity. The profit from development between the "before rail" and "after rail" prices can bridge the funding gap for constructing and developing transport projects (Zhao et al., 2012b). At this stage, the MTRC and developers form a PPP and share the profits and responsibilities. For example, the MTRC will usually conduct civil works and connections between railway premises and property development, while the real estate developer is responsible for all development costs such as construction costs, professional fees, and sale expenses (Tang et al., 2004). The MTRC also shares the profits and ownership of properties with the developers. Therefore the MTRC can receive the profits from the sale or lease of the properties, the sharing of assets in kind, or up-front payments from developers (Cervero and Murakami, 2009).

Additionally, the success of Hong Kong's VC model is inseparable from the HKSAR government and the MTRC's commitment to social benefits. For example, Suzuki et al. (2015) argued that the rail + property model could offer high-quality local infrastructure and affordable housing via increasing the density of development in targeted areas along with adequate transportation infrastructure and service. Tang et al. (2004) summarised the social benefits

generated by the rail + property model, which include enhanced diversity of urban life and activities, travel time savings and reductions in road traffic, promotion of walkable spaces, more employment opportunities, and decreased environmental issues. Therefore, Hong Kong's VC experience is promoted as a model for developing countries looking for sustainable urbanisation (Sharma and Newman, 2017; Aveline-Dubach and Blandeau, 2019).

2.5.2 Experience in the US: Joint Development

Both fee- and tax-based VC and development-based VC are popular in the US (Mathur, 2014). This section focuses on carefully reviewing one of the most popular VC mechanisms, joint development. Compared with directly levying fees and taxes, joint developments usually take the form of voluntary arrangements and interactions between the public and private sectors seeking "win–win" results (Cervero, 2009). Joint development of urban rail transport facilities and property development mechanisms became popular in the US in the early 1980s. Most projects were constructed in fast-growing cities like Atlanta, New York, San Diego, San Francisco Bay Area, and Washington DC (Cervero et al., 2004). However, some obstacles to integrating rail transport and real estate development have been found in the US context, restricting the large-scale adoption of joint development. For example, in the case of offices and other high-value commercial properties, successful bids for joint development projects are easier than those for residential properties. As a result, station areas may suffer from a lack of land-use diversity, and transport infrastructure development may become inconsistent or uncoordinated across systems (Zhao et al., 2012b). Another significant issue is the opposition to high-density development in the neighbouring communities in the US because the residents fear that the value of housing and quality of life (e.g., noise, congestion, air pollution) will be affected (Mathur, 2014).

However, it is argued that the joint development model in the US should continue to be examined and supported. Take the Washington Metropolitan Area Transport Authority (WMATA) as an example. It is regarded as the most advanced practice of joint development in the US (Landis et al., 1991; Suzuki et al., 2015). Like Hong Kong's MTRC, the WMATA also provides good quality public transport services in the Washington DC region, serving about 6 million people across an area of 3644 km^2 (United States Census Bureau, 2020). The WMATA owns nine rail lines with 377 km^2 and 91 stations, and an average of 625,000 passengers use the rail transport system every day. Economically, the Washington metro area's GDP increased from $US 332.26 billion in 2001 to $US 485.14 billion in 2020 (Statista, 2020).

Since 1975, the WMATA has completed more than 30 property development projects and generated ridership and revenues for the transport system. WMATA's joint development projects have captured around $6 million annually and were expected to generate $11.1 million in revenue in 2020 (WMATA, 2019). A strong real estate market has contributed to attracting private development initiatives around station areas and improving project viability in Washington DC (Tang et al., 2004). Moreover, Mathur (2014) demonstrated that the excellent performance of the WMATA relies on the enabling environment. For example, at the federal level, the Federal Transport Administration supports a joint development and prepares targeted joint development guidance to provide planning and capital assistance to the joint development (US Department of Transportation, 2014). At the local level, the local transport agencies develop their policies for joint development projects. The WMATA has prepared the *Joint Development Program Guidelines and Policies* and the *Station Area Planning Guide* to help stakeholders navigate WMATA's joint development projects, including the roles and responsibilities of stakeholders, the goals and standards of joint development projects, community involvement, and the process of conducting joint development projects (WMATA, 2013; WMATA, 2017).

Concerning the process of WMATA's joint development projects, Cervero et al. (2002) argued that the key to success was the early establishment of a real estate department within the transport agency. The WMATA's real estate office has gradually accumulated an impressive portfolio of land assets, most of which have been purchased on the open market (land banking). Similar to the experience of Hong Kong, the local government and the WMATA need to maintain a close relationship to plan and implement the joint development project. The WMATA needs to prepare a proposal to identify the potential joint development sites and consult with the local jurisdiction and communities. Typically, planners and decision-makers in the local jurisdiction are involved in communicating and ensuring the land use and zoning planning changes and social goals (Cervero, 2009).

When undertaking a joint development project, the WMATA needs to attract the interest of developers and select qualified developers through open competition. The WMATA and the selected developers will negotiate and form a Joint Development Agreement to develop properties. There are two major arrangements, namely revenue-sharing arrangements and cost-sharing arrangements. Cervero et al. (2002) explained that some partnerships between local transport agencies and developers focus on the revenue side, whereas others aim to relieve the cost to local transport agencies. Revenue-sharing includes land leases, air rights development, station interface or connection fee programs, and concession leases. Cost-sharing examples

include shared construction expenses, incentive-based programs that provide benefits (e.g., density bonuses) in return for off-loading construction costs, and equity contributions to costs (Cervero et al., 2004; Mathur and Smith, 2013). In addition, similar to Hong Kong's MTRC, the WMATA recognises the importance of social benefits and prepared WMATA's affordable housing policy for joint development projects.

2.5.3 Experience in Tokyo: Land Readjustment

The metropolis of Tokyo has many jurisdictions, including Tokyo metropolitan government, 23 wards, three prefectures, and many towns and villages. As the largest metropolitan area in the world, Tokyo has nearly 14 million people living in a land area of 2194 km^2, and the population density is around 6400 per km^2 (Statistics of Tokyo, 2019). Tokyo's gross domestic product (GDP) has shown stable growth from 104 billion yen in 2015 to 107 billion yen in 2019 (Tokyo Metropolitan Government, 2020).

In the core area of the Tokyo metropolis, large public and private companies, foreign companies, and banking institutions provide many job opportunities. Because of this, the core area experiences overcrowding, high land prices, and traffic jams. The Japanese national government promoted the construction of new towns and used rail transport systems to connect workplaces in the core area and residences in the new towns (Jiang et al., 2009). Therefore, Tokyo has the most extensive and sophisticated urban rail network globally, which is the primary mode of Tokyo's transportation (Kato, 2016). The national government and Tokyo's local government also established supportive public policies to incentivise rail transport ridership. These policies relate to vehicle and fuel taxes, road pricing, direct car ownership controls, and tax incentives for public transport users (Cervero, 1998; Tang et al., 2004). Now Tokyo's rail network is served by 48 rail transport agencies including the public, semiprivate, and private entities (Suzuki et al., 2015). The railway system comprises 158 lines with 4714.5 km of tracks, and the total number of passengers is around 15 billion each year (Schimkowsky, 2021).

The privatisation of the Japan National Railway (JNR) in 1987 was a significant institutional reform impacting the development of the railway and its VC in Japan. Through these reforms, the national ownership of the railway was abolished, and the JNR was divided into six regional companies and one freight company. The *Railway Business Law* was published as a basic rule applied to all private companies (Japan Railway Bureau, 2008). Under the law, private companies are licensed by the Ministry of Land, Infrastructure, Transport and Tourism to

construct and operate railways. These rail companies operate railway lines and pursue other commercial opportunities, such as operating buses, selling consumer goods, providing services, and developing real estate to exploit VC opportunities (Cervero, 1998). At the same time, the privatisation of state-owned railway companies has led to the formation of PPP's for redeveloping office and commercial properties above and near stations (Cervero and Murakami, 2008).

The primary VC mechanism used by railway companies to capture the increase in land value from the railway and real estate projects is called land readjustment (Cervero, 1998). Since Japan implemented the *Land Readjustment Law* in 1954, land readjustment has been used to develop new cities, prevent disorderly growth, and assist urban renewal and reconstruction (Yilmaz et al., 2015). Land readjustment usually involves governments, public authorities, developers, and landowners participating in public and private infrastructure and services (Suzuki et al., 2015). Specifically, the local government should clarify the boundaries of the VC project area. The public or private development entities then organise various landowners into a single cooperative entity to receive government subsidies, and consolidate separate land parcels into one developable site. The attraction to landowners is based on the fact that through this process, the value and services of individual landholdings can be significantly increased, even if the returning area is small (Sorensen, 2000). In this case, a favourable real estate market also is needed for land readjustment (Cervero, 1998). The "surplus" land is used to develop public services such as roads, utilities, parks, open spaces, and other infrastructure and for the sale of lands to gain the revenue for development costs (Suzuki et al., 2015; Chang and Phang, 2017). These advantages offer attractions for public authorities. Developers can retain a portion of the new property parcels as compensation for their development costs (Zhao et al., 2012b).

Moreover, seeking the landowner's consent is necessary because each landowner needs to contribute a portion of their previous landholding (Sorensen, 2007). For association-led projects, two-thirds of the landowners owning two-thirds of the land need to agree to participate in the project. There is no such targeted requirement for government-led projects, but in fact, all types of project require a high degree of agreement (Yilmaz et al., 2015). After reaching a consensus, the cooperative entity submits the proposed plan, then the local planning department reviews and approves the plan and changes the zoning codes to benefit real estate and public infrastructure developments (Suzuki et al., 2015). Finally, the VC project can end and the organisation can be dissolved when the project initiator (e.g., associations or governments) completes the project payments and uses the revenue to subsidise transport infrastructure such as railway terminals, street amenities, and public spaces within the project area (Sorensen, 2000; Sorensen, 2007).

In land readjustment projects in Japan, it is argued that "only a partnership of local and national authorities, in concert with private real estate developers, can muster the resources necessary to mount a venture of coordinated rail and new town development" (Cervero, 1998, p. 203). For example, a famous case is Tama New Town, which was completed by partnerships among public and private stakeholders such as the Tokyo Metropolitan Government, the Tokyo Metropolitan Housing Supply Corporation, the national Housing Urban Development Corporation, and private partners (Cervero, 1998). Specifically, the Tokyo Metropolitan Government put forward the idea of building Tama New Town and worked together with the Housing Urban Development Corporation to formulate the master plan of Tama New Town. They were responsible for land acquisition, residential development, and the construction of some supporting facilities (Zhang and Liu, 2015). Tokyo Metropolitan Housing Supply Corporation developed a centrally located neighbourhood. Private railway corporation partners constructed commercial facilities and urban railway transport systems (Cervero, 1998).

The national government also played a significant role in the development of Tama New Town. Although it did not directly participate in construction of the project, it provided a high degree of support. For example, the national government offered financial support and prepared the New Housing and Urban Development Act to support the smooth construction of the new town. For the local community, although local farmers initially opposed the expropriation of farmland, the Tokyo Metropolitan Government held a meeting with local farmers, and the government and the local community finally reached a consensus (Zhang and Liu, 2015). In this case, the public housing developed by public authorities included mid- to high-rise apartments near the station for low- and middle-income families (Cervero, 1998; Capitanio, 2018).

Therefore, the VC mechanism in Tokyo has established good practice for other cities, showing how all stakeholders can take collective actions and support the integration of rail and real estate development (Tang et al., 2004; Suzuki et al., 2015). The Japanese experience revealed that a complex institutional landscape of a partnership among profit-seeking entrepreneurs and community-conscious governments provided an excellent opportunity for TOD and VC (Cervero, 1998; Cervero and Murakami, 2008).

2.6 How the Value Capture Mechanism Works

In light of the discussion of the international experience of Hong Kong, the US, and Tokyo, the section above aimed to determine the critical success factors inherent in the best practices

of VC for public transport projects. Several critical factors can be highlighted for successful use of the VC mechanism, including a favourable macro-environment, a supportive policy and planning framework, a close relationship between local government and local transport agency, the ability to work together with professional developers, and the provision of social benefits. Indeed, VC is a complex process involving multiple stakeholders and needs supportive policies and regulations regarding how the value is captured and by whom in a specific context.

2.6.1 Macro Conditions

The abovementioned international experience illustrates those macro-conditions, such as population and economic growth and urbanisation, are fundamental to increasing demand for quality public transport infrastructure and services. Adding public transport access to an area undeniably increases that location's accessibility to some degree. In this case, the increase in the location's attractiveness can lead to the development of public transportation station areas, including physical land development, and redevelopment and economic development (Salon and Shewmake, 2011).

Both Hong Kong and Tokyo demonstrated the importance of macro-conditions for the VC mechanism. Salon and Shewmake (2011) contended that East Asian cities may generate greater potential value than urban environments in North America and Europe because of their high population density, rapid urbanisation, and reliance on public transportation. Experience in the US shows that these macro-conditions for VC success maybe not be directly applicable to the US context because of social-economic factors. For example, densely populated areas in the neighbourhood community may not be welcomed in the US (Mathur, 2014). Nonetheless, research in the Washington DC revealed that healthy growth, including population and employment growth, makes them the best-case examples, illustrating when it is time for transport to link to land use development (Cervero, 1994).

The real estate market conditions are also important factors in encouraging or limiting VC. A robust real estate market and rising land prices are good for development-based VC (Suzuki et al., 2015). For instance, the VC via the rail + property mechanism flourished in Hong Kong during the real estate boom from 1984 to 1997 caused by the Sino-British Declaration. During this period, housing prices increased eightfold (Aveline-Dubach and Blandeau, 2019). In Tokyo's land readjustment mechanism, the real estate market also had a significant impact on VC. Cervero (2009) stated that during the Japanese real estate price surge in the 1980s, the return on investment of Tokyo's railway companies into real estate projects ranged from 50%

to 70%, and the profit rate actually far exceeded that of transport services. However, in the 1990s, the bursting of the real estate price bubble in Japan led to a decline in the market valuation of land held by Tokyo's railway companies.

A similar story also happened in the US context. Mathur and Smith (2013) studied five joint development cases in the US, and found that the real estate market downturn caused by the 2008 economic crisis led to a sharp drop in VC revenues. It should be noted that the volatility of the urban land market is notorious, and the recent rise in real estate values may reflect a land asset bubble (Cervero, 2009). This means that excessive reliance on the real estate market exposes governments and transport agencies to market risks.

Overall, as Salon and Shewmake (2011) argued, international experiences have shown that a city that plans to use VC mechanism needs to have overall growth trends and development needs if VC is to be successful. Even for fee- or taxation-based VC instruments, such as special assessment and tax increment financing, there is a need for rapid growing areas with a robust real estate market for VC to thrive (Mathur, 2014). However, it is necessary to realise that the global risks of political and economic situations may significantly damage a stable and healthy real estate market (Wang et al., 2019b).

2.6.2 Institutional and Regulatory Factors

The extant literature has described international case studies, leading to a conclusion that the VC mechanism could be adapted to different international institutional environments, and it may be appropriate to suggest that so-called "best practice" can be transferred from one institutional environment to another to a certain degree (Suzuki et al., 2015; Kresse et al., 2020). Nevertheless, the prerequisite is to realise that the institutional context may differ in terms of the regulatory environment, political conditions, cultural and socioeconomic background, and informal institutions. Therefore, a condition for successful VC is to embed VC in a specific institutional context and institutional design (Alexander, 2012; Nguyen et al., 2017; Van der Krabben et al., 2019). In this regard, several critical factors need to be considered when applying VC in a new context.

Some countries have a long history with the use of VC, and they have passed explicit laws and regulations to provide an enabling environment for capturing increased land value. For example, it was found by Mathur (2014) that the US has formulated enabling legislation (e.g., state-level legislation or local ordinance) for various VC instruments such as tax increment

financing, impact fees, and special assessments. Such legislation can specify the projects and expense types eligible for fee- and taxation-based VC instruments, as well as the required actions and permissible uses. Similarly, taxes and charges for the use of VC require detailed regulation and legislation in the context of European countries such as the UK and Netherlands (Muñoz Gielen et al., 2017; Van der Krabben et al., 2019).

However, for countries where VC is an emerging funding method, especially developing countries with inadequate legislative mechanisms, it is not easy to apply and adjust their legislative mechanism to contribute to the use of VC. In these cases, the development-based VC mechanism is likely to be a more suitable form of VC (Cervero, 2009; Suzuki et al., 2015). Although enabling legislation may not be mandatory when undertaking development-based VC, a clear or reformed policy and planning framework is conducive, as the experiences of Hong Kong, the US, and Tokyo demonstrate. More studies are proving the importance of the role of the policy and planning framework. For example, Cervero et al. (2004) explained that planning and policy tools related to land consolidation, cost reduction, licensing assistance, off-site infrastructure improvements, and low-cost financing incentives were used to leverage VC projects in the US. McAllister et al. (2018) found that in the UK, VC was a complex process affected by housing and planning policy changes.

Although relevant VC policies have been prepared in developing countries, the planning still has issues regarding the use of the VC mechanism. For example, in India, although there have been several national-level policy documents since 2006 that support the use of VC to fund public transport, there are no rational land use and zoning policies. Although a higher FAR has recently been allowed, granting it for free is still a big issue in the effectiveness of VC in India (Mathur, 2019). Similarly, China has released several national policies to promote the use of VC. However, the current planning system is insufficient to support the integration of transport and land development in the transport area in many cities (Wang et al., 2019a). Moreover, policy and plans should aim to create socially and environmentally responsible VC projects such as providing affordable housing and increasing open green spaces (Guthrie and Fan, 2016). Therefore, supportive policies and plans in planning, land use administration, flexible zoning around rail stations, and urban development are significant for the use of VC (Tang et al., 2004). If decision-makers do not pursue a formal and comprehensive policy and planning environment, it will be difficult for the VC mechanism to flourish in that context. It also means that cities in the developing world need to make a shift in planning, because VC is more likely to be successful when applied in areas with supportive enabling environment (Mittal and Berson, 2022).

Additionally, the institutional capacity of the local government and local transport agencies to support, plan, implement, and manage the VC mechanism is a critical factor to using the VC mechanism successfully. The extant literature shown here has illustrated that if the institutions have strong planning capacity, negotiation capacity, financial capacity, administrative capacity, and real estate knowledge, it is possible to maximise the land values for capture (Mathur and Smith, 2012; Mathur, 2014; Suzuki et al., 2015). In some cases, the institutional structure may change to improve the institutional capacity to capture the land value better. For example, Salon et al. (2019) demonstrated that dramatic institutional change was critical to facilitating the use of VC in European and North American cities, providing three rational types of institutional change: establishing new regional governments, transforming transport agencies, and governmental partnerships. Cervero (2009) argued that an important step in WMATA's pursuit of VC was establishing a real estate development department within the organisation before the construction and opening of railway services. The success of Hong Kong's MTRC model lies in the proper incorporation of the institutional capacity with goals, tasks, requirements, and decision-making (Tang et al., 2004). The experience of Tokyo illustrates that a certain degree of railway privatisation is necessary for the application of development-based VC. Entrepreneurial railway institutions should focus on engineering construction and expertise in real estate development, urban planning, service provision, and marketing (Suzuki et al., 2015).

However, it is worthwhile noting that institutional reform is difficult, and institutional fragmentation may occur and affect the use of VC. During the process of planning and implementation, institutional reform and the reconciliation of institutions' interests and resources may be contrary to their own traditional rules and work divisions (Cervero et al., 2002; Florence, 2019). Thus, the role of institutional structure and capacity are significant in facilitating or obstructing the efficient use of VC.

2.6.3 Multiple Stakeholders Involvement: The Need for Partnership

Identifying who has what role in VC processes is also crucial for VC planning and implementation. The public sector may play roles as planners, policymakers, and collaborators to make sure that the VC is reliable and transparent from planning to implementation (Jillella et al., 2015). Generally, different levels of government play their roles in the VC process, depending on the context. For example, in Hong Kong, due to decentralisation and the "one

country and two systems"[2], the HKSAR government is highly autonomous and it is a key stakeholder in the planning and implementation of VC at the local level. It takes responsibility for creating a favourable enabling environment to allow the MTRC to acquire land parcels by arranging and transferring development rights to private developers (Tang et al., 2004). In addition, the transportation and land use policies formulated by the government also play an essential role in promoting VC, including policies such as restricting car ownership, planning high-density and compact development, and prioritising public transport development (Tang and Lo, 2008).

In the US, the federal government can offer federal capital to share in the costs of construction and land acquisition. To take advantage of this, the state governments have aggressively promoted TOD and VC through state plans and policies, taking lead roles in regional planning and the coordination of local land use and regional transport plans. Since land use regulations and zoning controls are within the power of local governments, municipal governments generally play the most important role in creating the right conditions and effective methods for planning and implementing a VC project (e.g., providing a business environment and incentives for developers, or eliminating legal and regulatory obstacles) (Cervero et al., 2002).

In Tokyo, the national government plays a vital role in VC planning. Apart from the legislation drafting, the national government issues railway business licenses based on certain conditions, such as supplied capacity, the ability of applicants, and the public interest gained by the VC project. The Ministry of Land, Infrastructure, Transport, and Tourism regularly holds external meetings with experts to adjust railway network development based on dynamic economic and social demands (Suzuki et al., 2015). Tokyo Metropolitan Government plays the role of leadership in VC planning and implementation. It can also be considered the implementer of the national government's intentions (Zhang and Liu, 2015).

The local transport agencies or companies (stated-owned or quasi-stated-owned or private in different contexts) play a dominant position in the whole process of VC. Cervero and Murakami (2008) found that transport companies are the direct beneficiaries and are responsible for coordinating transportation and land use planning to incentivise and facilitate VC. Moreover, the local transport agency can play the role of the master planner and

[2] "One country and two systems" states that the socialist system and policies shall not be practiced in the HKSAR, and the previous capitalist system and way of life shall remain unchanged for 50 years (National People's Congress, 1997).

coordinator between the government and private developers, specifying site requirements, negotiating agreements, and balancing public and private interests (Tang et al., 2004). Cervero et al. (2004) described how transport agencies can play many roles in the VC process, such as planners, facilitators, educators, funders, active development partners, and initiators. In addition, the entrepreneurial spirit of transport agencies is regarded as a key factor for making VC successful. Typically, transport agencies are built as public sector entities and find it difficult to make profits. In this regard, encouraging private entrepreneurship through varying degrees of privatisation in providing transport infrastructure and services can support public transport (Suzuki et al., 2015). For example, Hong Kong's MTRC shows strong entrepreneurial spirit in implementing the rail + property through privatisation of equity and cooperation with private developers. Similarly, the combination of profit-seeking entrepreneurial transport agencies and community-minded governments can provide win–win outcomes (Cervero, 1998).

Private developers are also vital in VC projects. They can provide the professional knowledge to help the public sector develop the property. They need to take responsibility for sharing the costs and risks with the public sector resulting from the profit revenues (Medda, 2012). To attract private investments in and around the station, soft incentives such as density bonuses and a certain amount of risk-taking by local governments are often needed (Zhao et al., 2012b). Moreover, the local community's willingness to support VC is a significant factor for the success of VC (Jillella et al., 2015). The opinions of the local community concerning transportation issues or feelings about the transportation infrastructure are essential to shaping VC projects (Smolka, 2012). They can provide more thought to the public sector, and the public sector can only deliver the right and good services and transport infrastructures to society when they meet the community's expectations (Mathur and Smith, 2012). For example, Tokyo's land readjustment model is a bottom-up planning method, whereby local communities can work together with public and private sectors to develop their communities by contributing lands for the public good (Sorensen, 2000). Therefore, public involvement and consensus building have been gradually adopted to keep decision-making and development standards more accountable and deliver the VC projects to achieve long-term social benefits (Suzuki et al., 2015).

It can be seen that various stakeholders are involved in the VC process, often requiring joint inputs from public and private and community sectors. However, different sectors have separate missions and considerations; thus, it is important to coordinate these actors and form a collective vision and action for the planning and implementation of VC (Suzuki et al., 2015; Mathur, 2019; Van der Krabben et al., 2019). Institutional fragmentation creates obstacles to governmental sectors and transport agencies' communication and collaboration, affecting the effectiveness of planning (Cervero et al., 2004). If governmental sectors cast doubt on the

capacity of local transport agencies, this might affect the partnership with the local transport agency, e.g., opposition to granting land use and zoning planning power to transport agencies (Mathur, 2019). For example, the research focused on the case of Delhi Airport Metro Express showed that tensions between the metro company and the local public authorities were one of the key factors that led to the failure of using VC. This was because the negative relationship kept the metro company's project out of the government's TOD policy and prevented it from obtaining a FAR increase for its properties close to metro stations (Li and Love, 2022). Private developers play a significant role in developing real estate for VC projects. Governments and local transport agencies and real estate developers collaboratively negotiate and align their interests to benefit the implementation of VC (Nguyen et al., 2017). However, attracting developers to become involved in VC projects is a challenge (Mathur, 2014). The support of the community sector is also vital to promote VC because they constitute the beneficiary user group and directly feel the impact of the public investment and services (Cervero et al., 2002). Nonetheless, the majority of VC practices focus on the VC process only from the perspective of funding sources, administration, and legislation, but the necessary support from the community has been ignored (Jillella et al., 2015).

As shown by the three international practices presented in Section 2.5, the success of VC depends on key stakeholders' participation and collaboration and the extent to which these stakeholders can work together for VC planning and implementation. However, developing an effective working relationship among all stakeholders in the VC process is not easy. It requires an adjustment in partners' thinking and way of doing things, and a never-ending trade-off in sharing risks and benefits (Sturup, 2022). However, problems arise (1) when governments narrowly focus on entrepreneurial benefits and (2) when the private sector stops innovation and has become a simple extension of the government policies (Sturup, 2017). The collaborative process of VC can be described as complex. For example, it is hard to accommodate different perspectives of all partners, keep smooth coordination of complex interactions, and keep the partnership alive from the beginning to the end of the VC process (Klijn, 2022). However, these problems can be overcome by continuous developing mutual trust, improving commitment and producing a shared understanding of the institutional environment that can affect all stakeholders (Huxham and Vangen, 2005).

Klijn and Teisman (2003) found that many stakeholders find it difficult to make a joint decision. Therefore, it is crucial to choose stakeholders or partners strategically and understand the complexity of stakeholder composition and institutional factors in the VC process. Bryson et al. (2006) argued that a collaborative process might create conflict among stakeholders. Depending on the scale of conflict, such differences also disestablish the system. For example,

Hrelja et al. (2018) found effective partnerships among stakeholders are challenging in transport planning. It requires a good understanding of partners' roles and how they want to operate in specific projects. In short, collaboration and coordination difficulties among different stakeholders at different levels can block the success of VC projects (Cervero et al., 2002). However, there are ways to overcome these difficulties. These include intensive management to connect partners regularly, being open to discussing uncomfortable opinions with partners, developing rules to mitigate problems, and finding common ground to achieve win-win situations (Klijn, 2022). Therefore, stakeholder collaboration can be regarded as a complex process that needs to effective management of partnerships. In this context, this research explores the complexity of VC process by understanding the role of different stakeholders and their collaboration in planning and delivering VC projects.

2.7 Conclusion

This chapter aims to review and identify the factors of successful use of the VC mechanism. It is observed that VC plays an important role as an innovative public transport funding mechanism, and integrated land use and transportation generate demands and opportunities for VC. Public transportation investment brings improved accessibility, amenity, and agglomeration, and these advantages can be capitalised as land and property value. In this situation, VC is an effective mechanism to capture these land and property value increases and use them to support the public transport infrastructure. Reviewing the international experience of Hong Kong, the US, and Tokyo, this chapter suggests that VC is a complex process that requires supportive external conditions, relies on institutional and regulatory conditions, and involves multiple stakeholders. It indicates that the VC planning and implementation is intertwined with close relations among multiple stakeholders in the process. However, how collaborative and partnership mechanisms can be established in certain contexts to help VC successfully plan and implementation is worth further exploration.

Chapter 3: A Theoretical Framework for Understanding Value Capture Process

3.1 Introduction

The previous chapter identified the characteristics of VC and how the VC mechanism works. This chapter develops a theoretical framework to understand how the public and private sectors and local communities can work together and contribute to making VC work smoothly in the context of China. This chapter is divided into four sections. The first section identifies possible theories to explain VC processes and discusses their strengths and limitations. The following sections review public value and partnership theories and discusses their relevance for this research. The fourth section proposes a theoretical framework based on public value and partnership theories. The framework includes three domains of partnership: political–institutional partnership, financial partnership, and social partnership, which can be used to investigate the diverse relationships among different stakeholders in VC in the context of China.

3.2 Theorising Value Capture Process

This section considers five possible theories that can investigate the research question: How do different stakeholders work together to plan and implement VC? These are: (1) policy transfer, (2) rational choice theory; (3) collaborative planning, (4) public value theory, and (5) theories of partnership. The section critically reviews the strengths and limitations of these theories and articulates the reasons for choosing appropriate theories for this research.

Policy transfer theory is gaining popularity in the literature on planning and public policy (De Jong and Edelenbos, 2007). Policy transfer seeks to understand "a process in which knowledge about policies, administrative arrangements, institutions etc. in one time and/or place is used in the development of policies, administrative arrangements and institutions in another time and/or place" (Dolowitz and Marsh, 1996, p. 344). Dolowitz and Marsh (1996) explained why transfers occur, distinguishing between voluntary and coercive transfer. Voluntary transfer means that solutions are sought from other governments or organisations to change dissatisfaction with and solve new or complex problems of the status quo (also see Evans, 2009a). Direct coercive transfer refers to when a government forces another to adopt a policy. Indirect coercive transfer emphasises the potential role of externalities or functional

interdependence to promote policy transfer, such as the emergence of an international consensus, government competition, and pursuit of technology.

Dolowitz and Marsh (2000) further developed a policy transfer framework to investigate issues, including: (1) why actors engage in policy transfer; (2) who the key actors involved in the policy transfer process are; (3) what is transferred; (4) what lessons can be drawn; (5) the different degrees of transfer; (6) what restricts or facilitates the policy transfer process; and (7) how the process of policy transfer relates to policy success or policy failure. In this regard, policy transfer theory is constructive for understanding how policy transfers are carried out, why policy transfers occur, and how policy transfers should be carried out (Evans, 2009a). In the fields of transport and planning, Marsden and Stead (2011) used Dolowitz and Marsh's framework to determine that policy transfer does occur and may impact the transfer or adoption of specific policies in the transportation sector. They also emphasised that the policy transfer process in the transportation sector may be highly politicised, and different contexts require different policy responses.

In addition, the concept of policy transfer can help in-depth examinations of the complexity of the actors' interactions and the institutional barriers in the policy transfer process (Chen and Man, 2020). Specifically, during the policy transfer, new actors and institutions are structurally obliged to participate in policymaking. When they enter the decision-making process, they bring different knowledge, interests, and motivations (Dolowitz and Marsh, 2012). Thus, negotiations among actors are expected to overcome the institutional barriers, thereby reshaping concepts and creating new things in the importing country (Evans, 2009b). Furthermore, it is argued that the institutional mechanisms and the political–administrative nexus facilitate the adoption of the transferred policy, making the selection of policy options more legitimate and appropriate (Lodge, 2003). Thus, the policy transfer theory provides a lens through which to investigate how the key actors' interactions shape policy-making through their different motivations and interests, and clarify the institutional, legal, political, social, and economic factors in the process of policy transfer (Lodge, 2003; Moyson et al., 2017; Chen and Man, 2020).

Policy transfer is considered as a possible theory for this research for several reasons. Firstly, many cities and regions have recognised the necessity of VC in public transportation improvements, and this situation has led governments and planners to search for best practice guides and promote relevant successful VC policies and practice within their home context. Secondly, policy transfer theory can benefit the research by exploring who is involved and what motivates them to engage in the VC process. Thirdly, it can help us to understand how

VC is carried out in a context and to analyse the contextual factors that promote or limit the VC in different contexts.

However, there are certain aspects of policy transfer theory that limit its applicability in this study. First, policy transfer theory has limitations in identifying the exact processes by which groups and organisations endorse or promote particular policies or practices (Page, 2000). For example, policy transfer is problematic in elucidating the relationship between individual policy entrepreneurs and collective organisations because of the difficulty of understanding precisely how an idea enters the organisational agenda (ibid.). Similarly, Evans and Davies (1999) argued that policy transfer analysts fail to provide rigorous tools to assess whether policy transfers have occurred. Second, the emergence of policy transfer networks begins by recognising policy-making problems by policy-making elites, politicians, or bureaucrats (Evans and Davies, 1999). However, it rarely pays attention to the broader range of stakeholders, such as residents and the private sector, in the process. Third, policy transfer theory has limitations in explaining phenomena or trends that have not previously been noted in the transfer process. For example, when elements are found to have been borrowed from domestic precedents or innovative procedures, policy transfer theory describes them as non-transferable (Evans, 2004), rather than seeking explanations to understand how the innovative ideas or new arrangements occur through stakeholders' interactions. Because of these limitations, policy transfer theory is less helpful for providing a comprehensive and accurate picture to investigate the underlying relationships among different stakeholders in the VC process and analyse stakeholders' interactive synergy. Therefore, policy transfer theory tends to focus on the process of transfer, and whether the transfer is successful and what the impact of transference was (assuming a-priori that the transfer itself has a major impact on the outcome), rather than the success or failure of the object of study itself.

Rational choice theory is an important theoretical approach to understanding human behaviour in social sciences (Burns and Roszkowska, 2016). It is argued that the rational choice theory is "a family of theoretical discussions with a common focuses on the individual actor (a person or an organisation), rational decision-making and the value of market-based competition in allocating resources" (Rydin, 2021, p. 41-42). A rational choice is to find the best means to achieve a given goal. Specifically, when faced with a decision-making situation, the actor considers a limited set of alternatives and attributes consequences to them. The actor then ranks these consequences according to their importance and value, and makes the best choice among the available alternatives (Burns and Roszkowska, 2016). In other words, rational choice means making a choice (somehow) based on reason (Green, 2002).

There are three elements of rational choice theory. The first element is the definition of rationality. Burns and Roszkowska (2016) considered rationality to occur when individuals fully understand their decision-making choices, the probability of the outcome, and the consequences. For Rydin (2021), the term rationality is the basis of decision-making, in which advantages and disadvantages, benefits and costs are weighted with each other. In other words, rationality implies maximation of utility (Green and Shapiro, 1994).

Secondly, since the individual's operational goal is to maximise the expected utility of the results, this presupposes orderly preferences and certain consistency requirements (Satz and Ferejohn, 1994; Lindenberg, 2001). Rational choice theory assumes that preference orderings are transportive. Green and Shapiro (1994, p.14) explained transportive as "if A is preferred to B, and B is preferred to C, then this consistency rule requires that A be preferred to C". Moreover, rational choice theory assumes that the preferences are stable over time and space during actors' decisions (Geddes, 1995).

The third characteristic of rational choice theory is that it insists on taking the individual as the unit of analysis, namely methodological individualism (Geddes, 1995; Burns and Roszkowska, 2016). From this perspective, collective results are explained by referring to the maximisation actions of individual agents. Therefore, a social pattern is interpreted as the comprehensive result of a relatively large number of participants, considering the natural and social environment (Green and Shapiro, 1994; Rakner, 1996).

According to these elements, rational choice theory provides a quite wide range of perspectives for the study of planning. Rydin (2021) argued that rational choice theory could be used to analyse key aspects of planning practice, such as public participation and bureaucratic behaviour, and provide solutions to identified problems, such as principal agent problems and collective action problems. Specifically, rational choice theory is helpful for revealing the behaviours of planners and other public sector bureaucrats. It can recognise the importance of beliefs, perceptions, and motivations and the necessity of understanding these to identify the structure of the actor's decision-making situation (Rydin, 1998). Moreover, Rydin and Pennington (2000) listed some rational choice questions when investigating effective participation: (1) what is the cost of participation; (2) what are the direct benefits of participating; (3) what is the cost of not participating; (4) what is the expected likelihood of participation in the impact of the outcome; and (5) is it worth participating in the expected results. In addition, rational choice theory provides a perspective for studying the interests of the different actors in the decision-making process. For example, problems in the policy process may be caused by the different interests of the participants who define the policy (the

principal) and those responsible for implementing the policy (the agent). This difference in interests leads to differences in decision-making (Rydin, 2021).

Rational choice theory can be used in this research for three reasons. Firstly, it can identify the roles and interests of stakeholders, and explain their behaviours in the VC process. Secondly, rational choice theory can explore why stakeholders generate collective actions and participate in the VC process. For example, Feiock (2007) used rational choice theory to explain regional governance. This author identified the benefits of stimulating cooperation between localities and believed that voluntary agreements arise from a dynamic political signing process, in which the benefits exceed the transaction costs of the negotiated agreements. Thus, rational choice theory pays attention to the participants, institutions, and relationship bonds in the collective actions of organisations, and investigates the evolution and success of governance arrangements. Thirdly, rational choice theory can be used to investigate the theme of property rights and planning, which is relevant to VC. Rydin (2021) argued that the focus here is to use property rights to influence the behaviour of private sector participants without direct government intervention. Moreover, it explains the excessive lobbying of private sector interests in rent-seeking and points out the effects of the regulatory framework on planning decisions. In this case, the rational choice theory is helpful for understanding how to allocate property developments based on the distribution of knowledge, resources, and transaction costs in the VC process.

However, the rational choice theory has some limitations that prevented it from being the theoretical framework of this research. Firstly, modelling the costs and benefits, the incentive structure, the economic benefits and behaviour is the core part in rational choice theory. In this situation, the rational choice theory may rely more on mathematical techniques (Geddes, 1995). Secondly, because rational choice theory assumes that the actors are rational, it may lack qualitative research exploring stakeholders' real motivations and values (Rydin, 2021). It may not provide a holistic story for exploring why different stakeholders can work together in the VC process. Thirdly, the rational choice theory is more suitable for investigating the roles and actions of stakeholders in stable conditions. However, VC is a dynamic process. For example, stakeholders' interactions may change to generate innovative institutional arrangements. In this regard, stakeholders' preferences and interaction rules need to adjust and be negotiated with each other. Lastly, the rational choice theory may provide poor explanatory impact when the situation is not repeated or the rational choice mechanism cannot be determined (Geddes, 1995). It is necessary to consider the contextual environment to understand the planning situation of VC, and it is not one size fits all. It means that it is hard to identify the definition of rational choice in different contexts. Therefore, the rational choice theory has some advantages for

analysing the interactions among stakeholders within the VC process, but it may not be appropriate for providing a theoretical basis for this research.

Collaborative planning theory focuses on relationship-building processes, and managing relationships among multiple stakeholders (Healey, 1997). Collaborative planning is inspired by the perception of planning as an interactive process in building consensus and interest-based negotiation among stakeholders (Frame et al., 2004; Gunton et al., 2006). Stakeholders include individuals, groups, and organisations that are interested in or concerned about, and influence a given planning area, system, or result. Stakeholders may not necessarily live in a specific planning area, but because of their concerns and the activities they are engaged in, they share the risks, costs, and benefits (Kumar and Paddison, 2000; Margerum, 2002). Collaborative planning theory supports the idea that different stakeholders must be involved in the negotiation process to obtain broader support for implementation and mutually acceptable outcomes (Gunton and Day, 2003; Goldstein and Butler, 2010). Thus, it is argued that delegating the planning responsibility to stakeholders in collaborative planning is very different from the traditional "technocratic" planning method, which relies on experts to make science-based decisions based on consultations with the public (Cullen et al., 2010).

Advocates have presented many strengths of the collaborative planning theory. First, collaborative planning is more likely to resolve conflicts because it provides a platform that allows stakeholders to negotiate agreements in all parties' interests. Thus, collaborative planning can help reduce opposition and conflict, make the planning process more effective, and produce innovative ideas (Innes and Booher, 1999; Gunton and Day, 2003). Second, collaborative planning helps to generate social capital through improving stakeholder relationships and developing open communication and a better understanding of the information (Healey, 1997; Frame et al., 2004). Third, because of the increase in dialogue and communication, and the extensive experience and knowledge brought by multiple stakeholders, agreements reached through collaborative planning may be of higher quality (Cullen et al., 2010). Fourth, collaborative planning theory acknowledges that greater support for the agreement can be obtained through the involvement of wider stakeholders in the planning process, consequently increasing the likelihood of successful implementation (Innes and Booher, 1999).

Collaborative planning theory is widely used for the development and implementation of policy and planning. In the field of spatial planning, Healey (1997) stated that collaborative planning processes are currently attracting attention because they offer the opportunity to facilitate relationships among multiple stakeholders and build place-based institutional

capacity. Frame et al. (2004) used collaborative planning theory to investigate land use planning in Canada. They found that collaborative planning is an effective means to resolve environmental conflicts and produces significant additional benefits, such as improving the relationships, skills, and knowledge of stakeholders. Blumenberg (2002) applied the collaborative planning lens to examine the potential institutional barriers to successful local collaboration among public agencies (e.g., transport, human services, employment agencies) in developing transportation planning for welfare participants.

There are three reasons for considering collaborative planning as a potential theory in this study. Firstly, the collaborative planning theory helps us to identify the complexity of the VC process. It helps us to recognise various stakeholders with different goals and interests in the VC process. Moreover, collaborative planning calls for establishing a consensus and coordinating differences and conflicts. In this case, it can be used to examine negotiation, communication, and interactions among the stakeholders in the VC process. Secondly, collaborative planning can be used for understanding power relationship issues in the VC process. As Healey (1997) argued, complex power relations might exist within the collaborative planning process, which is relevant to the resources and reflects the interaction dynamics between stakeholders. Thirdly, the institutional context, including broader economic, social, and environmental conditions of the stakeholders' involvement, can be explored under the lens of collaborative planning (Healey, 2003).

However, there are certain limitations of collaborative planning theory that limit its applicability in this study. Firstly, the consensus rule may cause stakeholders to seek the second-best solutions or the lowest common denominator to achieve a consensus. Thus some critical problems may be ignored or considered in vague language (Tewdwr-Jones and Allmendinger, 1998; Cullen et al., 2010). In this case, the use of collaborative planning theory may lead to the omission of some of the effort and output of stakeholders in the VC process, which may impact our understanding of the planning and implementation of VC.

Second, transport agencies can be granted specific powers for planning, which is vital to VC projects (Cervero, 2009). However, collaborative planning has certain limitations for elucidating the power issues among different stakeholders in the VC process. In the context of collaborative planning, more powerful stakeholders may achieve their objectives without considering the interests of less powerful stakeholders or pursue alternative ways to achieve their objectives rather than negotiating effectively with weaker stakeholders (Gunton and Day, 2003). In this case, it can limit our insight into the different stakeholders' genuine relationships in the VC process through the neglect of power.

Thirdly, collaborative planning may represent a narrow range of specific interests and may undermine public accountability and public interest through delegating planning responsibility to specific stakeholders (Gunton et al., 2006; Cullen et al., 2010). In this regard, collaborative planning theory is less helpful for exploring the relationship between the public sector and local communities, and the impact of public opinion in the VC process. Overall, collaborative planning has a limited capacity to examine how different stakeholders work together in the VC process, and thus it was finally not chosen as the theoretical framework.

Public value theory is receiving attention both from practitioners and scholars to understand public sectors' activity, inform policymaking, and shape service delivery (O'Flynn, 2007). Moore (1995) initially described the public value theory and argued that steering the creation of public value in both short and long terms is one of the critical goals of public sector organisations, and public managers are "explorers commissioned by society to search for public value" (Moore, 1995, p. 299). Thus, public managers play a significant role in creating public value, including elected, unelected, and self-appointed actors such as politicians and officials, political and policy staff, senior civil servants, experts with deep substantive knowledge, staff on key legislative oversight committees, and even managers of public or private enterprises if they produce mainly for the government (Moore, 1995).

There are two dominant approaches to investigate public value management. One seeks to operationalise public value through a public failure framework in terms of a set of criteria including mechanisms for articulating and aggregating values, imperfect monopolies, benefit hoarding, the scarcity of providers, short time horizons, substitutability vs. conservation of resources, and threats to subsistence and human dignity (Bozeman, 2002, p. 151). This framework focuses on what public values are and how institutions and processes reach a consensus on and realise public values in practice. However, this framework is not very suitable for this PhD research because, in this approach, public value creation is the extent to which the public value criteria are met (Bryson et al., 2015a). It does not solve the problem of failing to achieve VC's expected outputs or results, nor does it provide a perspective for deeply exploring the process of VC and the relationships among stakeholders.

Therefore, another critical approach to exploring public value conceptualisation and theory is useful in this research, namely the *Strategic Triangle*, which is a framework for aligning three different but interdependent processes that are necessary for managing public value creation (Moore, 1995; Benington and Moore, 2011). This framework can explain how public

value is created by organisations within the supportive authorising/enabling environment[3] and the needed operational capabilities. In other words, this framework suggests that public value creation needs specific organisational capacities and resources to deliver public services that fulfil social expectations, and it needs to be politically legitimate and sustainable (Moore, 1995; Alford and Hughes, 2008).

Most prior research on public value is theoretical and academic research, although there have been some recent case studies on public value. These case studies illustrated that the public value lens can be used to investigate public service provision in several fields. The most popular public value topic in the literature is related to e-government services. Twizeyimana and Andersson (2019) systematically reviewed 53 existing articles on e-government and public value. They found six dimensions of the public value creation: improved public services, improved administrative efficiency, open government capabilities, improved ethical behaviour and professionalism, improved trust and confidence in the government, and improved social value and well-being. They also found a lack of research on the public value of e-government in developing countries and a lack of research at national and local levels.

Other public service areas also can use the public value theory. For example, Anderson and Taggart (2016) studied the case of profit in higher education and emphasised the important role of policy and the organisational environment in the failure to create public value. Kershaw et al. (2020) researched the influence of public value on co-production in museums. They found that public value requires public managers to negotiate between "upstream listeners" (government and funding agencies) and "downstream listeners" (users and political groups). Recently, the notion of public value has been used in the planning field. Vigar et al. (2020) studied five case studies in the UK and highlighted five features present in innovative planning that delivers public value: the significance of collective action across existing institutional boundaries, testing and probing through pilot projects or discourse, clear and consistent strategic goals but with flexibility in their implementation, continuity of attention and key personnel, and attention to design processes and outcomes. Barrutia et al. (2022) found that in the context of smart city in Spain, citizen-oriented management coupled with outstanding partnership with service providers seem to contribute to the public value creation.

[3] This research uses the terms of authorising environment from the public administration field and enabling environment from the planning field interchangeably. Both terms mean a set of interrelated conditions, such as legal, fiscal, political, administrative, and socio-cultural factors that impact on the capacity of actors to engage in processes for creating public value through partnerships.

Although public value, as a theory and a framework, is regarded as having inherent complexity and ambiguity (Hartley et al., 2016), the extant research on public value illustrates that the public value theory can explain and examine the current situation and what it should be. It can examine the various roles of stakeholders, and the relationships among different stakeholders in the complex process of public value creation and service improvement. The lens of public value helps in rethinking stakeholders' activity, decision-making, and service delivery (O'Flynn, 2007). Therefore, this research used the Strategic Triangle framework as a theoretical lens to explore a comprehensive picture of VC, exploring how an enabling environment is created and how to develop operational capacities for VC planning and implementation.

The theories of partnership can tackle challenging public service problems and explore the complex relations and interactions in a modern networked society (Brinkerhoff, 2002a; Teisman and Klijn, 2002). Partnership encompasses widely differing concepts and practices, and describes various relationships in numerous situations and locations (McQuaid, 2000). Firstly, a partnership can be understood as a language game, which means that partnership is a language chosen by politicians and governors (Teisman and Klijn, 2002; Hodge and Greve, 2010). It intends to highlight the positive interactions of government and business, and characterise partnerships as an extension of previous economic development. For example, legal contracts are labelled as partnerships rather than commercial transactions, and privatised finance is considered a partnership arrangement instead of a mega-credit card signed by the government (Hodge and Greve, 2005). Such public policy language games may be used for local political goals and to make meanings vague rather than clarifying and deepening our understanding of the phenomenon of partnership (Hodge and Greve, 2010).

Secondly, a partnership can be regarded as a governance scheme, which includes tight organisational linkages and financial arrangements (Hodge and Greve, 2007). Specifically, a partnership can be defined as institutional cooperation for joint production and a sharing mechanism. Van Ham and Koppenjan (2001) defined a partnership as long-term contractual cooperation between public and private sectors, developing public goods and services together and sharing the risks, costs, and resources associated with these goods and services. Teisman and Klijn (2002) considered that a partnership could restructure a supportive environment and bring a new legitimacy to the government through the efficiency of the private sector and the involvement of civil society. Arguably, from the perspective of institutional arrangements, the notion of partnership involves changing organisational structures, overcoming hierarchical relationships among actors, and making comprehensive efforts (Hodge and Greve, 2010).

From the perspective of financial arrangements, a partnership (PPP) usually refers to long-term infrastructure contracts, such as build–operation–transfer, design–build–finance–operate, and design–build–transfer–operate (Hodge and Greve, 2010). A more general understanding is that governments have different approaches to awarding and implementing long-term (25–50 years) concession-type contracts to private actors. These varying types of contractual agreements are set up to finance, design, build, and operate infrastructure assets (Roumboutsos, 2015).

From a policy-oriented perspective, a partnership refers to the relevant stakeholders participating in formulating public policies through consultation, information sharing and communication (Hodge and Greve, 2007). Teisman and Klijn (2002) argued that partnerships, as a governance strategy, call for an exchange of communication and a willingness to look for solutions on a mutual basis. For example, a partnership has been used as an instrument to promote multi-level governance in policymaking in European Union. Specifically, it attempts to promote vertical cooperation among state actors representing different levels of government and also horizontal cooperation between state actors and nonstate actors (Osborne, 2000; Bache, 2010).

The extant literature has also indicated the role of partnerships in community and social development. This perspective advocates a more prominent role for nongovernment organisations and local communities in partnerships, seeking to maximise legitimacy and inclusiveness (Brinkerhoff, 2002b). Lowndes and Sullivan (2004) argued that a partnership seeks to join the various resources and capabilities of participants in the public, private and voluntary/community sectors, providing more flexible citizen-centric governance and more comprehensive services for local communities. Such partnerships have the potential to involve communities with the government and nongovernment organisations in decision-making, in response to the needs of local communities and local problem-solving (Osborne, 2000).

Lastly, the term partnership has been used in urban development and regeneration. For example, the UK government has defined a partnership as a wide range of actors, including local communities, local authorities, the government, and the private sector, who have made voluntary commitments to long-term urban development or regeneration strategy in an area (McQuaid, 2000). This is also known as an “Urban Renewal Partnership” and many of these partnerships involve real estate development in the UK. In these cases, consultants and the private sector (such as private investors and developers) are of great significance for providing valuable insights to urban policy (Ball et al., 2003).

Therefore, the theories of partnership are diverse and have a wide range of applications in different fields. Klijn (2022) suggested that the combining different perspectives of partnerships can generate useful insights. Thus, this thesis chose theories of partnership to study multiple stakeholders' relationships in diverse dimensions in the VC process. The concept of partnership can help to shed light on an agreed relationship based on a set of linkages among different stakeholders. In this case, theories of partnership can help investigate the various relationships among governments, intergovernmental sectors, local transport agencies, developers, local communities, and other stakeholders at different stages of VC. Moreover, theories of partnership require stakeholders to demonstrate their strengths and put their unique, advantageous characteristics together to deliver public facilities and services. It provides a new way of managing and governing diverse organisations that co-produce public services and facilities (Teisman and Klijn, 2002; Hodge and Greve, 2007).

Overall, the theories of partnership can explore the reasons for building partnerships and how they work together to deliver VC. Moreover, theories of partnership can provide a broad perspective for studying a holistic picture of VC, rather than just the single perspective of stakeholders' financial arrangements. It also helps explore other key phenomena in the VC process, such as the institutional arrangements with different stakeholders, the policy and planning decision-making situation, and the social benefits of VC for community development. The next section discusses the public value and partnership theories in further detail.

3.3 Choosing Public Value and Partnership Theories

The previous sections explored the applicability of potential theories and selected public value and partnership theories as the basis for the theoretical framework of this research. This section further highlights why and how public value and partnership theories will be useful for this research. Public value theory can be understood from several perspectives. Moore (1995) defined public value as the value of citizens' co-consumption or development rather than individual consumption or development. Kelly et al. (2002, p. 4) considered that public value is "the value created by the government through services, laws, regulations and other actions". It has also been described as a comprehensive approach to considering public management and continuous improvement in public services. Smith (2004) argued that the notion of public value is a narrative for telling helpful new stories in public administration. This means that the public managers need to tell a story about what value or purpose the organisations pursue when they consume the public resources. O'Flynn (2007, p. 358) presented a comprehensive definition:

"Public value refers to a multi-dimensional construct-a reflection of collectively expressed, politically mediated preferences consumed by the citizenry-created not just through 'outcomes' but also through processes which may generate trust or fairness".

This thesis used Benington (2011)'s definition, which understands public value as what the public values and what adds value to the public sphere. His definition of public value offers more precise and concise sub-categories encompassing the economic, social, cultural, political, and environmental dimensions of value. Based on Benington's conception of public value, the public value in VC can be identified in the VC literature, as shown in Table 3-1. Therefore, VC projects can indeed deliver public value, although the reality outcomes of VC may not necessarily include all dimensions.

Table 3-1: Public Value in VC

Dimensions	Public value	Public value in VC
Economic value	Adding value to the public realm through the generation of economic activity, enterprise, and employment	Creating agglomeration economies to benefit people entering the labour market; improvements in productivity and wages; higher revenues for enterprises; affecting the local economy through the land and property market (Banister and Thurstain-Goodwin, 2011; Chatman and Noland, 2011)
Social and cultural values	Adding value to the public realm by contributing to social capital, social cohesion, social relationships, social meaning, cultural identity, and individual and community wellbeing	Improving accessibility and easier access to jobs, healthcare, education, shopping, museums, parks, restaurants, and recreation; improving amenity with service and facilities; providing more opportunities to contact and expand community networks; providing affordable housing (Handy, 2003; Mulley and Weisbrod, 2016; Wyatt, 2018; Li et al., 2019a)
Political value	Adding value to the public realm by stimulating and supporting democratic dialogue, active public participation, and citizen engagement	Adopting participatory and consultative approach in decision-making; obtaining border stakeholder support (Mathur, 2014; Salon et al., 2019)
Environmental value	Adding value to the public realm by actively promoting sustainable development and reducing public "bads" like pollution, waste, and global warming	Benefiting to energy savings and emission reductions; decreasing noise levels; increasing the accessibility of green spaces (Hui et al., 2007; Jim and Chen, 2007)

Source: dimensions and definitions of public value based on Benington (2009), public value in VC compiled by the author.

The *Strategic Triangle framework* (see Figure 3-1) provides managers of public agencies with a framework of what needs to be managed in order to ensure the creation of public value. The framework consists of: (1) aiming to create something substantively valuable; (2) being legitimate and politically sustainable (i.e. attracting sufficient ongoing support and concomitant resources from the authorising environment); and (3) developing the necessary operational capacities to produce public value (i.e. financial, technology, human resources, and managerial capacities) (Moore, 1995; Alford and O'Flynn, 2009; Benington and Moore, 2011). Moreover, the degree of alignment between the three domains can lead to more effective public value management. For example, if the key stakeholders do not accept the public value goal of the authorisation environment, the public manager should try to persuade key stakeholders to change their positions or modify the value proposition to make it a reality (Alford and O'Flynn, 2009).

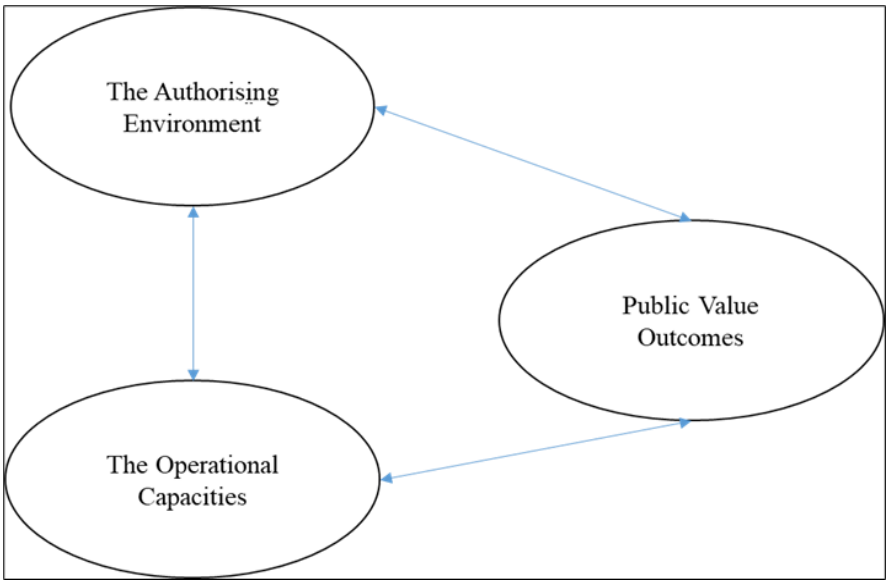

Figure 3-1: The Strategic Triangle of Public Value

Source: Benington and Moore (2011, p. 5).

Building on Moore's strategic framework, Stoker (2006) and O'Flynn (2007) considered that public value is an emerging new management paradigm. It was argued that public value management is a relationship approach to open up the governance system as far as possible. Indeed, public value management emphasises the vital role of the government and politicians in the decision-making process (Moore, 1994). Specifically, political demand is regarded as flexible; thus, public managers must deal with uncertainty, ambiguity, and changes. Moreover,

the political factor can influence cooperation by changing stakeholders' preferences and creating an environment in which partnership is possible (Stoker, 2006).

However, public value is not created by governments alone but can also be generated by the private and community sectors. The potential role of governments is to harness and mobilise all powers and resources from different sectors behind a common goal and priority for pursuing public value (Stoker, 2006; Benington, 2009). The government usually lacks the knowledge, technology, problem-solving ability, funding, or legitimacy to achieve public value goals, so it needs to seek help and support from public agencies and private and non-profit organisations. Therefore, public value management suggests that a broader range of stakeholders should encourage more consultations and participations to achieve a common goal. For example, the private sector can combine investment with responsibility for providing services. Through broader participation, the non-profit sector may ensure more joint services for the public.

Furthermore, knowing whether public value has been delivered requires intensive communication and trust-building among the relevant stakeholders and governmental officials (Stoker, 2006). Moore (1995) believed that trust could be achieved only through mutual respect generated by continuous communication. Such dialogue enables stakeholders to be incorporated into government planning and policy. In other words, trust in governments and service providers is a significant component in public value creation. Kelly et al. (2002, p. 17) argued that "even if formal service and outcome targets are met, a failure of trust will effectively destroy public value".

However, there is little research exploring the complexity of working together with multiple stakeholders in public value creation. Indeed, it is a difficult issue involving structural complexity and diversity (Huxham et al., 2000), conflicting goals and interests, resource costs, unequal power, and organisational difficulties (McQuaid, 2000). The actors may seek partnership roles to set appropriate goals jointly, share resources and information, build trust and seek a better means to achieve these goals (Moore and Benington, 2011; Bryson et al., 2015b; Bryson et al., 2017). In this case, the theories of partnership are introduced in this research to understand the complexity of multiple stakeholders' collaboration and coordination in the process of creating public value.

Regardless of how academics understand partnership (Section 3.2.5), the word "long-term" has been emphasised. A long-term partnership allows all parties to obtain both short- and long-term benefits for their organisations (Wang et al., 2017). However, the long-term period implies that it is dynamic. For example, over time, stakeholders may change their views, and the priorities of people and organisations will also change. Correspondingly, plan or policy

changes may affect the balance of power within the partnership and the partners' contributions (McQuaid, 2000). Moreover, the partnership underlines risk-sharing, which is one of the significant incentives for all parties to enter the partnership (Hodge and Greve, 2005). It is argued that the first step in developing a partnership is to get a clear picture of each other's cultural and institutional differences and the different risks involved for all parties (Van Ham and Koppenjan, 2001).

Prior literature have categorised several risks in a long-term partnership (e.g., PPP). Grimsey and Lewis (2004) identified six areas of risk, including public risk, asset risk, operating risk, sponsor risk, financial risk, and default risk. Bing et al. (2005) considered that the risks stem from the macro-level such as political factors, regulations and policies, and the market (beyond the system's scope); from the meso-level risks such as construction, project finance, and operations (directly related to the nature of partnership); and from micro-level risks such as private risks and public risks (the relationship between the parties). Van Ham and Koppenjan (2001) believed that the risks in the public sector include: (1) how to protect the public interest; (2) how to prevent the private sector from transferring financial risks to public sectors and using public funds to generate private assets; (3) how to resist the risk of private discontinuity such as bankruptcy; and (4) political risk. They also summarised that the risks for the private sector including: (1) insufficient cash and high long-term investment costs; (2) political discontinuities (e.g., political election cycles) that exacerbate policy uncertainty; and (3) social pressure and uncertainty (e.g., public opposition).

Therefore, all partners need to take considerable risks in the internal and external environments, which may hinder successful partnerships. The partnership can only be achieved if the parties recognise the common risks that exist and are ready to discuss these risks together through negotiation, formulating measures to reduce these risks, and allocating risks to the partners that are most capable of managing the risks (Osborne, 2000; Siemiatycki, 2012).

Here, it needs to be realised that partners are willing to take risks because they can perceive the advantages of partnerships (Huxham and Vangen, 2000). Specifically, the partnership can achieve value-added synergy, which means each actor's efforts can increase the value of the delivered product or service, increase the interaction with other actors, enhance capabilities, or influence a single partner's power (Brinkerhoff, 2002a; Klijn and Teisman, 2003; Steijn et al., 2011). The partnership can also produce higher efficiency and lower costs by improving coordination between organisations, thereby creating synergy between institutions, achieving greater output and cutting costs (McQuaid, 2000; Klijn and Teisman, 2005; Brinkerhoff and Brinkerhoff, 2011). In addition, a partnership can help actors to realise better and more

innovative solutions (McQuaid, 2000; Huxham and Vangen, 2005; Hodge and Greve, 2017). Similarly, Hastings (1996) summarised the advantages of partnership as synergy, transformation, and budget enlargement. Overall, the purpose of establishing a partnership may be to obtain additional resources for a certain region, project, or organisation; to release synergies through collaboration and joining various types of resources; or to change one or more partner organisations (McQuaid, 2000).

In this regard, to pursue these advantages of partnerships, diverse actors (e.g., public, private and community sectors) may like to enter a partnership. Organisations come together and share different resources and knowledge, thereby creating potential collaboration advantages. However, it must be realised that these organisations may have different reasons for participation, and they try to obtain different outputs from the partnership, leading to conflicts of interest (Huxham and Vangen, 2005). When goals become blurred or partners have different understandings about the goals, if there is no timely communication and negotiation, conflicts may occur between partners (McQuaid, 2000). Therefore, it is argued that clear partnership goals and visions that are mutually determined and agreed on are crucial to partnership (Brinkerhoff, 2002a).

Moreover, the common goals established must conform to the identity of the organisation because each partner is considered to have a unique advantage in a partnership (Brinkerhoff, 2002a). Thus, it is crucial to define who is involved and their roles, and to clarify their responsibilities in a partnership. Typically, the public sector remains responsible and accountable for delivering services and projects in a manner that protects the public interest. In the partnership, the public sector may be a policy advocate, an economic developer, a steward of public funds, an elected representative for decision-making, a regulator over the contract's life, a commercial signatory to the contract, or a planner (Hodge and Greve, 2007). In this regard, the public sector is in the middle of multiple conflicts of interest. It needs to safeguard the community's interests and regulate the private sector's activities. The public sector should also contribute to mobilising political support and building a legal and institutional environment for the partnership (Asian Development Bank, 2008). The private sector provides its technical expertise, good management skills, and financial capital to the partnership for building, managing, and maintaining the infrastructure used to provide the services under the partnership (Van Ham and Koppenjan, 2001). It is not hard to find that the public sector transfers part of its responsibilities to the private sector, which is one of the characteristics of a partnership. Similarly, if the community sector is involved in a partnership, they also need to play some roles and contribute to building the partnership. For example, they often play an

essential role of intermediary and social mobilisation, and are generally considered more flexible, responsive, and innovative in providing services than governments (Brinkerhoff, 2002b).

Therefore, the characteristics of a partnership can be used for exploring and tackling collaborative and cooperative challenges. This usually involves a division of roles and responsibilities, perceived advantages (e.g., a sharing mechanism, innovative problem-solving, synergy creation), and the pursuit of joint objectives (e.g., communication and negotiation). The next section aims to explain how to use public value and partnership theories to develop the theoretical framework for this research.

3.4 Theoretical Framework

This research builds on public value and partnerships and develops three types of partnerships for public value creation. According to the idea that delivering public value is associated with gaining legitimacy, a supportive environment, and the necessary operational capacity, the research classifies partnerships as political–institutional partnership, financial partnership, and social partnership.

3.4.1 Political–Institutional Partnership

A study of the political–institutional partnership aims to investigate the relationships among various levels of government and local transport agencies in the VC process. The enabling environment is developed and maintained through this partnership, which supports (or does not support) public value creation. The partnership exists within a particular political and institutional environment, which governs how governments and local transport agencies work together. Therefore, examining this partnership provides an opportunity to explore the underlying partnerships between governments and local transport agencies, and how this partnership can help build an enabling environment. This review of this partnership needs to consider the features described in the following paragraphs.

Firstly, it is vital to highlight the political factors, such as the role of politicians and governments and political leadership in the public value created by the partnership. Mayors, legislators, or agency heads are considered to assume the role of sponsors in an enabling environment, and they can use political power to provide resources and legitimacy for

partnerships and innovation (Smith, 2004; Crosby et al., 2017). They can eliminate barriers to build partnerships and political alliances to support innovative solutions. Moreover, through political support, the decision-making process can influence partnerships by changing stakeholders' preferences and creating an environment where partnerships may be established (Stoker, 2006). As Benington (2009) indicated, although creating public value depends on a broader range of institutions, actors, and cultural networks, public value cannot be realised without government and political leadership.

However, political change and uncertainty are involved in building and maintaining the partnership. Regarding the risk related to political factors, Van Ham and Koppenjan (2001) pointed out that the supremacy of politics makes the government a capricious partner that may change previous agreements and the roles of partners. In addition, political continuity is an important condition for partnership, as political discontinuities may exacerbate policy and project uncertainty (Klijn and Teisman, 2003). Generally, low political risk and high political–institutional stability are important features when a partnership is established. In the early development stage of a partnership, the partners may be susceptible to political change, and thus may put much emphasis on getting political support from the government, because without support from the government, there is no genuine partnership, despite the technical legalities (Smith and Gannon, 2008). Therefore, gaining ongoing and stable support from politicians and governments is critical for creating public value through partnerships.

Secondly, as mentioned earlier, to develop an effective partnership, defining the expectations and opinions of partners is very helpful for reaching a consensus on goals and coordinating the partners' actions and interests (Osborne, 2000). In this regard, the concept of institutional cooperation is emphasised. It requires partners to communicate and interact with each other for exchanging information. The presence of a partnership champion is a significant facilitative factor for creating public value, and championing capacity involves communication, negotiation, organisational skills, learning, conflict mediation, and a perception of legitimacy (Crosby et al., 2017). The partnership also helps public actors to be integrated into an increasingly fragmented and complex organisational environment. It provides a means for developing strategic direction and coordination in a multi-actor setting (Lowndes and Skelcher, 1998; Sørensen and Torfing, 2011). However, in different organisations, the cultural and institutional factors are different, leading to different concepts, practices, and goals (Van Ham and Koppenjan, 2001; Huxham and Vangen, 2005). There is a need for institutional arrangements (e.g., new organisational units) to manage conflicts and interests for each party through renewing the working methods, procedures, regulations, and institutions (Van Ham and Koppenjan, 2001; Hodge and Greve, 2005). In this sense, the political–institutional

partnership process can enhance institutional capabilities by sharing information, resources, activities, and capabilities. Remarkably, this process enhances the ability to solve problems in the face of dynamic challenges, for example, through innovative solutions, new technologies, active negotiations, and increased knowledge. Creating public value through partnerships is not only related to results but also emphasises the process. As stated by Klijn and Teisman (2000), the process management strategies for a partnership include activating the actors, intertwining perceptions and goals, mediating interactions, and creating arrangements.

Thirdly, understanding power is also crucial for facilitating a partnership. There is unequal power in most partnerships, and many partnerships will have a certain degree of power-sharing when working together to ensure the effectiveness of the partnership (Brinkerhoff, 2002a). This is particularly true in the political-institutional partnership. Power may change with time and deeper collaboration, and it may transfer from one partner to another. Whether power becomes roughly balanced over time is a controversial issue. If the collaborative process is carried out effectively, power will be shared when the partners know and trust each other. Otherwise, power may tend to become more and more unequal (Huxham and Vangen, 2005). Notably, a partnership does not necessarily involve equal power relations, and there may be almost none. Power imbalances generally originate from one partner controlling the majority of the resources. However, the success of a partnership may depend on the weaker partners' participation (Osborne, 2000; Hodge and Greve, 2017). The critical point here is that the parties involved are not equal partners, but everyone can make unique and indispensable contributions and obtain benefits distribution, eventually achieving mutuality (McQuaid, 2000).

Lastly, public value creation works in a specific task environment relating to the circumstances (Moore, 1995). This means that contextually the political and institutional environments affect partnerships. A partnership embeds favourable environmental features such as appropriate institutional and legal structures, the policy environment, and macro-conditions, and effective collective action can proceed.

Therefore, the concept of political–institutional partnership is seen as a suitable lens for shedding light on how governments and local transport agencies work together in a specific contextual environment for VC initiatives and planning. As VC is a new funding source, a great deal of time and resources may be needed to support the practice. These measures may include legislation or the revision of existing policies, new institutional arrangements with professional capabilities to implement VC mechanisms, and political support for achieving these changes (Suzuki et al., 2015). In this sense, in order to understand the complexity of VC, it is necessary

to consider such political–institutional partnership to explain the existing situation for building an enabling environment and thinking about what ought to be the case.

3.4.2 Financial Partnership

The concept of financial partnership aims to shed light on the relationship between local transport agencies and private developers or other organisations in the VC's property development process. It can investigate how they work together to provide the operational capacities needed for property development (the implementation stage in VC). It is necessary to consider the characteristics described in the following paragraphs to examine a financial partnership.

There are many issues surrounding the selection of a private partner in VC. Specifically, the selection of the initial partner is often opportunistic and a matter of choosing or persuading some would-be partners to join up (Huxham and Vangen, 2005). In this situation, a particular attractiveness is needed for private partners. For example, a clear legal framework allows private partners to determine the legal protection they may expect and the possibility of obtaining justice in the event of a disagreement (Koppenjan and Enserink, 2009). Moreover, when the partners are willing to invest and provide a high up-front payment for the project, sufficient time to recoup the costs and acquire reasonable profits on this investment should be offered by the public sector (Cao and Zhao, 2011). In this case, the public sector should consider how to attract the private sector to participate in a partnership, which is an important step in building the financial partnership.

After embracing potential partners, choosing the right private sector is the first critical and challenging decision in developing the partnership (Gray, 2008). A qualified partner is one that can provide complementary resources, commitment, and compatibility (Sandulli et al., 2017). Specifically, when looking for financial partners, organisations can achieve synergy by integrating complementary resources. They can also learn skills and abilities through partnerships, thereby enhancing their competitive advantage. Creating commitment is a crucial factor in developing a partnership (Klijn and Teisman, 2005). The public sector needs the commitment from the private sector in terms of resources, including financial capital, technical capability, managerial capabilities, and even intangible resources such as reputation (Hitt et al., 2000). Meanwhile, the private sector also needs political commitment from the public sector, thus creating certainty and reducing the risks for the partners (McQuaid, 2000). Compatibility between the partners means public and private partners have similar goals and knowledge to

help them understand each other, similar operating cultures such as management styles, teamwork, and mechanisms to address issues (Brinkerhoff, 2002a).

However, the public and private sectors are often inconsistent. It is important to realise that choosing the right partner can be difficult due to different preferences and capability gap, which means that considerable uncertainty may underlie collaborative choices (van der Heijden, 2022). The public sector focuses more on public service, long-term goals, and nonmonetary impacts. On the contrary, the private sector tends to pay more attention to short-term profit maximisation (Pongsiri, 2002). Therefore, the public sector should find the right balance between having attractive investment opportunities for private parties and safeguarding public interests. (Huxham and Vangen, 2005). In light of these factors, competition in the bidding process is encouraged as it may be a more effective, transparent, and accountable way of selecting the optimal partners (Koppenjan and Enserink, 2009; Wang et al., 2018a). Using a competitive approach implies that information on preferences, capabilities, and trustworthiness of potential partners can be more easily accessed (van der Heijden, 2022).

Furthermore, the sharing mechanism makes the public and private sectors come together under certain conditions to bear part of the risks and responsibilities involved and obtain profits, as mentioned in Section 3.3.2. Ideally, allocation of risk, division of responsibilities, and profit-sharing can apply negotiation methods to achieve mutual respect and a win–win situation (Van Ham and Koppenjan, 2001). In other words, attractive solutions can emerge through a financial partnership process. This kind of partnership is the product of negotiations and represents public and private stakeholders in a specific design solution (Roberts and Siemiatycki, 2015). However, because of the effort of negotiation, which adds potential time and uncertainty in the process, the transaction costs may be increased (Mu et al., 2011).

Regarding a partnership as a financial arrangement, Hodge and Greve (2005) extensively studied and summarised the nature of financial and organisational structures as shown in Table 3-2. The research enables this thesis to categorise the cases studied and quickly understand core components of the financial partnership.

Table 3-2: Financial and Organisational Structures in Partnerships

Finance/Organisation	Tight organisational relationship	Loose organisational relationship
Tight financial relationship	Joint venture companies	Build-operate-transfer Build-own-operate-transfer
	Joint stock companies	Sale-and-lease-back
	Joint development projects	
Loose financial relationship	Policy communities	Issue networks

Source: Hodge and Greve (2005, p. 6).

Steijn et al. (2011) divided the organisational forms of partnership as those having no organisational form, project groups, project organisation, and autonomous legal entities. The degree of formality increases from the no organisational type to the group and joint project categories. The autonomous legal entity is the "tightest" organisational form. They found a lack of a link between organisational form and management strategy, but managerial capacity impacts the outcome of PPP. De Jong et al. (2010) categorised PPP as service contracts, management contracts, lease, and joint ventures. They argued that the most commonly used forms of PPP in China are build–transfer and build–operate–transfer, with various forms of joint venture. Specifically, joint ventures can be divided into equity joint ventures and cooperative joint ventures. The cooperative joint venture is a non-equity cooperation model, which allows greater flexibility in the organisational structure and management. The profits are divided according to the contract terms rather than the investment share (Chen and Hubbard, 2012). By contrast, an equity joint venture means that the profit, control, and risk are divided in proportion to the equity shares invested by the parties (Chen and Doloi, 2008). In this regard, financial partnerships can be formed in different organisational structures on a case-by-case basis.

In addition, similar to the political–institutional partnerships, the context of the financial partnership is significant, and it would be influenced by economic, political, cultural, or historical factors. For example, Galilea and Medda (2010) found that a specific countries' past experience, the regulatory or legislative framework, GDP growth, perceptions of corruption, and democracy may influence the success of a PPP. Koppenjan and Enserink (2009) argued that PPP arrangements made under certain circumstances will not automatically suit other projects with another group of participants, preferences and capabilities, and other physical, technical, and institutional characteristics.

Therefore, the concept of financial partnerships can help us investigate the form of collaboration between local transport agencies and private developers or other organisations for generating the funding, technology, and managerial capacity needed for developing properties in the VC process. This lens will be used to explore how the partners conduct sharing mechanisms and negotiation in the partnership.

3.4.3 Social Partnership

Apart from the crucial roles of the public and private sector, public value creation must focus on "what has meaning for people, rather than what a public sector decision-maker might presume is best for people" (Alford and O'Flynn, 2009, p. 176). In turn, citizens are considered to value things, such as welfare and externalities, because they benefit from them (Alford and Hughes, 2008). The citizens may have goals or ambitions for a society based on social or normative commitments or purposes, such as fairness, national pride, and concern for the environment (ibid). In this regard, the basic idea is that a broader range of stakeholders should be involved to make legitimate decisions. Decision-making should shift from a culture of public acquiescence to expecting positive citizen endorsement (Stoker, 2006). Therefore, the concept of social partnership provides a tool for coping with problems of how to engage the public and local communities with other stakeholders in the VC process, making VC legitimate.

Firstly, to build such social partnership and create a coalition, communication strategies need to be developed. It has been argued that engaging the public can be significantly enhanced by using interactive information and communication channels and technologies, which are flexible and attractive to the public (Bryson et al., 2013). Attention can be paid to the roles of mass media, social media, and e-government services. They are information providers to disseminate information to the public. Notably, social media and e-government services can create two-way communication. It provides opportunities to integrate citizens' information and opinions into the decision-making process in innovative ways, increase transparency by sharing information, and collaborate with the public to make decisions or create solutions to public service problems (Innes and Booher, 2000; Tolbert and Mossberger, 2006; Mergel, 2013). Face to face meetings, public hearings, telephone calls, emails, and other possible communication channels for communities can also increase effective communication. In turn, poor communication leads to misunderstanding each other's intentions, the underlying concerns, and motivation (Selsky and Parker, 2005). It leads to a lack of community support, makes errors, and influences the partnership, finally leading to public opposition. Hence, it is necessary to

understand each other's options and preferences through clear and open communication (Osborne and Murray, 2000).

Secondly, public participation is a significant ingredient in building partnerships with local communities and creating public value (Benington, 2011). Generally, there are several matters that decision-makers need to consider when building a partnership with civil society, such as the purpose and desired outcomes of public participation, who will participate and how, effective leadership to manage conflicts and dynamics, and finding resources for and through participation (Arnstein, 1969; Bryson et al., 2013). Similarly, Brinkerhoff (1999) believed that to ensure a successful partnership, the government needs to establish administrative structures and mechanisms to enhance communication and interaction, building capacities such as providing resources and incentives to interact with local communities, and the necessary legal framework to enable civil society organisations to establish partnerships with the public sector.

Ideally, a partnership between the public and the power-holders is when the public can negotiate and engage in trade-offs with the power-holders, and share the planning and decision-making responsibilities (Arnstein, 1969). However, the public participation process usually happens after the decision is made. In this way, citizens will have the opportunity to comment on the proposal and make fundamental changes. However, the public may regard public participation as a display rather than a design for obtaining public opinions (Innes and Booher, 2000). Moreover, Innes and Booher (2004, p. 429) contended that "participation must be collaborative and it should incorporate not only citizens but also organised interests, profit-making and non-profit organisations, planners and public administrators in a common framework". In other words, public participation should be a multi-way interaction.

Thirdly, trust is another key for exploring the relationships between citizens and governments. Trust is a multi-dimensional and complex concept that can be related to rational–calculative trust (e.g., identifiable benefits and interests), interpersonal trust, trust in institutions and abstract systems, and trust in values or norms (Tait, 2011). It is realised that trust is essential to collective action and effective democratic governance and planning (Das and Teng, 1998; Bryson et al., 2006; Laurian, 2009). Trust can be built by sharing information and knowledge, and by demonstrating capabilities, good intentions and follow-up actions (Stein and Harper, 2003; Bryson et al., 2013). As Edelenbos and Klijn (2007) mentioned that trust is important because it can facilitate cooperation, solidify cooperation, and enhance the performance of cooperation. However, trust can be fragile and easily turned into distrust and hamper trust-building in the collaborative process (Edelenbos and Klijn, 2007). Thus, trust needs to be constantly nurtured and sustained through the trust-building cycle. Vangen and Huxham (2003)

summarised several activities involved in the trust-building cycle of a partnership: forming expectations such as identifying partners and agreeing on collaboration aims, managing the risks and dynamics, and coping with imbalanced power. Trust management can intensify interactions and the ongoing communication, and thus stabilise and manage interactions among actors.

Moreover, to obtain citizens' trust so they believe in the governments' knowledge and actions, governments should be trustworthy. In this regard, the government needs to listen to citizens' voices, share power with people, and show trust and respect in administrative procedures (Yang, 2005). Trust or distrust in government agencies may influence public participation (Laurian, 2004). Those who believe in the system and believe that their voice will enable the government to make a difference are more likely to participate. However, those who distrust the system may not be inclined to participate or may choose to participate as supervisors (Laurian, 2009). Yang (2006) suggested that creating an institutional culture that emphasises citizenship and participation, enhances communication and interaction with the public, and designs open, effective, and transparent participating institutions can improve the trust relationship between citizens and governments.

Notably, trust or distrust reflects a particular society's relational, historical, social, and cultural contexts (Kramer, 1999). It means that people may have different affective attitudes toward trust issues. For example, in the US and other Western nations, political institutions are based on distrust, and try to protect citizens from abuse by providing a system of checks and balances, thus generating public trust (Laurian, 2009). In the context of China, people believe that being trustworthy will eventually win them trust from others (Chang et al., 2014).

Therefore, the concept of social partnership is developed to examine public involvement in the decision-making process in VC, and what the roles communication and trust-building play in the relationship between local government and local communities.

3.5 Applying the Theoretical Framework for Investigating Value Capture in China

3.5.1 Applying Western Theories in the Context of China

Given the different cultural and political systems between China and the West, it is usually questionable whether concepts and theories based on the Western context and frameworks can

be applied to the Chinese context (Zheng et al., 2010). This section discusses the adaptability of Western theories in China.

In the decision-making process, Zheng et al. (2010) found that compared with most Western political and administrative systems, China is unique in several aspects: (1) deference to higher hierarchical levels (e.g., citizens respect the authorities, and the government's administrative system); (2) the crucial importance of personal networks, called *guanxi*; (3) the limited presence and importance of independent community groups; and (4) the role of the Chinese Communist Party (CCP)[4]. They argued that the Western decision-making theory is generally helpful for understanding China's decision-making process. They helped to expose the idea that decisions in China are made from top to bottom, but should comply with China's legal, political, and cultural characteristics. Following Zheng et al. (2010), Groenleer et al. (2017) applied Western decision-making theory to study transportation infrastructure developments in China. They found that the use of Western theories can provide people with knowledge about Chinese decision-making, and insights into the broad applicability of these theories and possible deficiencies in the structural and cultural factors affecting the speed of the decision-making process.

Turning to the theories of public value and partnerships, the previous sections in this chapter have reviewed the Western literature on these theories. As public value theory is relatively new in China, most of the studies are in Chinese and focus on reviewing and understanding public value theory in the Western context (Wang and Zhang, 2013; Ma and Tang, 2014; Wang and Wang, 2019). These researchers argued that the public value theory, including the concept of the Strategic Triangle Framework, could be applied in the context of China. However, they did not indicate how to apply the cultural and political factors that affect the effectiveness of public value theory in the specific Chinese context. Mu et al. (2015) offered stimulating research to prove the applicability of public value theory in China. They developed a public value trade-off matrix based on Western literature, including the institutional and organisational environment, the involvement of and acceptance by relevant players, public spending, official political support, and public and media outcry. They again applied these criteria to examine high-speed rail developments in China, and illustrated that these criteria are more or less applicable in China and can measure public value. However, their findings still did not describe the culture-specific factors.

[4] When key decisions are made, the CCP is generally at the basis of such decisions. It indicates the direction that should be taken, and then State Council and ministries create policies to implement.

For partnership research, Chinese scholars have widely accepted Western knowledge to define the term of partnership in China and address public infrastructure and service issues. One popular research trend is to regard partnerships as infrastructure contracts and financial tools such as the PPP projects. In the context of China, several types of PPP can be used, such as operations and maintenance, management contract, lease-operate-transfer, build-operate-transfer, build-own-operate, transfer-operate-transfer, design-build-finance-operate, and design-build-finance-operate-transfer (China Public-Private Partnership Center, 2015). This is a slight deviation from some Western theories. Klijn and Teisman (2000, p. 157) argued that contracting out and partnership are different, as they described that the "keys to success for contracting out are clear goals and clear rules for tendering, selection and delivery. In contrast, the key to successful partnerships lies in the ability to interweave goals and in creating tailor-made arrangements". However, scholars and policymakers do not distinguish these in China, and contracting out is a type of PPP (Adams et al., 2006).

Mu et al. (2011) pointed out that the driving forces for the rise in PPP stem from both external and internal factors. The external factor is that Western countries have applied privatisation and liberalisation to infrastructures, and these have had apparent success in leading world economies. At the same time, the internal force is that economic reform and opening in China have promoted privatisation, commercialisation, and decentralisation (Mu et al., 2011). These driving forces have motivated the Chinese government to undertake PPP knowledge transfer. During the rise and fall of PPP in China[5], scholars found that China's PPPs mainly involve state-owned enterprises rather than private enterprises.

On the one side, scholars have criticised how China's PPPs have not successfully engaged in private investment (Tan and Zhao, 2019). Zhao et al. (2018) revealed the order of potential selection of partners. Strategically or opportunistically, local governments may establish a partnership with state-owned enterprises before working with private enterprises. Among private enterprises, local governments may prefer domestic private companies over foreign companies. Moreover, De Jong et al. (2010) conducted seven case studies about metro construction in different regions in China, and they argued that the state-owned enterprises had better performance than many of the private enterprises which lacked abilities such as obtaining

[5] Generally, Chinese scholars regard PPP projects in China to have had three waves. The first wave of PPP expansion took place after the economic reform till the opening up in 2007; the fall of PPP happened between 2007 and 2010 because of the global financial crisis 2008–2009; the third wave of PPP appeared again because of the drafting of relevant laws and regulations.

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loans from banks under favourable conditions and maintaining a relationship with the political partner. In this regard, the dominant position of state-owned enterprises in partnerships is a political and cultural feature of the Chinese context.

On the other side, some scholars are optimistic about this issue because some successful examples have partnered with private enterprises. For example, China's first transportation partnership project was Beijing Metro Line 4, which saved 31% of public investment through a partnership between the Beijing government and Hong Kong's MTRC (Chang, 2013). It shows that although state-owned enterprises have the advantage in the selection order, there is great potential for developing partnerships between local governments and private companies in China.

Another increasingly popular research perspective in China relates to the concept of partnership as governance. For example, Luo and Shen (2009) used the lens of partnership to examine inter-city cooperation in the Yangtze River Delta region. They argued that the effectiveness of inter-city cooperation depends on the cooperation mechanism, the nature and scope of the cooperation, partner selection, and the roles of the actors in partnership formation. Chen and Hubbard (2012) believed that the institutional environment and resource dependency determined power relations and risk allocation. After compared with Western countries, they suggested that more effective courts and greater government accountability to citizens are required to enhance partnership governance in China. Chen and Man (2020) researched China's PPP policies and examined three sound governance principles from Western knowledge, including transparency and accountability, willingness to collaborate, and equity between partners in the context of China. They found that transparency was substantially institutionalised but without citizens' accountability, and that partnerships rely on and are hindered by China's decentralised decision-making network. In addition, partnerships between the public sector and state-owned enterprises and discrimination against private enterprises undermine the institutionalisation of policy efforts among partners.

It can be found that the prior literature has applied Western knowledge to the Chinese context and discovered similarities and differences. This shows that Western knowledge and frameworks can at least be used as references to a certain degree. Moreover, most Chinese scholars have carefully considered the specific political and institutional factors (e.g., dominance of the public sector and state-owned enterprises, hierarchy) when applying Western knowledge into the context of China. However, a few researchers have emphasised the cultural perspective. De Jong (2017) explained the significance of traditional culture in public transportation developments in China. He attempted to show how Confucian values influenced

the organisational and decision-making processes, and argued that Asian and Western countries could learn from each other to improve the performance of planning and policymaking processes. Therefore, the thesis argues that Chinese political and cultural factors should be considered in developing a framework based on public value and partnership theories. The following section will develop a theoretical framework in the context of China.

3.5.2 Theoretical Framework for Studying Value Capture in China

Based on the discussion in Section 3.5.1, this section first identifies the important cultural factors for exploring the relationships among multiple stakeholders in the VC process in China. The first perspective relates the cultural foundation of trust between governments and citizens. Influenced by Confucian values, traditional Chinese culture defines the relationship between the individual and the state as a hierarchy, rather than an obligation of mutual obedience and respect depending on the public authorities' behaviour (Shi, 2001). In this situation, if the Chinese government maintains public and political order, citizens still show a comparatively high degree of trust in public authorities, as Chinese culture has never required the government to actively respond to the expectations of citizens (De Jong, 2017). Moreover, according to traditional Chinese culture, even if conflicts occur, individuals will follow the hierarchy and sacrifice self-interests to seek harmonious relationships rather than remove their support for the government (Shi, 2001; Zhang et al., 2005).

The second aspect is that it should be recognised that China has started to absorb Western culture, and governments have proposed public participation in policy decision-making. This also implies that the level of trust from the public on the government in China has decreased. Like Western countries, trust-building is dependent on people's perception of governmental institutions and leaders (Mishler and Rose, 2001). In line with this trend, some scholars have criticised the lack of public participation and have encouraged public participation to solve conflicts in the decision-making processes in China (Enserink and Koppenjan, 2007; Wu, 2015). However, because of the differences in the political system between China and Western countries, Chinese officials, from the president to mayors, are not elected but are appointed through a complicated political system. This situation may lead to a situation where there is no need to involve the public in local affairs or where public participation in China is in its early stages (Zhang, 2002b; Wu, 2015).

The third characteristic is to the concept of *guanxi*, which is rooted deeply in Confucianism. It refers to the invisible and informal personal and social interactive networks deeply embedded

in Chinese society (Zhao and Timothy, 2015). In Chinese, *guan* means "gate or barrier" or "to close", and *xi* means "department or family" or "to tie or connect" (Li et al., 2007). In English, *guanxi* may be translated as relationship, connection, or networking (ibid.). There are some differences between relationships in Western culture and *guanxi* in China. For example, in Western society, relationships are impersonal and universal, and are based on commercial goals and driven by legality and rules. Fairness and trust can help build strong relationships. In China's society, *guanxi* has more personal characteristics, and it is based on human feelings and favours, and is driven by reciprocal obligation and mutual assurance. It serves as a symbol of wealth, resources, and power in the context of China (Luo, 1997; Chen and Chen, 2004; Wang, 2007).

Typically, *guanxi* has been classified into three types: socio-affective *guanxi* (to family and family-like relationships), instrumental *guanxi* (in which strangers obtain resources and exchange benefits), and mixed *guanxi* (familiar persons exchange feelings and benefits) (Hwang, 1987). High-quality *guanxi* is characterised by numerous interactions that follow the principles of self-disclosure, dynamic reciprocity, and long-term fairness, resulting in mutual trust and empathy (Chen and Chen, 2004). In China, *guanxi* is a vital resource that people can use when they need help or support. Mainly, interpersonal *guanxi* can be converted to organisational connections for obtaining scarce resources and enhancing business performance (Luo et al., 2012). For example, the managers of state-owned enterprises usually have the personal links with the political officials in China. Such personal links could explain the reasons for the dominance of state-owned enterprises from the cultural value of *guanxi*. However, some scholars have criticised the use of *guanxi*, as it implies the unreliability and immaturity of the institutional system, as well as utilitarianism. It may lead to social exclusion and corruption in China (Li et al., 2007; Ruan and Chen, 2020).

Based on these three cultural factors, this thesis argues that traditional Chinese culture will shape collective actions and stakeholders' relationships in the VC process to a certain degree. Moreover, this thesis aims to use the theories of public value and partnership to investigate the process by which VC successfully works in China. As discussed in Section 3.5.1, the theories of public value and partnership can be applied in the context of China when the specific Chinese political and cultural factors are considered. The significance of this thesis is that it sheds light on how the unique relationships among governments, local transport agencies, developers, and local communities work together to enable VC in China.

This thesis argues that VC's goal is public value because VC can deliver economic, social, cultural, political, and environmental value to the public realm, as identified in Section 3.3.1.

At the same time, the concept of public value provides a standard for governments and transport agencies or service providers in China for applying VC, which emphasises not only the role of each stakeholder in the process but also whether the VC has realised the expectations and requirements of the public in that context. Based on the strategic triangle framework of public value, there is a need to build an enabling environment and obtain the operational capacities needed for VC. This thesis also argues that partnerships can determine these necessary conditions among stakeholders in the VC process in China. Therefore, this research focuses on political–institutional partnerships, financial partnerships, and social partnerships in VC projects.

The political–institutional partnership focuses on a political and institutional environment built by different levels of governments, which facilitate legislation, policies, and a planning framework that enables VC in China. This type of partnership is used to explore the working relationship between local governments and local transport agencies and how they initiate and plan VC mechanisms at the local level. Specifically, the review of political–institutional partnership in Section 3.4.1 illustrated that the roles of politicians and governments are significant in developing a partnership and creating public value. They can play the role of sponsors, advocates, catalysts, and champions (Crosby et al., 2017). Such political leadership can mediate and shape conflict, build sustainable partnerships, and overcome bureaucratic resistance (Crosby and Bryson, 2005). Moreover, political and administrative feasibility is one of the critical factors for the efficacy of VC (Zhao et al., 2012b). Thus, this research aims to use the political–institutional partnership in examining China's collaborative framework between local governments (including intergovernmental sectors) and local transport agencies that could mobile resources and negotiate interests, and understand the planning power relations in the process. In addition, the absence of clear legislation and regulations regarding the VC mechanism offered by the higher-level governments may steer local governments and local transportation agencies away from the practice of VC (Cervero et al., 2002; Suzuki et al., 2015). Lastly, as mentioned in Section 2.5, macro-factors such as the real estate market, urbanisation and economic growth, and the public transport development demands are vital for developing a VC mechanism. Therefore, this research also uses political–institutional partnerships to analyse the policy environment and other macro-factors in China.

The financial partnership describes how local transport agencies and their partners perceive and share the risks and responsibilities to generate funds and capacities for the implementation of VC in China. The review of financial partnerships in Section 3.4.2 demonstrated that the choice of a partner is critical to ensuring that the appropriate resources and capabilities are obtained (Hitt et al., 2000; Koppenjan and Enserink, 2009). In VC, the real estate development

capacity is a critical factor for success (Cervero, 2009; Suzuki et al., 2015). Thus, choosing a partner with good real estate development capacity is important for smooth VC implementation. The lens of the financial partnership focuses on how to attract partners and the process of partner selection, and examines the advantages brought by partners. The financial partnership provides insight into partnership structure and how partners share the responsibilities, risks, and benefits (Hodge and Greve, 2005). In VC, local transport agencies and developers establish a partnership to develop VC projects. Mathur and Smith (2013) argued that developers could share the cost of building and/or maintaining stations and other facilities. Developers can benefit from developing projects close to transportation networks or stations because of the improved accessibility and amenity and more significant agglomerations. Therefore, they are willing to join the VC project and pool their resources and share the risks and costs of the project with the local transport agencies (Cervero et al., 2002). This thesis investigates how the financial partnerships between local transportation agencies and developers influence VC implementation in China.

The social partnership examines what role culturally sensitive communication and trust play in building relationships between local government and local communities. The review of social partnership in Section 3.4.3 shows that wider stakeholder involvement is necessary to improve the legitimacy of decision-making (Stoker, 2006). Gathering broader stakeholder support, especially from the community, is critical for successful VC because it can incorporate and balance the interests of a large variety of stakeholder groups, making VC more equitable (Mathur, 2014). To involve local communities, a clear and open communication strategy such as media information, e-governments service, and public participation may be needed. Effective communication between local governments and local communities can influence public perceptions of and attitudes towards VC projects. Moreover, building trust between local public authorities and local communities is crucial for improving VC's legitimacy and the success of community involvement (Jillella et al., 2015). In this regard, it is necessary to make substantial efforts such as consensus-building, problem-solving, and ongoing communication to make local governments and local transport agencies trustworthy. Moreover, meaningful community consultation and involvement in decision-making are critical to making public planning accountable, increasing citizen support for a project, and improving the policy outcomes of specific initiatives (Siemiatycki, 2009). Thus, the social partnership lens in this thesis is used to investigate how to develop a mechanism for effective communication and building trust between local governments and local communities, which would improve the legitimacy of VC projects for achieving an enabling environment in China. In addition, as

mentioned earlier, the lens of social partnership incorporates specific Chinese cultural factors (e.g., *guanxi*) to examine the relationship between local governments and local communities.

Eventually, this research proposes a theoretical framework for investigating the underlying partnerships in VC processes in China, which involve various public, private, and community stakeholders who jointly participate in planning and implementing the VC projects. The framework also contains an examination of institutional environment and macro-conditions needed for VC planning and implementation, such as policy and planning environment, real estate conditions, the demand for public transport development, urbanisation, and economic growth. This is because VC's adoption and implementation are largely dependent on the conditions and needs of each city (Suzuki et al., 2015). Overall, this theoretical framework attempts to explicitly examine the underlying structure of partnerships in VC, which provides an opportunity to make VC successful in the specific context (see Figure 3-2).

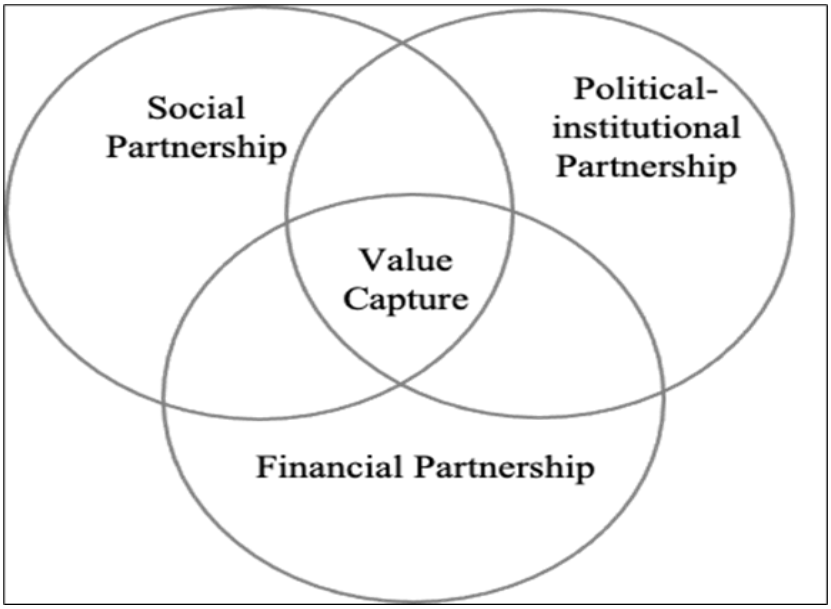

Figure 3-2: Theoretical Framework

Source: drawn by author

3.6 Conclusion

This chapter has developed a theoretical framework for investigating the VC processes based on theories of public value and partnership. It defines three types of partnerships based on the idea of how stakeholders can work together to develop an enabling environment and operational capacities needed to plan and implement VC projects. Chinese political and cultural characteristics are also incorporated in the theoretical framework. To summarise, the

theoretical framework expectes that the partnerships among multiple stakeholders in VC projects can provide a source of innovative funding and also create outcomes of public value in China. The next chapter discusses the methodology used in this research, which explores the underlying partnerships in the VC process in China.

Chapter 4: Research Design

4.1 Introduction

The purpose of this chapter is to shed light on what methodology is appropriate for addressing the research question: how different stakeholders work together to undertake VC planning and implementation in China. The chapter discusses the selection of an appropriate research approach to guide the research design. Next, this chapter clarifies a rationale for using qualitative research approach via the case study method and choosing two Chinese VC projects in Chengdu and Shenzhen. Finally, the chapter outlines the data collection techniques and data analysis methods and discusses the ethical considerations of this research.

4.2 Qualitative Research Approach via the Case Study Method

4.2.1 Qualitative Research Approach

This thesis selected the qualitative research approach via the case study method, as shown in Table 4-1. Specifically, the thesis adopted epistemology as the research philosophy. The purpose of this thesis is to find appropriate approaches to understand how people construct and interpret reality rather than discover the "what you see is what you get" objective truth (Neuman, 2014). Choosing an appropriate research approach is very important, as it provides specific direction for the plans and procedures in the study (Creswell and Creswell, 2018). The research design options include qualitative, quantitative, or a mixed approach. The difference between qualitative and quantitative approaches is framed as the qualitative approach relying on words, images, experiences, and observations that are not quantified. In contrast, the quantitative approach relies on quantified data such as numerical data (O'Leary, 2017). Usually, qualitative research carries out detailed research to explore, describe, or explain a social phenomenon; to gain insight into a certain aspect of social life; to explore a new or under-researched area; to establish links between individuals, groups, and institutional and/or cultural contexts (Leavy, 2014; Neuman, 2014). Quantitative research starts by formulating hypotheses to test and emphasises the measurement of variables and amounts; and it can address statistical requirements in social life (Creswell and Creswell, 2018). The mixed method combines qualitative and quantitative approaches and data in a research study (Denzin and Lincoln, 2011).

Table 4-1: Research Method of the Thesis

Research Question		**Theoretical Framework**	**Research Method**	**Data Collection**	**Data analysis**
Primary research question	How do different stakeholders work together to plan and implement VC in China?	Public value theory and the theories of partnership	Qualitative research via a case study (the Qianhai project in Shenzhen and the Luxiao project in Chengdu)	Primary data: 55 semi-structured interviews with key stakeholders Secondary data: policy and planning documents produced at central, provincial, and local government levels, supplemented by enterprise reports, media information, and research papers	Thematic analysis, policy analysis, institutional analysis, stakeholder analysis
Secondary research questions	How do government organisations and local transport agencies create an enabling political and institutional environment to take the initiative and plan for VC projects?	Political–institutional partnership			
	How do local transport agencies develop partnerships with other public and private organisations to share the risks, responsibilities, and benefits of developing real estate in VC projects?	Financial partnership			
	What role do culturally sensitive communication and trust play in building relationships between local government and local communities regarding VC projects?	Social partnership			

Source: author

This thesis chose qualitative research to explore how multiple stakeholders work together for VC planning and implementation in China. The research cannot be separated from the roles and perceptions of multiple stakeholders, their institutional capacities, the collaboration and coordination in the decision-making process, the political and the institutional environment, and cultural factors, which are challenging for quantitative research. The qualitative approach can access a broader range of interviewees who are relevant to the research (Bryman, 2012). A range of tools (e.g., narrative inquiries, in-depth interviews, semi-structured interviews, focus group interviews, oral histories, document analysis, audio-visual records) can be used to collect various types of data in qualitative research (Leavy, 2014). In this sense, qualitative research has a flexible structure. Qualitative researchers may adjust their methods during the project to facilitate new learning or new insights or to adapt to unexpected challenges, obstacles, or opportunities (Leavy, 2014). By using qualitative methods, complex problems or issues of limited knowledge can be analysed more thoroughly and appropriately than the quantitative approach (Flick, 2014). Therefore, the complexity of stakeholders' relationships and behaviours in the VC process can be explored and interpreted in this research by using the qualitative approach.

4.2.2 Case Study Method

This thesis adopted a case study method to investigate an under-researched area, exploring how multiple stakeholders work together in the VC process in China. Determining the form of the research questions is crucial in deciding which method is most suitable for the research. As suggested by Yin (2014), the main research questions for the case study method are "how" or "why" questions about contemporary phenomena, where researchers have little or no control over behavioural events. The case study approach can address the desire to understand complex phenomena in depth. It allows the researcher to retain real-life events' holistic and meaningful characteristics (Yin, 2014). Flyvbjerg (2006) also argued that the context-dependent knowledge and exploratory insights obtained through case studies could strengthen social science.

This thesis focuses on exploring the three types of partnerships developed in Chapter 3 in the VC process in China. Developing and maintaining partnerships is not easy and needs further investigation. Several external factors, such as the cultural, macro-, and regulatory environments, can shape stakeholders' relationships and behaviours in the VC process. To obtain a clear and holistic picture of VC's complexity, therefore, this research chose the case

study method to gain insights into the partnerships involved in VC planning and implementation in China.

Furthermore, the case study method provides an opportunity to build an in-depth contextual understanding of the case by using multiple data sources, such as interviews, documents, direct observations, archives, and participant observations (Yin, 2012). Such data triangulation integrates various data sources to study the same phenomena at different times and places and with different persons (Flick, 2014). Therefore, this thesis applied various data collection methods, including interviews, the review of media information, government documents, and corporation reports to ensure that the case study had rendered the participant's perspectives accurately (Yin, 2014).

The case study method helps researchers generate an intensive examination of cases and engage in a theoretical analysis. As Bryman (2012, p. 71) argued, "the central issue of concern is the quality of the theoretical reasoning in which the case study researcher engages. How well do the data support the theoretical arguments that are generated? Is the theoretical analysis incisive?" In this situation, the case study method can achieve an analytic generalisation, which means that the study can confirm, modify, reject, or otherwise advance the theoretical concepts discovered when designing the case study, or new concepts that emerge after the completion of the case study (Yin, 2014). This is why this thesis reviewed the theories and developed the theoretical framework in Chapter 3. The theoretical framework can play a critical role in generalising the lessons learned from the case study.

In addition, the generalisability of case studies can be increased by the strategic selection of cases (Flyvbjerg, 2006). Case study research includes single- and multiple-case designs. The selected case may be a rare, critical, or, paradoxically, ordinary case in single-case studies. Multiple case designs may require two or more cases, testing conditions that can replicate similar findings or predict contrasting results but for anticipatable reasons (Yin, 2012). Although both designs can lead to successful case studies, a multiple-case design may be preferred when researchers choose and have resources. It can help researchers understand social phenomena better by obtaining different perspectives on the issues (Bryman, 2012). As Yin (2014) argued, the findings from two or more case studies are considered more compelling, powerful, and robust than those from a single case alone. Therefore, this thesis selected two case studies to provide greater confidence in the research findings. The next section identifies the reasons for choosing the two specific case studies.

4.2.3 Selections of Case Studies

This thesis adopted the case study method to investigate how different stakeholders work together for VC planning and implementation in China. This section aims to explain why this research chose the urban rail transport systems of Shenzhen and Chengdu in China as case studies. Detailed information about the cases will be introduced in the following chapters.

Firstly, this thesis selected the application of VC in the urban rail transport system as the research object. Compared with road infrastructure, urban rail transport systems are more suitable for research on VC because they are not susceptible to negative impacts such as traffic jams, noise, and other issues, and can create greater accessibility, amenity, and agglomeration (Banister and Thurstain-Goodwin, 2011; Cervero and Kang, 2011). A bus route can also be easily changed, and hence developers and property owners may not be willing to make costly investments based on the location of the route (Salon and Shewmake, 2011). Under these circumstances, the economic and financial impacts of urban rail transport investments are usually higher than those of bus transport (Salon and Shewmake, 2011; Suzuki et al., 2015). For example, Ma et al. (2014) and Salon et al. (2014) compared the property value impacts of rail and Bus Rapid Transit (BRT)-based infrastructure within two Chinese cities (Beijing and Guangzhou). They found that the impact of BRT lines on property values was significantly reduced. Therefore, considering that China and other developing countries may still be in the initial stages of VC, this thesis chose the urban rail transport system. In this way, the VC process can be explored more clearly, and significant results can be obtained from the case studies.

Secondly, this thesis selected China as a representative case. Many cities in China face problems caused by unprecedented urban growth and rapid motorisation, such as urban sprawl, traffic congestion, air pollution, inefficient use of energy and time, and social inequality (World Bank, 2013). These problems are also experienced by other developing countries (Imran, 2010; Cervero, 2013). Thus, many developing countries need to develop land use and public transportation projects through a VC mechanism to provide extra funding for constructing infrastructure and sustainable urban development (Suzuki et al., 2015). In this situation, developing countries have also started to explore VC as an innovative funding mechanism for public transportation developments and as an approach for reducing environmental and congestion issues in Vietnam (Nguyen et al., 2018) and India (Jillella and Newman, 2016)). Although the political systems of different countries may be different, developing countries typically face similar problems in urban and transport planning, such as the lack of consistent visions or policies, the lack of rational regulatory frameworks, institutional fragmentation,

participatory issues, and a lack of expertise, capacity, and experience (Dotson, 2011; Cervero, 2013; Suzuki et al., 2015). Thus, the research findings could be generalised to other developing countries.

Thirdly, this thesis chose two Chinese cities with different geographical locations and cultural backgrounds: Shenzhen and Chengdu. Since the reform and opening up, Shenzhen, as a Special Economic Zone (SEZ), coupled with its unique geographical advantages, has developed from a small fishing village to a first-tier city[6] in China (Yang et al., 2016a). As an ancient city, Chengdu is located in the relatively backward western region of China, However, it is one of the most industrialised and urbanised cities in western China, and it is also one of the "most liveable cities in the country"(Chen and Gao, 2011). As Mu and de Jong (2016) pointed out, the experience of the developed eastern regions may not apply to the western regions, where the degree of economic openness and liberalisation is low. Therefore, this thesis selected Shenzhen and Chengdu to expose the similarities and differences in the planning and implementation of VC projects in China.

Both Shenzhen and Chengdu are vigorously developing urban rail transport systems and exploring VC as a new funding source for transportation infrastructure investments. Shenzhen is the first city in mainland China to implement a VC mechanism with a rail + property model of Hong Kong and has made good progress (Xue and Fang, 2015). Thus, an exploration of Shenzhen' VC mechanism, including the obstacles encountered and why it is successful, can provide recommendations on policies and planning to other similar developed cities. Compared with Shenzhen, Chengdu is in its infancy in using the VC mechanism. As early as 2014, Chengdu proposed to use VC as a new source of funds for constructing an urban rail transit system. However, Chengdu did not start planning its first VC project until 2018. Subsequently, Chengdu entered an era of extensive planning and implementation of VC projects. What happened during this transition is worth exploring. Therefore, investigating the story of Chengdu's VC can provide inspiration for cities that intend to fund public transportation developments through the VC mechanism.

In terms of the VC projects, the thesis chose the Qianhai project in Shenzhen and the Luxiao project in Chengdu. As the first VC projects in their respective cities, their experience can provide other cities with information on how to initiate VC projects in planning at the local level. The thesis also focused on the stakeholders and processes in the different stages of the VC projects. Analysing an urban project involves analysing the local contexts and why

[6] The first-tier cities in China include Beijing, Shanghai, Guangzhou, and Shenzhen.

stakeholders make the corresponding decisions in this environment (Florence, 2019). In this case, analysing these two VC projects can help shed light on the three domains of partnership developed in Chapter 3 in the process of China's VC projects. Therefore, for these reasons, the Qianhai and Luxiao projects were selected as specific case studies. The detailed project information presented in the Chapters 6 and 7.

4.3 Data Collection

A significant strength of a case study is the opportunity to use various sources of evidence in the research (Yin, 2012). Using multiple sources of evidence in case studies allows researchers to address a broader range of contextual and behavioural issues. Moreover, if the case study results are based on several different sources of information and follow a similar pattern of convergence, it may be more convincing and accurate (Yin, 2014). This research used both primary data and secondary data collected through semi-structured interviews and documentation. The combination of data sources has enriched the interpretation of the interviewees' narrative and allow a better understanding of the VC working process in China.

4.3.1 Semi-structured Interviews

Primary data are data collected by the researcher to explore specific issues for the research purpose, which is crucial in qualitative research (O'Leary, 2017). To obtain the primary data, this research used interviews, which can provide insightful information on human affairs and actions; collect a diversity of meanings, opinions, and experiences; and show respect to the data providers (Yin, 2014; Dunn, 2016). This study adopted the semi-structured interview method because it has a somewhat predetermined sequence but still guarantees the flexibility of the information provider in the interviews (Longhurst, 2003). Moreover, based on the participants' identities, VC knowledge, and relevant polices and regulations, the thesis developed a semi-structured interview guide with variety of open-ended questions in advance (see Appendix 4). The interview adopted a conversational manner, allowing participants to discuss issues that they considered essential rather than asking questions in the order listed. The purpose of these approaches was to generate spontaneous, in-depth, and unique answers from the participants, reflecting their experiences and expertise, and obtaining possible new thoughts (Kallio et al., 2016).

Selecting participants for semi-structured interviews is very important. Participants are usually chosen purposefully based on their experiences and ideas that are relevant to the phenomena under investigation (Dunn, 2016). To explore the underlying partnerships in the VC process at the local level in China, this thesis selected participants from several categories, including governmental sectors, local transport agencies, developers, nongovernment organisations, media representatives, experts, consultants, and local people living near the VC projects. Information on the participants' organisations is listed in Appendix 5. These stakeholders are directly and indirectly involved in the decision-making process of VC or have an interest in VC matters because of their roles and capacities. Thus, it is worth exploring these stakeholders' perspectives, understanding their experiences, and making sense of their views of and concerns about VC. All participants voluntarily participated in the interviews, read the information sheets, and signed an informed consent form before the interview. Examples of the information sheet and the participant consent form are provided in Appendices 2 and 3.

This research conducted field trips and semi-structured interviews in Chengdu and Shenzhen during the end of December 2018 and the end of June 2019. Warm-up talks were used when starting an interview in this research. As Longhurst (2003) and Dunn (2016) suggested, allowing time for participants to warm up to semi-structured interviews is essential for an interview's success. On the one hand, the warm-up conversation established a feeling of cordiality with the participants I already knew. On the other hand, for the participants with whom I had just established a relationship, I found that some participants did not want to discuss many things in detail with strangers. In this case, the warm-up conversation became more meaningful, making these participants let down their guard. For example, before conducting formal interviews with some governmental officials and planners, I talked about the rapid development of Chengdu in recent years and told them about my life experience in Chengdu. As a resident of Chengdu, I affirmed their efforts in urban development. A similar strategy was also used in the case of Shenzhen. Before the formal interview, I expressed my love for Shenzhen, including job opportunities and the convenient transportation systems in the city. As the city of my dreams, I look forward to the opportunity to work here and contribute to rapid development of Shenzhen after my graduation. In this case, the relationship between the participants and me improved because they perceived my sincerity and did not see me as threatening to criticise their works.

By combining pre-contact, interpersonal relationships, and snowballing methods, this research finally interviewed 55 participants to collect in-depth data and information of VC projects of both cities. The interview time (in Chinese) ranged from 30 minutes to 1.5 hours, and the location of the interview was determined by the participants. Some interviewees from

government sectors and local transportation agencies refused permission to audio record them. Even if I promised that the audio recording data would be stored safely on a locked computer and hard disk, they worried that force majeure factors such as theft might lead to the disclosure of the interview content and affect their careers. Therefore, recording of the interview content depended on the choice of the participants, avoiding ethical issues in my research. These participants preferred to slow down their talking and helped me to take notes for their remarks. Some other participants agreed to record their remarks, but note-taking was also used in all interviews. Taking notes helped me maintain concentration on the interview, explore non-verbal data, and avoided the technical issues of audio recording (O'Leary, 2017).

4.3.2 Documentary Data

In addition to the primary data, this research also used documentary data to explore the case studies' political and institutional context and supplement the information obtained from the interviews. Generally, according to Yin (2014), there are several types of documents, including personal documents (e.g., letters, memoranda, emails, diaries, notes), written reports of events (e.g., agenda, announcements, minutes of meetings), administrative documents (e.g., proposals, progress reports, internal records), formal studies or evaluations related to the case, and media information (e.g., mass media, newspapers). These documents can come from both printed and electronic materials. There are five functions of documentary data: (1) to provide background information and historical insights; (2) to suggest questions and situations that need to be asked and explored; (3) to provide supplementary research data; (4) to provide a means of tracking changes and developments; and (5) to corroborate and augment evidence from other sources (Bowen, 2009; Yin, 2014). However, using documentary data requires researchers to have a critical eye to assess objectivity, credibility, and sensitivity, asking themselves if the documentary data are unbiased, complete, and accurate (O'Leary, 2017).

In this regard, this research mainly consulted documentation including:

- Government laws, regulations, policies, and planning documents at different levels of government. These documents are mainly related to urban planning, urban rail transport planning, the fiscal environment, land use planning, and VC planning.
- The government's statistical data were used to understand the macro-environment of the case areas and support the qualitative data provided by the interviewees.
- Internal documents and reports were obtained during the field trip. Because of the sensitivity of these documents, I chose not to cite them in my research. However, the essence of these official documents has been integrated into my analysis.

- Reports of local transport agencies and developer corporations, and local media information.
- Research papers relating to VC stories from NGOs, research institutes, and consulting firms.

All documentary data were useful for providing contextual factors for the case study areas and for understanding the opportunities and challenges in the use of VC mechanism in China. It revealed the intentions of all levels of government and local transport agencies, whether the development of the project was dynamic, and how the local community responded to the VC projects. In addition, the documentary data served as a supplement to and test of the interview data, which improved the reliability of the analysis. The next section discusses the data analysis process of this research.

4.4 Data Analysis

All the data from the semi-structured interviews were collected in Chinese (Mandarin and the local Chengdu dialect) and transcribed into English. After each interview, I transcribed the data and checked the content (Chinese version) with the participants. This ensured that I had not changed the original meaning of the participants; thus, the accuracy of the data can be maintained. As suggested by Longhurst (2003), interviews should be transcribed as soon as possible so the conversations are still fresh and easier to transcribe. Moreover, I chose to transcribe the interview data by myself for three reasons, although it was time-consuming. Firstly, as I was present at the interview, I knew best about the meaning of the participants' spoken words, and the participants' attitudes and emotions in the interviews, which avoided misunderstanding the data and information. Secondly, transcription can be a data check process and provide a preliminary form of analysis (Dunn, 2016). Thirdly, considering the confidentiality of the data, especially the information provided by governments and local transport agencies, I did not hire assistants to help me transcribe.

After transcription, this research conducted a coding process for the data. Essentially, coding is a method of indexing or mapping data to provide an overview of different data so that researchers can make sense of the data in relation to the research questions (Elliott, 2018). This research used predetermined codes based on the theoretical framework developed in Chapter 3 and accepted emerging codes. As Creswell and Creswell (2018) argued, a popular approach is to use predetermined codes based on the theory being examined and then allow these codes to be developed and changed based on the information obtained during the data analysis process. The codes were classified and sub-categorised through systematic and continuous comparisons

to ensure that thematic coding accurately represented the participants' thoughts (Flick, 2007). This research also used documentary analysis, institutional analysis, and stakeholder analysis.

Document analysis is a systematic procedure for reviewing and evaluating documents and is a means of triangulation in research (Bowen, 2009). Policy document analysis is very useful for (1) identifying the intentions of the planner or policy-maker; (2) understanding the actual behaviour of policy-makers in deciding upon and effecting a decision; (3) evaluating what actually happened (or did not happen) through the execution of a given policy over a period of time (Bracken, 2007).

This research used policy document analysis to explore the intentions and motivations of all levels of governments regarding the use of the VC mechanism. This can reflect the dynamic changes in VC development in Shenzhen and Chengdu. Policy document analysis described the political and institutional environment in which relevant policies and plans were generated and what factors provided motivation and influenced decision-makers. In addition, the specific VC documents published by local transport agencies were carefully analysed. They provided information about the progress of VC, the detailed planning of VC, and technical indicators of VC projects. This research also consulted the reports of developers and other organisations such as NGOs and research institutions, which were very helpful for understanding their efforts and challenges faced in the VC process.

To explore the ongoing situation of VC in Shenzhen and Chengdu, this research considered media information, including mass media and social media, for analysis. Mass media mainly reflects the common understanding of VC, while social media are used to understand the public's comments and thoughts on VC. The information from the mass media may be the information that the government wanted the public to know because China has a strict media censorship system (Tai, 2014). Although the accuracy of the information cannot be judged, it helped in analysing the information output and communication strategies established by the Chinese government for planning and implementing VC projects. In addition, e-government service websites in Shenzhen and Chengdu were also investigated. These reflected public concerns about VC projects that local governments need to address and evaluated the extent to which the government addressed these public concerns.

Institutional analysis examines the problems faced by a group of individuals (or organisations) and the rules they adopt to solve problems (Imperial, 1999). Moreover, institutional analysis can be used to explore "interesting and important institutional arrangements for coordinating complex chains of actions among large numbers of actors

involving multiple organisations" (Ostrom, 2005, p. 56). It analyses physical and material conditions, community attributes, rules in use, and interaction patterns and outcomes (Polski and Ostrom, 1999).

In this thesis, the institutional analysis shed light on the conditions of resources and capabilities related to planning and implementing VC projects. These conditions include land resources, real estate development capacity, funding sources, managerial capacity, technology, knowledge, and human resources. Community's cultural attributes were analysed in this research because the community's shared understanding, preferences, and generally accepted behaviours are crucial to plan and implement VC projects. In addition, it is vital to dig into behaviours to gain insights into the rules that stakeholders follow in a particular situation (Ostrom, 2005). This research examined the regulatory framework of the VC process in the two case studies to understand the stakeholders' roles, responsibilities, and actions in specific legislative and administrative settings of VC process. The interactions among stakeholders and the outcomes can be tested by considering the constraints of physical conditions, community's cultural attributes, and rules in use (Ostrom, 2011). Therefore, the institutional analysis helped investigate the stakeholders' interactive and collaborative behaviours in the VC process. It sheds light on how different partners work together in the VC process. Both documentary data and semi-structured interview data were used to conduct the institutional analysis.

This research utilised stakeholder analysis to understand the individuals' and organisations' behaviours, intentions, agenda, and influence on the decision-making process. Stakeholder analysis can be used to understand the power dynamics and enhance the transparency and legitimacy of decision-making, and is also used to understand potential conflicts of interest among stakeholders (Reed et al., 2009). Bryson (2004) argued that stakeholder analysis can help determine who the key stakeholders are and satisfy them. Ideally, such an analysis will help to satisfy these key stakeholders, create public value, and promote common interests.

In this regard, this research identified key stakeholders in the VC process, including governmental officials, local politicians, local transport agencies, developers, experts, consultants, media persons, NGOs, and residents. These key stakeholders were selected on the basis of documentary data and via the snowballing method. Stakeholder analysis was used to investigate these stakeholders' roles, responsibilities, interests, and resources and then assessed the relationships among these stakeholders in the VC process. It offered insight into stakeholder tensions, problems solved by stakeholders, and the transformation of relationships.

4.5 Research Ethical Considerations

Throughout a research project, it is vital to conduct the research ethically and foresee ethical issues (Bryman, 2012). Since this research involved human participants, the research needed to have a plan to protect the participants in the case study and obtain formal approval before collecting the data (Yin, 2014). Guided by Massey University's Code of Ethical Conduct for Research, Teaching and Evaluations Involving Human Participants (Massey University, 2017), this research carefully considered vital ethical issues. This research used the peer review process to discuss and analyse the ethical issues with supervisors. The human ethics application was submitted to Massey University's Human Ethics Committee for review and obtained low-risk permission for the research (see Appendix 1).

Moreover, gaining informed consent from the participants was crucial for conducting the research ethically. Informed consent implies two related activities: participants need to understand and to agree voluntarily to the nature of their research and their role within it (Israel and Hay, 2006; Bryman, 2012). Informed consent forms and information sheets in English and Chinese were made and distributed before the interviews. By doing so, this research obtained interviewees' consent to participate. Participants had the right to cancel their participation and refuse to be recorded at any time during this project.

Protecting the privacy and confidentiality of participants is also an important ethical behaviour. As Flick (2014) suggested, for ethical reasons, it is better to establish a pseudonym system to anonymise the names of interviewees and other people mentioned in the interview and organisations, companies, etc. This protects the identity of the interviewees so that they are not placed in a risky environment. Researchers should avoid disclosing information that would harm participants (Creswell and Creswell, 2018). In this research, participants revealed some information that was critical to the collective understanding of the selected VC projects, which could potentially harm the relationship between the participants and other actors. Moreover, decision-making in VC is relevant to governmental sectors and political will. Thus, this research had to ensure that the participants would not be harmed by expressing their opinions on selected VC projects. To protect all participants in the interviews, this research ensured that the identities of the participants were kept utterly anonymous and tried to guarantee that they could not be identified from the information in the study.

Moreover, as the data collection process required the participation of governments, local transport agencies, and developer companies, a recommendation letter from my main supervisor was used to reduce their concerns about the authenticity of the research. Overall, this research strictly complied with all ethical considerations.

4.6 Positionality and Reflexivity in the Research Process

Positionality means that it is necessary to consider a researcher's beliefs, political stance, and cultural background (e.g., nationality, age, gender, social and economic status, educational background) in the research process (Bourke, 2014). The researcher's positionality strongly affects the researcher's success in establishing contact and building trust with the participants (Mikecz, 2012). Generally, researchers can position themselves according to the perspectives of outsiders or insiders, and should be aware that a more accurate way of understanding is the insider–outsider continuum (Scheyvens et al., 2014). When researchers are outsiders in the field, they may find it difficult to contact people who need to be interviewed (Mikecz, 2012). This situation happened to me when I first tried to access my potential interviewees, as I am not a decision-maker or a key stakeholder in the VC process. However, my nationality, age, educational background, and personal networks helped me become an insider in the research.

Firstly, I conducted a field trip in my home country and used Chinese as the interview language. In this case, there were no potential cultural and language barriers in my data collection process. The participants and I communicated easily and understood each other in the common language. This made it easier for participants to trust me and tell relevant stories. Secondly, as a young PhD student, I had little possibility of harming or attacking their interests, which made my interviews easier to start. My foreign educational background attracted participants. Participants were interested in: what is the opinion of a Chinese student studying in New Zealand on the development of local VC projects. Thirdly, my relatives and friends work in related organisations, and I met some academics and experts in related fields during conferences. Therefore, with their help, I interviewed the participants, and the participants trusted me based on these networks.

Reflexivity is essential in qualitative research because it aims to raise researchers' self-awareness during the research process. Specifically, reflexivity involves critical thinking about how researchers construct knowledge from the research process, such as the factors that affect the knowledge structure of researchers and how these effects are reflected in planning and conducting the research, and data interpretation (Guillemin and Gillam, 2004; Flick, 2014). This reflective process can ensure rigour in qualitative research. Reflexivity is also considered important for improving ethical practice in the fieldwork, allowing the researcher to identify unexpected critical situations in the fieldwork and deal with these in an appropriate way (Guillemin and Gillam, 2004).

Three major critical thoughts emerged during my fieldwork. First of all, I contacted some potential participants in advance via email and WeChat from October 2018 to December 2018

in New Zealand. Their enthusiastic responses gave me confidence about the fieldwork in two Chinese cities, but the participants suggested changing the case study during the field visit. According to the government website and media information, I initially planned to use the Cuijiadian project in Chengdu because it was first proposed as a VC project development in 2014. However, some participants in Chengdu suggested replacing it with the Luxiao project because it was the first real VC project planned and implemented in Chengdu. After a discussion with my supervisors, I decided to accept the suggestion to change the case. This decision was based on two reasons. This research aimed to explore the three types of partnerships of various stakeholders in the VC process. If the project was just a slogan and not planned and implemented, this case will not help me explore the potential partnership structures.

Another reason is that as a PhD student, I needed to be aware of the power relationships between myself and the participants. The interviewees included government and local transport agency personnel, and these elites are likely to be unwilling to provide information on topics they did not want to talk about. As Scheyvens et al. (2014, p. 207) indicated, "elite groups may actually be able to prevent access to the non-elite if they are not satisfied that what you are doing is in their interests." Facts have proved that changing the case was a wise approach. I obtained critical information about the Luxiao project and the potential reasons why the Chengdu Municipal Government put forward the concept of VC in 2014 but did not plan and implement the VC project until 2018. This information helped me to interpret a more holistic story. I understood that I must remain flexible because the research process is dynamic, so learning to make changes where needed helped solve unexpected problems.

Secondly, contacting participants and encouraging them to be interviewed is critical to conducting fieldwork (Scheyvens et al., 2014). This research used a variety of contact and communication strategies. I first used my personal network to access potential participants and then relied on mutual trust to conduct smooth interviews. The snowball approach was also crucial for reaching more and more participants. I chose to conduct fieldwork in Chengdu first because it is my hometown, and I knew many potential participants. Moreover, some participants from Chengdu went to Shenzhen to participate in the study of rail + property, and they knew some of the Shenzhen stakeholders. Thus, they introduced me to some of the Shenzhen participants. I contacted some participants by email, phone, and direct visits. This was time-consuming because I needed to put in more effort to build trust with the participants I contacted through this method. I clearly explained the purpose of my study and showed them information sheets, informed consent forms, and letters of recommendation, as well as contact information. If they had any questions, they could reach me through my contact information (WeChat, cell phone, and email).

To encourage participants to open up and trust me, I tried to conduct interviews in favourable conditions. Participants had different requirements in choosing the location of the interview. Some participants thought this was a very formal interview about their work, so they chose to be interviewed in the office. Other participants were willing to conduct interviews in public spaces such as restaurants and cafes, making them more comfortable. From an ethical perspective, I respected their choice of interview location. Moreover, to show my friendliness, I prepared small gifts for the interviewees. Gift giving in China is an important aspect of social etiquette and is an expression of respect, affection, and social prestige (Yang, 1994). Therefore, understanding the cultural background in the field trip was helpful when establishing relationships with participants.

Thirdly, before conducting the research, I was worried that the information provided by the participants would not be diversified and credible because VC is related to governments' decision-making and political will. In this case, I carefully designed the research question and research title and tried to avoid using words that made participants feel sensitive. However, two participants in Chengdu's local transport agency initially agreed to participate in the interview but ultimately refused to provide information. They were afraid that providing the information would violate the enterprise's confidentiality system and affect business competition, although I repeatedly emphasised that my research was not related to commercial use and was completely confidential. I understood their refusal but asked them for help, and they introduced other potential participants to me. In Shenzhen, I encountered a different situation. Participants in Shenzhen were very enthusiastic and told me that there were no secrets in Shenzhen. I think this is because the elites in Shenzhen have already met many domestic and international researchers. This experience let me know, as a researcher, that understanding the personal situation of the participants and their cultural and historical background is of vital importance (Banks and Scheyvens, 2014). Overall, the participants were open and honest, and they provided comprehensive information, including positive and negative sides. The flexibility and diversity of their answers clearly showed that the data were trustworthy and credible.

4.7 Structure of Reporting Case Studies

The thesis structure determines how to organise materials to structure a narrative, shaping the readers' thoughts as they read the thesis (Evans et al., 2011). The structure of this thesis adopted the storytelling approach to narrate two detailed VC stories in China. In the process of

storytelling, the task is both practical and theoretical. The thesis provided narrative descriptions of the VC processes in two case studies while attempting to conceptualise the nature of the VC practice.

Firstly, using the storytelling method in case study research can help the researcher focus on contexts, describe the phenomena and the contexts richly, and make the context intelligible to the reader (Dyer and Wilkins, 1991). In this case, by examining the contextual factors in the use of VC, helped me to explore the reasons behind the different or similar phenomena in the two case studies. Moreover, storytelling has the ability to offer examples of new phenomena or problem-solving competencies (ibid.). This is conducive to fully understanding the complex nature of VC in Chengdu and Shenzhen, thus laying the foundation for knowledge transfer and generalisation.

Secondly, the storytelling method can offer an in-depth perspective for exploring the process and revealing the causes and effects (Pentland, 1999). Through a detailed description and analysis of the phenomena and details of the VC process in Chengdu and Shenzhen, this thesis can explore what is happening in the "black box". It helps to reveal the dynamic VC process, relationship networks, and stakeholders' interactions behind the phenomena over time. It also can reveal the logic of what, how, and why in key events and key actions in the VC process.

Thirdly, choosing an appropriate theoretical perspective is the key to interpreting a phenomenon (Yin, 2014). This thesis used the theoretical framework developed in Chapter 3 to string together the whole VC story in Chengdu and Shenzhen. The thesis presented an analysis of the cases based on the core concepts of the theoretical framework. At the same time, it substantively demonstrated the situation of these concepts in the research context. Under this circumstance, it can benefit narrative inquirers with a theoretical understanding of the process, and those who are accustomed to theoretical discourse may benefit from listening to experience (Evans et al., 2011). Overall, the structure of reporting case studies in this thesis was expected to provide compelling and memorable stories and thus contributed to theory.

4.8 Conclusion

This chapter presents the research design used to conduct this research. By comparing the strengths and weaknesses of different research approaches, this research chooses to use the qualitative research approach with two Chinese cities as case studies to understand how different stakeholders work together to achieve VC as innovative source of transport funding in China. Both primary data and secondary data are collected for this research through semi-

structured interviews and various documentary data. The data are analysed by documentary analysis, institutional analysis, and stakeholder analysis. I also reflectively consider the ethical issues and my positionality in the research process. Based on an analysis of the collected data, the following four chapters provide insights into the political–institutional, financial, and social partnerships during the VC processes in Shenzhen and Chengdu.

Chapter 5: Value Capture in Chinese Cities: Institutional Contexts

5.1 Introduction

This chapter examines the institutional environments of the VC mechanisms in China and two case cities of Shenzhen and Chengdu. It identifies the importance of macro-factors (e.g., urbanisation, public transport development, a booming real estate market), which generated a favourable environment for using the VC mechanism. Moreover, to determine the opportunities and challenges of using VC in China and the two case studies, the chapter critically reviews urban planning, urban rail transport planning, the situation of funding sources, and land use in these contexts. The chapter attempts to explain how the policy and planning framework promotes or prevents VC initiatives and planning.

5.2 Macro-Factors

5.2.1 Urbanisation and Economic Growth

As discussed in Chapter 2, rapid urbanisation, economic growth, and transportation demand are prerequisites for developing VC projects. Many cities have undergone rapid urbanisation since China's economic reform and opening-up policy in 1978[7] (He et al., 2016). From 1978 to 2020, the Chinese urban population increased from 173 million to 819 million, with an annual growth rate of 1% during the past four decades. At the same time, the built-up urban area in China has expanded from 7438 km^2 to 60,312 km^2 (National Bureau of Statistics of China, 2021).

Such speedy urbanisation has promoted economic growth effectively. China has maintained an average of 9% economic growth between 1978 and 2018, and the GDP reached 1,015,986

[7] Deng Xiaoping launched the economic reform and opening-up policy on 18 December 1978. It has been regarded as the key to determining the fate of contemporary China. This policy involved a series of strategies such as changing the centrally planned economy into a socialist economy, establishing special economic zones, and reforming land administration. More information can be found at China's reform and opening-up database, http://www.reformdata.org/records/.

billion yuan in 2020 (National Bureau of Statistics of China, 2021). Along with the rapid progress of urbanisation and the development of the economy, urban areas have been improved in terms of employment, education, transportation, and health. These improvements have attracted a continuous flow of people from rural to urban areas, especially to the eastern coastal areas and megacities (Guan et al., 2018). This phenomenon has also made secondary and tertiary industries the leading industries in Chinese cities (He et al., 2016). In this case, the development of modern service industries such as transportation, computer science and software, education, social welfare, environmental and public facilities, and real estate industry has accelerated. Figure 5-1 illustrates the GDP of China and the two case study cities.

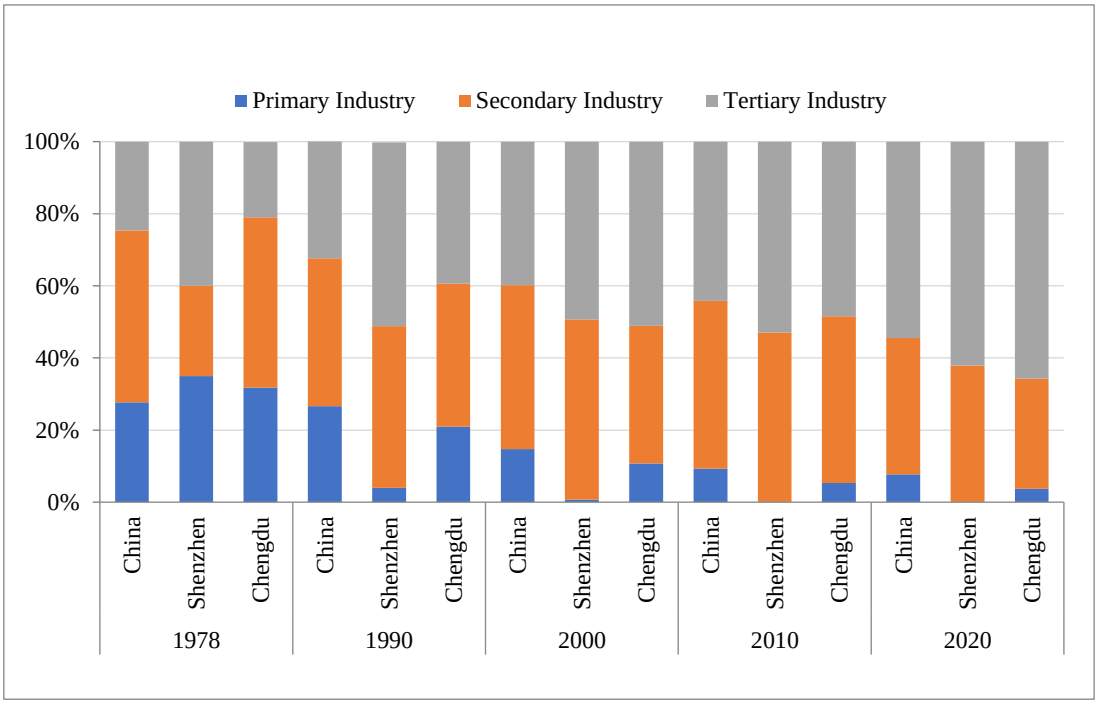

Figure 5-1: 1978–2020 Gross Domestic Product

Source: National Bureau of Statistics of China (2021).

Benefiting from the reform and opening-up policy, Shenzhen was designated as a SEZ in 1980 (Xu and Yeh, 2003). Shenzhen is located in the south of Guangdong Province, China, adjacent to Hong Kong. Since the reform and opening up policy, Shenzhen SEZ has expanded from four districts (Luohu, Futian, Nanshan, and Yantian) to 10 districts (adding Baoan, Dapeng, Guangming, Longgang, Longhua, and Pingshan districts). As a SEZ, a national economic centre, and an innovative city, Shenzhen is a leading example to other cities in China. At the same time, Shenzhen has accelerated its development into a modern and international

city, striving to become an innovative and creative city with global influence (State Council, 2019).

In terms of the growth in the population size and economic parameters from 1978 to 2020, the urban population of Shenzhen increased from 0.2 million to 13.4 million, and its GDP increased from 196 million yuan to 2.7 trillion yuan. During this period, the agricultural sector dropped from 37% of GDP in 1978 to less than 1% of GDP in 1999. By contrast, the secondary and tertiary industries have shown a rising trend. The proportion of the secondary industry increased from 20.5% of GDP in 1978 to 37.8 % in 2020, and the tertiary industry rose from 42.5% to 62% during 1978–2020 (Statics Bureau of Shenzhen Municipality, 2020; Statics Bureau of Shenzhen Municipality, 2021). This phenomenon means that finance, transportation, service industries, real estate, and other industries are booming in Shenzhen.

Moreover, Shenzhen's urban built-up land areas increased from 3 km^2 in 1979 to 960 km^2 in 2019 (Statics Bureau of Shenzhen Municipality, 2020). This rapid urbanisation has caused a shortage of land resources and a high population density in Shenzhen. In 2020, the annual average supply of new urban built-up land in Shenzhen has been only 12 km^2 (Shenzhen Municipal Planning and Natural Resource Bureau, 2020). The population density of Shenzhen is as high as 6484 people per km^2, which is about 41 times higher than the national average of China (Statics Bureau of Shenzhen Municipality, 2020).

Similarly, western China also has benefited from the reform and opening-up policy. As an important central city in the western region, Chengdu has been targeted by provincial and central governments as a national historical and cultural city, an important national high-tech industrial base, a trade and logistics centre, and an integrated transportation hub (State Council, 2015). Chengdu comprises 11 districts, 4 counties, and 5 county-level cities. The urban districts include six districts, namely Jinjiang, Qingyang, Wuhou, Chenghua, Jinniu, and the High-tech Industrial Development Zone. From 1978 to 2020, the population of the urban areas increased from 2.3 million to 8.9 million. The urban built-up area expanded from 58 km^2 in 1978 to 909.65 km^2 in 2020 (Ministry of Housing and Urban-Rural Development, 2021).

The economic growth of most cities in western China has been slower than that of the coastal cities in eastern China; however, Chengdu has performed well in terms of economic development (Qin, 2015). The State Council issued the West Development[8] policy in 2000,

[8] To reflect the state's key support for the western region, the State Council formulated the Western Development policy in 2000. This policy promotes the construction of infrastructure in the western region,

which means that the central government has transferred its development focus from the eastern coastal areas to the western inland areas (Lai, 2002). Under this circumstance, the GDP in Chengdu reached 1.7 trillion yuan in 2020, with the primary industry accounting for 3.6%, the secondary industry for 30.6% and the tertiary industry for 65.7% (Statistic Bureau of Chengdu, 2021).

The rapid development has led to a significant population shift, mainly from the rural areas to the urban areas in Chengdu. It has a high population density in the central urban area with 8300 people per km^2, though the whole city's population density is relatively lower, that is, 1134 people per km^2 (Statistic Bureau of Chengdu, 2020). This means that Chengdu has not encountered the problem of insufficient supply of land resources, but it has an issue of unbalanced development in the urban central areas and suburban areas.

5.2.2 Motorisation, Public Transport, and Urban Rail Transport Development

Because of urban sprawl and economic growth, China has invested heavily in road infrastructure (Fan and Chan-Kang, 2008; Yu et al., 2012). The road infrastructure boom has increased the mobility of people and resources, but it creates severe challenges to society, such as traffic congestion, air pollution issues, and climate change (Mu and de Jong, 2012). To realise the sustainable development of society, the central government has started to shift its focus to public transport systems. The State Council published *Suggestions on Prioritising the Development of Urban Public Transport* in 2012 to support public transport development. This policy stipulates that the megacities must have a public transport stop every 500 m in central urban areas, and the travel behaviour of public transport should account for about 60% in daily life (State Council, 2012). Furthermore, the Ministry of Transport (2017) (MOT) prepared the *13th Five-Year Plan (2016–2020) for Modern Comprehensive Transportation System*, which called for the total mileage of urban rail transport systems completed nationwide by 2020 to reach more than 6000 km, and this goal was completed by the end of 2019.

Like many megacities in China, both Shenzhen and Chengdu face the adverse outcomes of rapid urbanisation, such as worsening environmental quality and increasing traffic congestion. In Shenzhen, the average travel speed of the morning and evening peak in the city is 28.0 km/h and 25.1 km/h, respectively (Shenzhen Municipal Transportation Bureau, 2019). Motor vehicle

strengthens ecological protection, adjusts the industrial structure, and expands domestic and foreign economic development.

exhaust emissions became the primary source of pollution for $PM_{2.5}$, accounting for 41% in Shenzhen (Shenzhen Municipal Government, 2014). Similarly, Chengdu's average daily travel speed is usually stable at 31 km/h, and the peak speed is 25 km/h (State Information Center, 2019). According to an assessment, motorised emissions account for 27.9% of $PM_{2.5}$ in Chengdu, making this the largest source of $PM_{2.5}$ (Chengdu Municipal Government, 2019d). To address these motorisation and environmental issues, both Shenzhen and Chengdu have prepared regulations and policies to promote public transport systems and urban rail transport development.

In Shenzhen, the Shenzhen Municipal Government (SZMG) issued the *Suggestions on Implementation of Priority Development of Urban Public Transport* to establish the development of public transportation as a long-term development strategy in 2007 (Shenzhen Municipal Government, 2007). Moreover, the *Shenzhen 13th Five-Year Plan for Comprehensive Transportation Development* was prepared by the Shenzhen Municipal Transportation Bureau (SZMTB), the Shenzhen Municipal Development and Reform Commission (SZMDRC), and the Shenzhen Municipal Planning and Natural Resource Bureau (SZMPNRB) in 2016. This document expects public transportation's share of motorised travel to reach 65% at peak by 2020. It proposed to establish the concept of TOD in Shenzhen, including strengthening the coordination between public transportation and land use, improving public transport services, and building a rail transport metropolis (Shenzhen Municipal Government, 2016).

The Chengdu Municipal Government (CDMG) also focused on developing and constructing urban public transport as early as 2007. The CDMG prepared the *Suggestions on Implementation of Priority Development of Urban Public Transport in Chengdu* to emphasise that the development of urban public transport was an important priority for the CDMG, which needed to follow the principles of prioritising fiscal arrangements, support for taxes, and land allocation and relying on government input (Chengdu Municipal Government, 2007). The CDMG also approved the *Chengdu 13th Five-Year Plan for Comprehensive Transportation Development* in 2018, prepared by the Chengdu Municipal Transport Bureau (CDMTB). This document identified that the urban rail transport system plays a leading role in Chengdu's urban development to create a transport metropolis (Chengdu Municipal Transport Bureau, 2018).

Urban rail transport is an important public transportation mode characterised by high speed, high efficiency, safety, and large capacity. Thus, building an urban rail transport system has top priority in China's megacities (Yang et al., 2020b). According to the official plan of the National Development and Reform Commission (NDRC) and MOT (The Three-Year Action

Plan for Major Transportation Infrastructure Project), 103 urban rail transport projects need to be promoted during the period of 13th Five-Year Plan, costing 1.6 trillion yuan (National Development and Reform Commission, 2016b).

Following the proposition of the central government, local governments have attached great importance to the construction of urban rail transport systems. As mentioned, both Shenzhen and Chengdu have determined the leading position of urban rail transport systems in public transport development. Figure 5-2 and Figure 5-3 indicate the map of urban rail transport system in Shenzhen and Chengdu. In 2022, Shenzhen Metro Corporation (SZMC) operates 13 lines, with a total of 309 stations and 471 km of tracks. 596 million passengers use these metro lines every day. The proportion of train passenger traffic has reached 60% of public transport (Shenzhen Metro Corporation, 2022a). Chengdu Rail Transport Group (CDRTG) operates 13 lines, with a total of 333 stations and 558 km of tracks, and 722 million passengers use these metro lines every day. The proportion of train passenger traffic has reached 60% of public transportation (Chengdu Rail Transport Group, 2022a). Table 5-1 and Table 5-2 illustrate the development history of urban rail transport in Shenzhen and Chengdu.

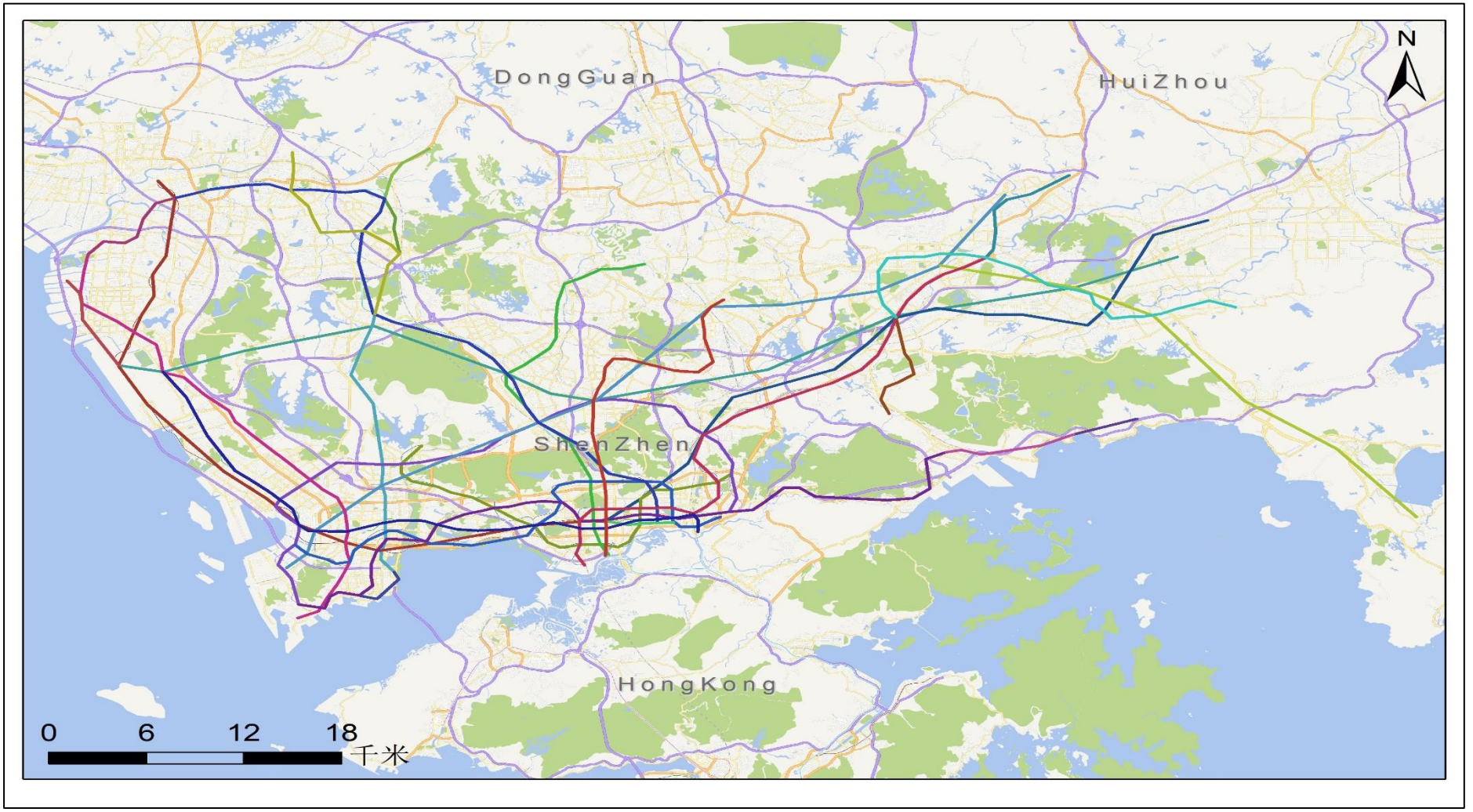

Figure 5-2: Map of Urban Rail Transport in Shenzhen

Source: adapted from Shenzhen Metro Corporation (2022b)

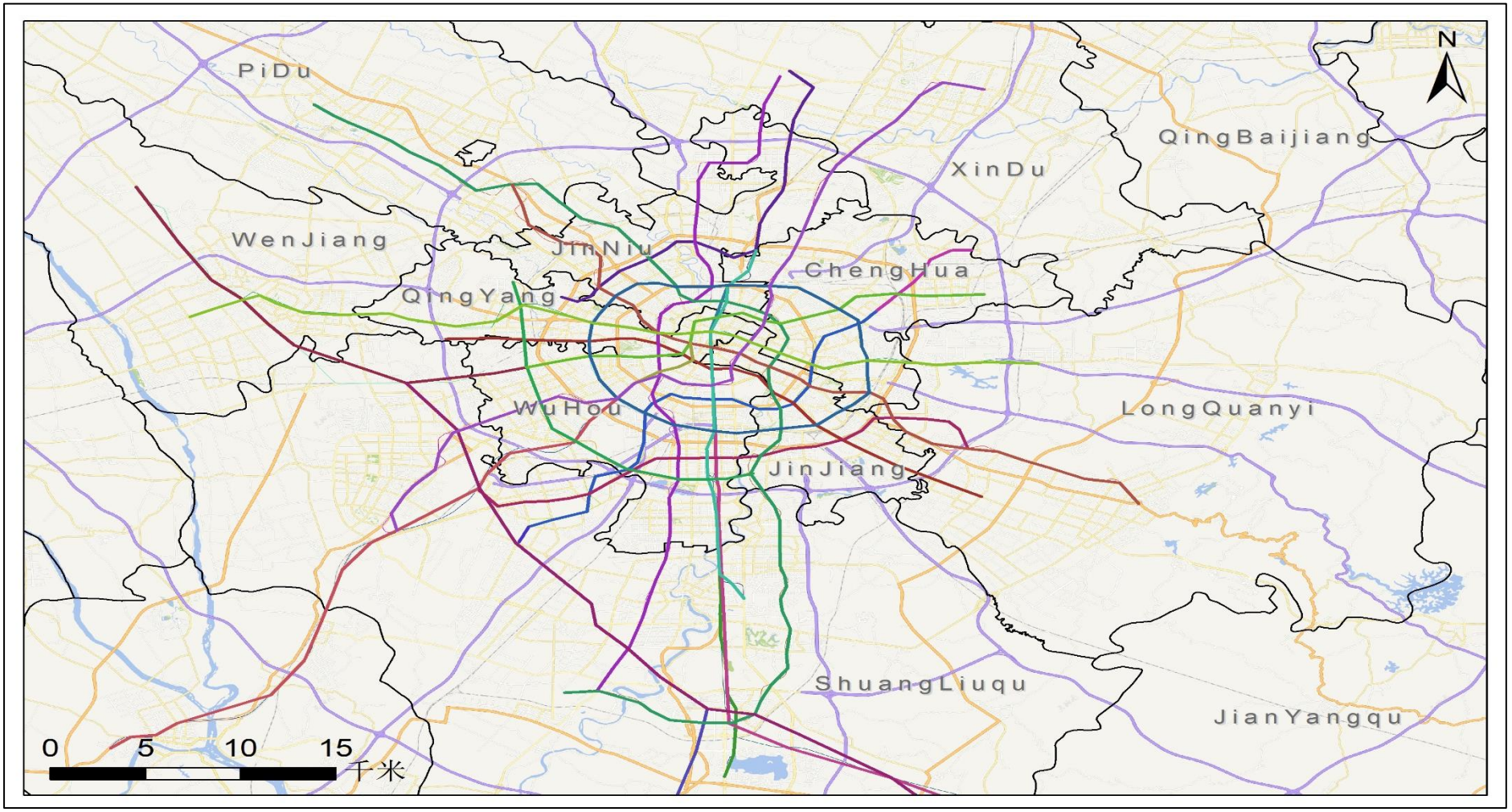

Figure 5-3: Map of Urban Rail Transport in Chengdu

Source: adapted from Chengdu Rail Transport Group (2022b)

Table 5-1: The History of Urban Rail Transport in Shenzhen

Stages	Milestones
Germination period (1983–1998)	• The mayor at that time proposed the necessity of an urban rail transport system (light rail system). • In 1992, the SZMG decided to construct metro systems, but the central government did not support it because of the expensive cost. • Until 1997, with the return of Hong Kong as an opportunity, the central government approved the metro project titled Rail Transport Connection Project of Luohu, Huanggang/Luoma Zhou Ports (Line 1 and Line 4) to meet the needs of Shenzhen–Hong Kong travellers.
Phase 1 (1998–2004)	• Lines 1 and 4 were planned in 1998 and began operation in 2004, with a length of 22 km and an investment of 11.5 billion yuan.
Phase 2 (2005–2011)	• In 2005, the Shenzhen Urban Rail Transport Construction Planning (2005–2010) was approved by the NDRC, including Line 2, Line 3, Line 5, and extensions of Lines 1 and 4. • In 2007, the Shenzhen Urban Rapid Rail Transport Adjustment Plan Construction (2005–2011) was approved by NDRC. It increased the length of Line 2 and Line 3, reaching 155 km with a cost of 68.8 billion yuan in Phase 2. • In 2008, the SZMG and the SZMC launched the rail + property model to construct Phase 2.
Phase 3 (2012–2020)	• In 2011, the NDRC approved the Shenzhen Urban Rail Transport Construction Plan (2011–2016), including Lines 6, 7, 8, 9, and 11. • In 2013, the SZMPNRB revised the plan by adding Line 10 and extending Lines 6, 7, 8, 9, and 11. The total length of Phase 3 was 240 km, and the investment was about 176 billion yuan. • In 2013, the SZMC used an innovative VC method to construct Phase 3, named Land Value as Investment Capital.

Source: Shenzhen Metro Corporation (2019).

Table 5-2: The History of Urban Rail Transport in Chengdu

Stages	Milestones
Germination period (1985–2004)	• In 1985, the Chengdu Municipal Planning Bureau (CMPB) set up the Integrated Transportation Planning Office and entrusted Southwest Jiaotong University with designing Chengdu's metro systems. • In 1992, the CDMG submitted a proposal for the first phase of Chengdu Railway Transport Project to the NDRC, but the NDRC subsequently rejected this proposal. • In 2004, the CDMG submitted the revision proposal to the NDRC again and established the CDRTG.
Phase 1 (2005–2012)	• In 2005, the NDRC approved the Chengdu Urban Rail Transport Construction Plan, involving Metro Line 1 and Line 2 with a length of 54 km and an investment of 19.5 billion yuan. • In 2012, the NDRC approved the Adjustment Plan of Chengdu Urban Rail Transport Construction Plan, adding the extension of Line 2 and the new Metro Line 3 and Metro Line 4. The total length of the tracks was 60.57 km, and the investment was 29.7 billion yuan.
Phase 2 (2013–2020)	• In 2013, the NDRC approved the Chengdu Urban Rail Transport Construction Plan (2013–2020). It included extension of Metro Lines 1, 3, and 4 and the new Metro Lines 5, 6, 7, and 10. • In 2015, the Adjustment Plan was approved by the NDRC, adding the length of original tracks and the new Metro Line 18. Eventually, the length of Phase 2 reached 262.4 km, and the total investment was 126.2 billion yuan.
Phase 3 (2016–2020)	• In 2016, the NDRC approved the Phase 3 Construction Plan for Chengdu Urban Rail Transport (2016–2020). It included the new Metro Lines 8, 9, 11, and 17 and extension of Metro Line 10. The total length of Phase 3 was 124.2 km, and the investment was 61.2 billion yuan. • In 2017, the CMPB issued the 13th Five-Year Plan for Chengdu Rail Transport Construction, which explicitly encouraged TOD and VC. • In 2019, the first official rail + property project, Lu Xiao Station, was constructed.

Source: Chengdu Rail Transport Group Co., Ltd (2019).

5.2.3 Real Estate Market

Alongside urbanisation and economic growth, strong property market demand provides a good foundation for using VC in China. This is because transportation improvements can only enhance land values where property market demand exists (Suzuki et al., 2015), and when the real estate market is in a downturn, there may be a lack of incentives for investing in real estate (Mu and de Jong, 2012)

China has experienced remarkable progress in improving the urban housing market. Under the State Council's policy titled *Notice on Further Deepening the Reform of the Urban Housing System and Accelerating Housing Construction*, the whole country has entered the commercialised real estate market era in 1998 (Shi et al., 2016). Except for a slight price drop in 2008 caused by the impact of the global financial crisis and the slowdown in growth brought about by the China–US trade war in 2019, the average house price in China's cities has maintained a strong upward trend. Figure 5-4 illustrates China's housing price growth in the past 20 years.

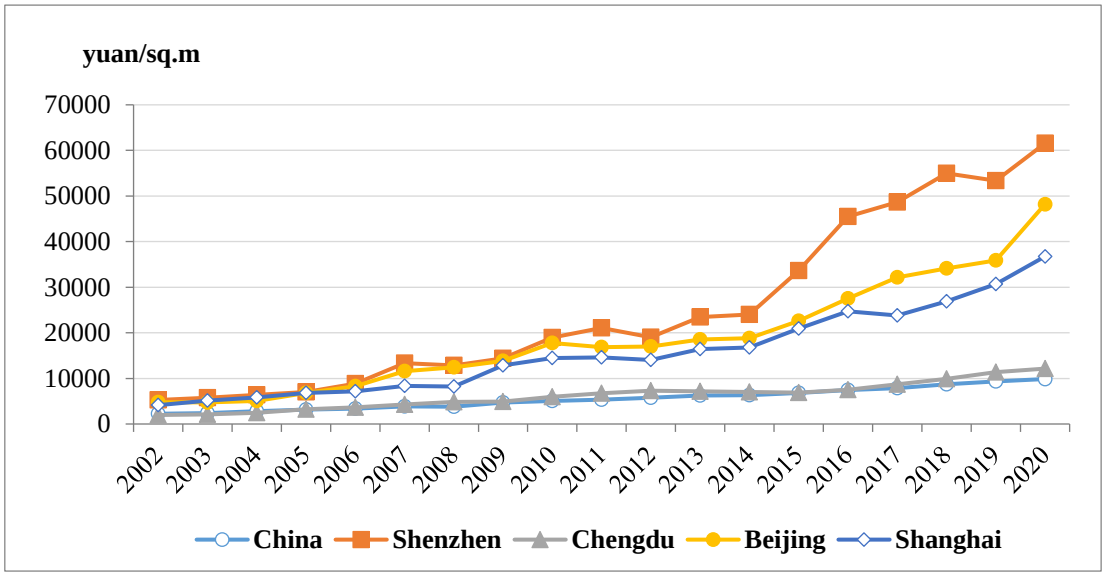

Figure 5-4: Average Selling Price of Housing in China

Source: Chinese Academy of Social Sciences (2019); National Bureau of Statistics of China (2021).

However, this phenomenon caused low-income people, especially young adults and rural–urban migrants, to struggle to meet these higher housing prices. In this situation, to develop a healthy real estate market in China, the central government launched a series of documents and instructions that strongly intervened in the Chinese real estate industry. These policies have

required local governments to increase the construction of affordable housing since 2008 (Shen et al., 2018). For example, the State Council (2003a) issued the *Notice on Promoting the Sustainable and Healthy Development of the Real Estate Market* to implement an urban housing development system, which mainly focuses on commodity housing and promotes affordable housing. The State Council (2008) prepared the *Several Suggestions on Promoting the Healthy Development of the Real Estate Market* to speed up the establishment of a multi-channel system that addresses the housing difficulties of low-income urban families, focusing on low-rent housing and affordable housing. In this situation, China's real estate market also focuses on healthy and sustainable development that can benefit the local community.

Because of the decisions made by the central government to control the allocation of affordable housing, the real estate industry has become one of the key industries at the local level. In Shenzhen, the housing price has shown a steady upward trend, but with slight declines during the global financial crisis in 2008. The SZMG was concerned that the real estate market might be overheated and prepared a housing purchase restriction policy in 2010. The housing purchase restriction policy states that the people with Shenzhen *Hukou* status (the Chinese household registration system) can buy two housing units. If people who do not have Shenzhen *Hukou* status provide tax payment certificates or social insurance payment certificates for more than one year in Shenzhen, they can buy one housing unit (Shenzhen Municipal Government, 2010b) . However, the effectiveness of this restriction policy just worked for 2011–2012. After 2012, the housing prices in Shenzhen showed a straight upward trend, as Figure 5-4 shows.

Moreover, there has been no significant increase in housing prices in Shenzhen because of the China–US trade war in 2019. As an open economy city, Shenzhen is very sensitive to global political and economic changes. Therefore, stabilising housing prices in Shenzhen is significant, and the central government is also aware of this. For example, in November 2019, in collaboration with the HKSAR government, the central government formulated a new policy that allows Hong Kong residents to purchase houses in mainland cities of the Greater Bay Area (Guangdong Province, Hong Kong, and Macao). This new policy expects to attract Hong Kong people to buy properties in Shenzhen and other cities in Guangdong Province (Greater Bay Area, 2019).

Although external political and economic uncertainties may influence Shenzhen's real estate market, the housing prices in Shenzhen are still among the most expensive in China. In this case, land sales revenue is still an important source of funding for urban infrastructure development, such as construction of an urban rail transport network, a high-speed road network, water supply, gas supply, airport, and other infrastructure in Shenzhen (Qian et al.,

2015). Thus, a robust real estate market in Shenzhen is regarded as providing a basis for capturing incremental land value. High housing prices attract real estate developers to participate in urban development projects, as there are perceived benefits. However, over-reliance on the real estate market means that VC projects are probably uncertain for future developments.

Compared with the developed coastal cities of China, the real estate market in western inland cities is not so prosperous. For example, real estate investment was 691.313 billion yuan, and the sale of housing in the eastern region was 838.3 billion yuan, whereas the real estate investment was 301.9 billion yuan and the sale of housing in the western region was 348.8 billion yuan in 2019 (National Bureau of Statistics of China, 2020). Like other cities in China, Chengdu was in line with the central government's policy, and Chengdu's welfare housing system, which lasted for more than 40 years, abruptly stopped in 1998. The real estate market began to liberalise, and many real estate companies have set up branches in Chengdu. As Figure 5-4 shows, Chengdu's real estate price has shown a rising trend in the past two decades. Interestingly, unlike some economically oriented cities, housing prices in Chengdu have not been significantly affected by global political and economic risks. For example, Chengdu's housing price remained constant during the 2008 global financial crisis, the 2008 Sichuan Wenchuan Earthquake, and the 2019 China–US trade war.

However, because of the housing purchase restriction policy in 2011, housing prices declined between 2012 and 2015. The house purchase restriction policy stipulates that residents (those with Chengdu *Hukou* status) who already own a house in the urban area can buy a second one. Those who do not have *Hukou* status can purchase a house in the central city if they have a tax certificate or social insurance certificate, but they can only buy one house. If the proof cannot be provided, non-*Hukou* citizens will be prohibited from buying houses in the urban area (Chengdu Municipal Government, 2011). This housing purchase restriction policy was criticised, as it ignored the suburban areas, leading to increased housing prices in Chengdu's suburban areas. In this situation, the CDMG subsequently introduced further housing purchase restrictions that expanded to suburban areas, but housing prices continued to show an upward trend.

In this regard, the relatively expensive land prices and the demand for housing provided an opportunity for the CDMG to initiate VC projects in Chengdu in 2019. Primarily, developers are optimistic about the continually rising housing prices in Chengdu as the population increases. However, as mentioned, there is a housing price gap between the eastern coastal regions and western inland cities, so Chengdu's housing price is lower than that of many

eastern coastal cities and developed cities. Thus, it can hardly be said that Chengdu has the booming real estate market that can advance the VC projects.

5.3 Environment for Private Sector Participation in Developing Urban Rail Transport

Before the reform and opening-up policy, China had implemented a unified urban development policy, which meant that the central government's budget allocation determined the funds used for local economic activities (Wu, 1999). Therefore, financial appropriations were the only source of funds for constructing transportation projects, and the central government played a planning role in the urban construction process at this stage (Zhan et al., 2017). In this situation, local governments had limited funding sources, and urban transportation construction was not sufficiently supported and developed (Cao and Zhao, 2011).

Since the fiscal decentralisation in the 1990s, there has been a significant increase in investments into transport facilities. At this stage, the municipal governments could retain higher revenue rates and allocate funding more freely (Wu, 1999). Local governments, state-owned enterprises, and foreign investors have become important investors in urban transportation. In 2001, the concept of PPP was officially embraced by the central government. The Chinese National Planning Committee[9] issued the policy entitled *Suggestions to Promote and Guide Private Investments* to call for local governments to create an environment for private investors and promote the development of private investment (De Jong et al., 2010).

In response to the central government's intention to promote PPPs, the provincial governments formulated corresponding policies. In Guangdong province, the Guangdong Provincial Government (GPG) prepared the *Opinions on the Implementation of Government and Social Capital[10] (PPP) in the Field of Public Services* in 2015. The policy ruled that the basic principle of PPP implementation in Guangdong is based on government guidance and market operations (Guangdong Provincial Government, 2015). In 2016, the GPG formulated the policy titled *Implementation Opinions on Encouraging Social Capital Investment and Financing Mechanisms in Innovative Key Areas*. This policy stated that attention should be

[9] The Chinese National Planning Committee changed its name to the National Development and Reform Commission.

[10] Social Capital in China means private sector money.

paid to comprehensive land development around urban rail transit stations and attracting private sectors to participate in urban rail transit construction (Guangdong Provincial Government, 2016b).

Similarly, the Sichuan Provincial Government (SPG) issued *the Opinions of Sichuan Provincial Government on Promoting the Partnership Model between Government and Social Capital (PPP) in the Field of Public Service* in 2015. The policy highlighted that the government should select private investors with investment, operation and management capabilities through competitive methods (Sichuan Provincial Government, 2015). Moreover, the SPG issued the *Guiding Opinions on Deepening the Reform of Railway Investment and Financing System* in 2016. This policy encouraged the private sector to participate in land development along the railway system (Sichuan Provincial Government, 2016b).

At the local level, in Shenzhen, the SZMG prepared *Shenzhen's Implementation Plan for Government and Social Capital Cooperation (PPP)* in 2017. The SZMG advocates for diversified funding models for urban rail transport development. In this regard, apart from partnerships with state-owned enterprises, SZMC partners with enterprises and institutions that have private and overseas backgrounds in the urban rail transport field (Shenzhen Municipal Government, 2017a). For example, the SZMG signed a Principal Agreement on Investment, Construction and Operation of Shenzhen Rail Transport Line 4 with Hong Kong MTRC, allowing it to construct, operate, and manage Metro Line 4 for 35 years (Xue and Fang, 2015). However, this kind of partnership also created several issues for local planners and residents in Shenzhen. For example, the Shenzhen Metro App cannot query the status of passenger flow on Metro Line 4. Moreover, because Metro Line 4 has a different constructor and designer, the connections and channels were difficult to link with other lines (Planner 2, Shenzhen, interview, 2019).

In Chengdu, the CDMG published the *Implementation Opinions on Further Promoting Government and Social Capital Partnership (PPP)* in 2017. This policy stated that state-owned enterprises, private enterprises, and foreign enterprises are all encouraged to participate in PPP through open bidding (Chengdu Municipal Government, 2017a). In reality, Chengdu has not developed partnerships with the private and foreign enterprises for constructing rail transport systems. Although Chengdu has attempted to learn from the advanced VC experience of the Hong Kong MTRC, the CDMG has no plan to develop a financial relationship with the Hong Kong MTRC because of its "foreign" background (Manager 2, Chengdu, interview, 2019). The CDMG and CDRTG mainly rely on partnerships with the central government's stated-owned

enterprises to address the funding issues. This is because the central government's stated-owned enterprises can provide stable funding and ensure the protection of state-owned assets.

In this case, both the central and local governments created several policies to support the involvement of private sectors to fund urban rail transport systems. Investments in urban rail transport have shifted from reliance on government funding to PPP funding in Shenzhen and Chengdu. Furthermore, the VC mechanism is beginning to be advocated in Chinses cities in order to face the challenge of greater public transport needs (Yang et al., 2020a). Table 5-3 illustrates the funding sources used to develop different phases of the urban rail transport systems in the two case cities of Shenzhen and Chengdu. The next Section 5.4 explores in detail the development of the policy and institutional environment for VC mechanism for public transport development in China and two case cities.

Table 5-3: Main Sources of Funding for Developing Urban Rail Transport Systems in Shenzhen and Chengdu

Phase	Shenzhen	Chengdu
Phase 1	The SZMG provided traditional government funding, accounting for 70% of the investment. The remaining 30% was obtained through funds raised by the SZMC, usually from bank loans.	The CDMG was responsible for 43% of the funding needed, and the rest was provided by the CDRTG through bank loans.
Phase 2	The proportion of the construction cost covered by the SZMG decreased from 70% to 50%, whereas the SZMC funded the remaining 50% through PPP and VC with the rail + property model.	The CDMG provided 30% of the investment, and the CDRTG used the PPP method to fund the remaining 70%. The CDRTG (30% of registered capital) partnered with the central government's state-owned enterprises (70% of registered capital) to establish a special purpose vehicle.
Phase 3	The SZMG offered 40% capital, and the rest of funding was provided by the SZMG. Besides bank loans, PPP, and rail + property, the SZMG used the VC pilot scheme for land value as investment capital.	The CDMG was responsible for 20% of the investment, and the rest required funding by the CDRTG through bank loans, PPP, and VC.

Source: Shenzhen Municipal Government (2012); Chengdu Rail Transport Group (2017b); State-owned Assets Supervision and Administration Commission of State Council (2017); China CITIC Bank (2018); Shenzhen Metro Corporation (2019).

5.4 The Planning and Policy Environments of Value Capture

5.4.1 Urban Planning Context

Since the reform and opening-up policy, China's urban governance has undergone significant changes in the political–economic environment, such as marketisation, the introduction of foreign capital, and decentralisation[11] (Gar-on Yeh and Wu, 1999; Wu, 2002). The hierarchy still exists, and all government departments and units are still under the supervision of corresponding higher-level institutions (Wu et al., 2006). The State Council is the highest administrative organisation of the central government of China. The State Council is responsible for planning national economic activities, approving and managing urban and rural construction projects, and allocating the tasks to the lower level of governments (Li et al., 2016b).

As China's urban planning framework, the National People's Congress promulgated the *Urban Planning Act* in 1990, which was a major milestone in urban planning in the history of China (Gar-on Yeh and Wu, 1999). According to this law, the central and provincial governments maintained their influence over important development decisions by reviewing and approving master plans, and most of the authority related to the local development was delegated to the local government. However, this planning law still regarded the government as the representative of various interest groups or the only stakeholder in urban construction. Subsequently, the new *Urban and Rural Planning Law* was enacted in 2008 as a legal planning framework. It identifies the hierarchy structure of urban planning in China (see Figure 5-5).

[11] Decentralisation reduces the capacity and responsibility of the central government to regulate local growth, and increases local autonomy and strengthens the regulatory powers of local governments (e.g., urban planning and land management). In this process of decentralisation, many administrative and economic decision-making powers in the urban development were acquired by local governments, which enhanced local ability to manage economic and resources (Wu et al., 2006).

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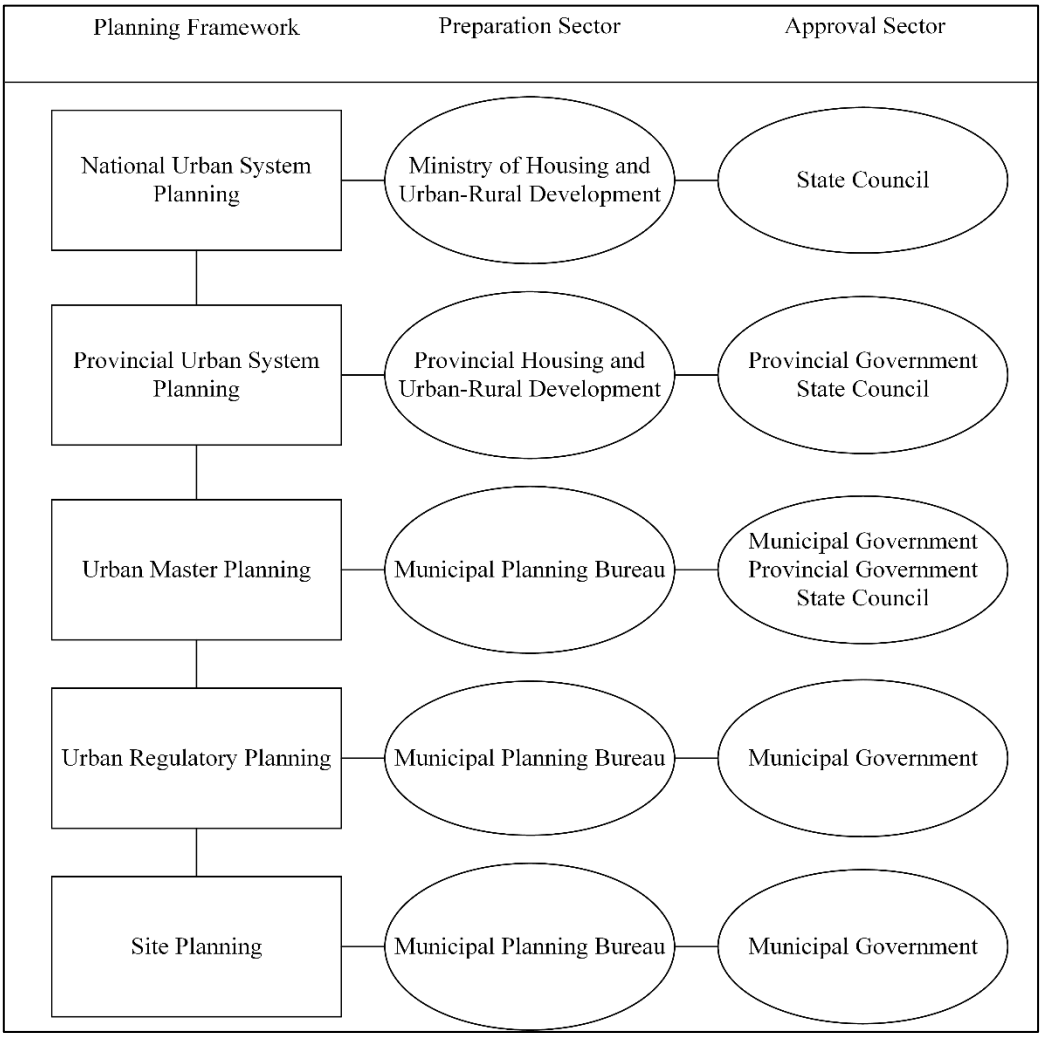

Figure 5-5: Hierarchy of Urban Planning in China

Source: drawn by author.

Due to decentralisation and the marketisation of land, the decisions related to local development are made by local governments (Qian, 2013). Stated-owned enterprises, developers, and many other land-related interest groups often gain, maintain, and enhance their power by forming partnerships with the government (Han and Wang, 2003). Notably, the provincial and central governments' intentions, policies, and plans are important factors in local urban development in China (Ng and Tang, 2004a). A well-designed local planning framework can help to ensure that VC can happen (Suzuki et al., 2015). However, the functions of local government are distributed in various departments. For example, in China, when integrating transportation and land use, transport agencies may not understand the distribution of the population and jobs in the city, so they draft transportation network plans based on predictions derived from small-scale survey data. Land use agencies may not know the traffic

flows or the locations of the links and nodes in the traffic plan, so they cannot generate a city plan to meet traffic needs (Mu et al., 2019). In this situation, although various stakeholders may be involved in resolving a joint problem, they may refuse to exchange resources and share information (Lu and Li, 2020).

In addition, the role of the local community cannot be ignored in the planning and implementation of VC. The Decision of the Central Committee of the Communist Party of China on Some Major Issues Concerning Comprehensively Deepening the Reform of the Third Plenary Session of the 18th CPC Central Committee put forward the notion that "establishing a distribution mechanism for increment land value that needs to consider the State, collective and individual, and rationally improves personal income." (CPC Central Committee, 2013). Nonetheless, the situation of public participation is also vague in the process of VC in China. There are no supportive policies and regulations explaining how people can participate in VC projects. Possibly applicable policies and regulations are the *Environmental Impact Assessment Act* and the *Urban and Rural Planning Law*, which formalised top-down, government-led public participatory practice (Tang et al., 2008; Zhang et al., 2020).

Following China's urban planning system, the provincial governments prepare provincial urban system plans to guide regional development. For example, the GPG compiled the *Guangdong Province Urban System Planning (2006–2020)*. In this plan, the GPG proposed to build a rapid transport system in Shenzhen by strengthening the construction of the Shenzhen metro and connecting it with the Guangzhou–Shenzhen inter-city rapid rail transport system (Guangdong Provincial Government, 2012). The *Guangdong 13th Five-Year Plan* also highlights the vital role of Shenzhen in the development of the Pearl River Delta (PRD), including the development of intercity and urban rail transport systems (Guangdong Provincial Government, 2016a).

Similarly, the SPG prepared the *Sichuan Provincial Urban System Plan (2000–2020)*, approved by the State Council in 2003. It stated that regional developments in Sichuan Province should be centred on Chengdu (Sichuan Provincial Government, 2003). The SPG emphasised that Chengdu should strengthen its functions as an important economic centre, a science and technology centre, a cultural and creative centre, a foreign exchange centre, and a comprehensive transportation hub in the western region (National Development and Reform Commission, 2016a). From the socio-economic perspective, the *Sichuan 13th Five-Year Plan* states that development of urban rail and other public transportation systems should be accelerated, particularly the Chengdu metro network (Sichuan Provincial Government, 2016a).

Overall, both the GPG and SPG had straightforward attitudes that support the development of Shenzhen's and Chengdu's urban rail transport.

The city-level urban planning framework directly impacts VC planning. In Shenzhen, urban planning has undergone continual reform. Before the reform and opening-up policy, urban planning was only reliant on the SZMPNRB, which was responsible for planning matters in Shenzhen. After establishment of the SEZ, Shenzhen began to revise urban planning in a rolling way and entered into a legal and comprehensive process (Ng and Tang, 2004b). The SZMPNRB selected consultants and research institutions to participate in the urban planning process and organised public participation.

Shenzhen has three official versions of its urban master plan, and each version is to deal with new urban challenges. Moreover, several planning transformations occurred during the formulation of each new version of the urban master plan. This helped to structure a planning framework that provided a good foundation for conducting VC developments in Shenzhen. The first version, the *Shenzhen Urban Master Plan (1986–2000)*, was prepared by the SZMG in 1986. The highlight of this version of the urban master plan was that it estimated the growth of road traffic and reserved a southeast-oriented rapid rail line (China Academy of Urban Planning & Design, 1986).

Subsequently, Shenzhen encountered new challenges from local and regional factors (e.g., urban sprawl, limited land resources, and its relationship with Hong Kong and other cities of Pearl River Delta region) that led to the formulation of *the Shenzhen Urban Master Plan (1996–2010)* (Shenzhen Municipal Government, 2018b). The SZMPNRB prepared it in 1993, the GPG approved it in 1999 and the State Council gave final approval in 2000. It is pointed out that Shenzhen should actively prioritise the development of large-capacity, fast and convenient public transport modes by coordinating ground-based public transport and urban rail transport and other travel modes (State Council, 2000).

Importantly, during the formulation of the *Shenzhen Urban Master Plan (1996–2010)*, the SZMG implemented three significant planning transformations, including the introduction of public participation, institutional restructuring of the planning and land use sectors, and promulgation of the first local urban planning regulations. Specifically, when compiling the 1996–2010 version, the SZMPNRB used public notice, questionnaires, and expert consultation to collect public opinions on the urban master plan. Shenzhen's planners also realised that planning must be built on a unified state-owned land management platform, which can benefit from integrating resources and exploring the relationship between land resources and urban development (Expert 2, Shenzhen, interview, 2019). Furthermore, the *Shenzhen Urban*

Planning Regulation outlined Shenzhen's planning hierarchy framework, which consisted of five levels: the master plan, the sub-regional plan, the district plan, the statutory plan, and the detailed plan (Article 11). At the same time, the *Shenzhen Urban Planning Norms and Guidelines* and *Technical Guidelines* for the Preparation of Statutory Plans were published as technical support (Shenzhen Municipal Government, 1998).

In 2006, as required by the Ministry of Housing and Urban-Rural Development (MOHURD), Shenzhen conducted a new rolling revision of the urban master plan. In the *Shenzhen Urban Master Plan (2010–2020)*, the spatial structure of Shenzhen would form three axes, two belts, and multiple centres. It proposed that Qianhai, as one of the city centres, would form a dual centre structure with complementary functions and powerful regional radiation functions with the original Futian–Luohu centre (see Figure 5-6). It also highlighted the development of public transport to establish a multi-mode public transport system with rail transport, BRT, and conventional public transport (Shenzhen Municipal Government, 2010c).

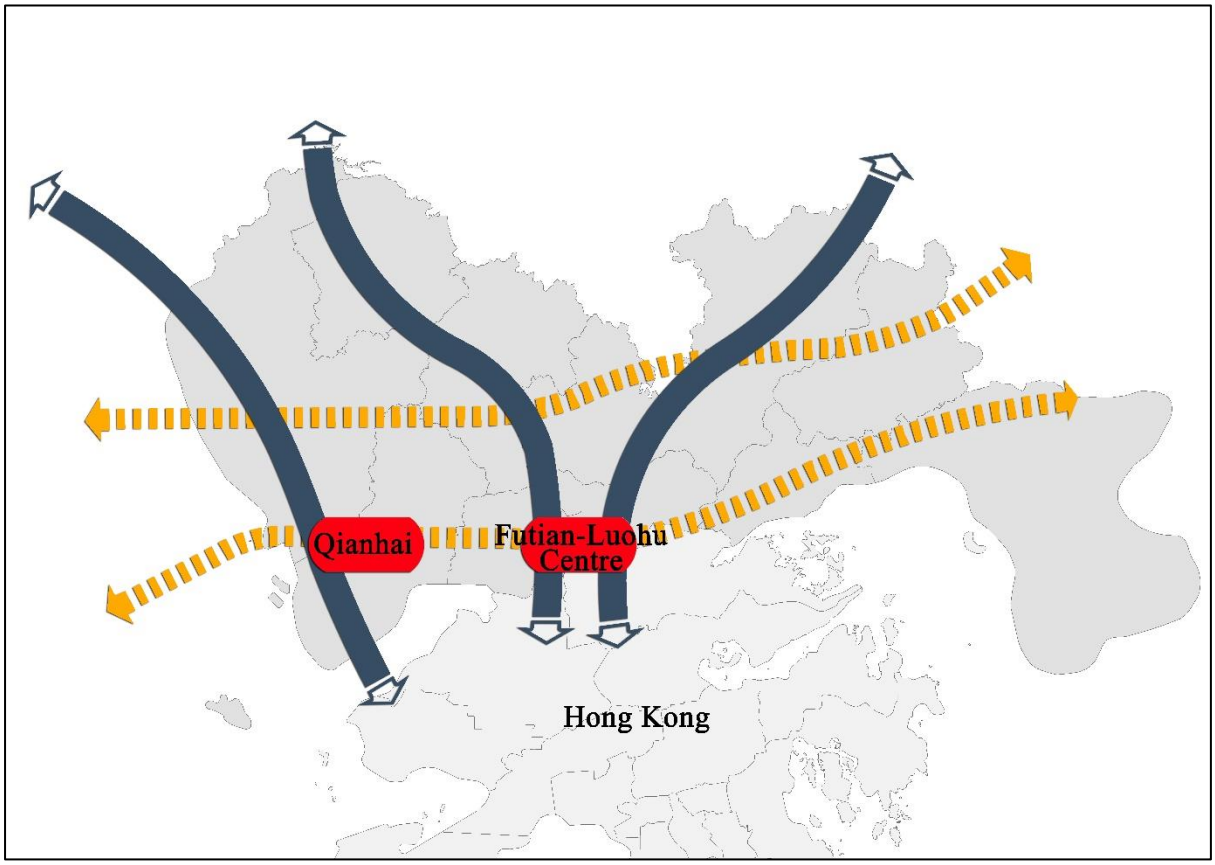

Figure 5-6: Shenzhen Urban Master Plan (2010-2020)

Source: adapted from Shenzhen Municipal Government (2010c).

In the process of preparing the *Shenzhen Urban Master Plan 2010–2020*, several planning transformations helped structure the planning framework in Shenzhen. These transformations also provided a good foundation for conducting VC in Shenzhen (see Table 5-4).

Table 5-4: Urban Planning Transformation Related to VC

Transformation	Output	Contribution to VC Development
Enhance long-term urban planning	Shenzhen Urban Development Strategy 2030	Conduct high-intensity development around the station; the population and employment centres should be arranged in the neighbourhood of the rail station as much as possible, with good pedestrian facilities and other connection services; and a public transportation hub, including residential, commercial and entertainment facilities around the station will be formed.
Develop short-term urban planning	Shenzhen's Short-Term Construction and Land Use Plan, Shenzhen's Construction and Land Use Plan Annual Implementation Plan	It indicates the details of the land used for construction, for example, how much lands can be supplied for rail transport, commercial use, residential use, and affordable housing.
Dual Platform	Dual platform for the Five-Year Plans and Shenzhen's Short-Term Construction and Land Use Plans	It coordinates the socio-economic development and spatial arrangement.

Source: Shenzhen Municipal Planning and Natural Resource Bureau (2006); Urban Planning & Design Institute of Shenzhen (2015).

These planning transformations supported the integration of land use and rail transport development, and the combination strategy of urban development and land use in the short term. Transportation projects could thus be arranged with clear funding and land use. For both the long run and the short run, the plan provides a useful framework for the development of VC, ensuring the feasibility of VC in Shenzhen. Figure 5-7 illustrates the urban planning framework in Shenzhen. Notably, the scale of built-up lands in the urban master plan may not exceed the scale of built-up lands determined by the land use master plan, so the land use master plan is the dominant plan.

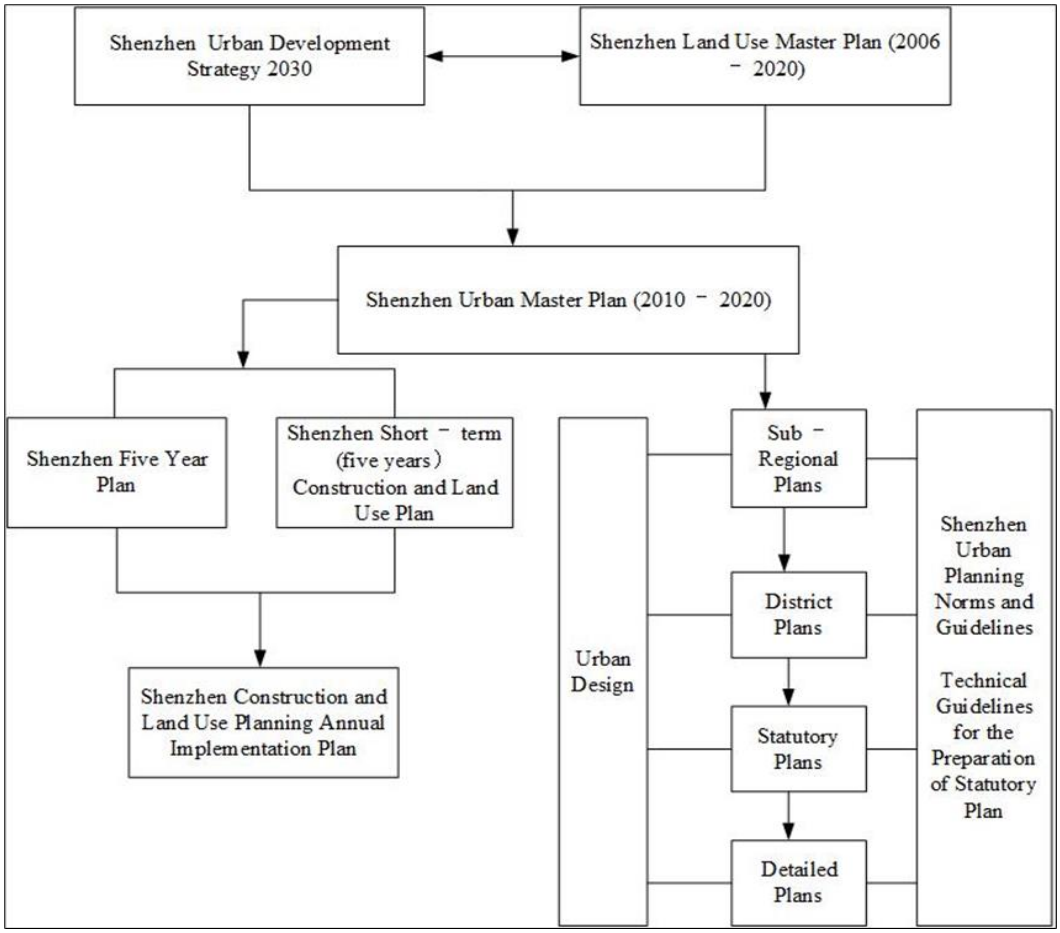

Figure 5-7: Hierarchy of Urban Planning in Shenzhen

Source: drawn by author.

In addition, the *Shenzhen Urban Master Plan (2010–2020)* emphasised land use issues because Shenzhen has encountered space development problems and resource bottleneck constraints (Article 2). Article 40 requires the land used for commercial, residential, public management and public services, transportation, and other urban construction to account for 46% of the total land area in Shenzhen, and supports high-intensity development around the rail station. Article 73 stressed the utilisation of underground space, and pointed out that the underground space of rail transport can be used for multiple purposes such as parking, commercial services, and walkways. However, the underground space cannot be developed for extensive commercial use (Shenzhen Municipal Government, 2010c).

In this situation, the strategies of land and spatial development around the rail transport station have been highlighted, but no detailed information about VC was provided in the urban master plan. Moreover, the process of formulating the urban master plan further promoted

public participation. The SZMG used a diverse participation approach (e.g., hotlines, emails, local media, questionnaires, newspapers, seminars, exhibitions) to involve public opinions throughout the whole process. Overall, it can be seen that the planning transformations has supported urban development and VC in Shenzhen. Also, the SZMG has emphasised public participation in the urban planning framework, which can provide a public participatory approach to VC development.

Similarly, Chengdu has built its planning system through several rounds of urban master plan revision. Before the reform and opening-up policy, the urban master plan of Chengdu was developed by Soviet experts, emphasising form and pursuing momentum. The urban layout was based on the old city and developed compactly around it (Local Chronicles of Chengdu, 2013). After the reform and opening-up policy, the CDMPB prepared the *Chengdu Urban Master Plan 1982* and it was approved by the State Council and the SPG. This plan formed a pattern of production on the eastern side and residence on the western side in Chengdu. Moreover, Chengdu only had one ring road (Renmin South Road and Renmin North Road) in an urban area at that time, so this version of the urban master plan proposed the construction of a second ring road, the development of public transportation, and the construction of a "ring + radiation" road network system (Miao, 2019). By 1994, Chengdu's population and land use exceeded the planned scale, making the urban land and infrastructure seriously inadequate.

Therefore, the CDMPB invited the Chengdu Planning and Design Institute's experts, to conduct a new rolling urban master plan revision, and prepared the *Chengdu Urban Master Plan (1995–2020)*. This version of the urban master plan widened Chengdu's functions within Sichuan Province to the southwestern region: it is the political, economic, and cultural centre of the province; the science, technology, finance, commerce, and trade centre, and transportation and communication hub of southwest China; and a tourism centre and nationally historic and cultural city (Chengdu Municipal Planning Bureau, 1995). The *Chengdu Urban Master Plan (1995–2020)* proposed to extend new spatial developments to the east and south while controlling development in the north and west. However, the spatial development was inconsistent with the previous version of the urban master plan. This was because Chengdu's urban plan borrowed more and more Western concepts to boast the city's image, leading to restructuring of the urban spatial plan (Planner 2, Chengdu, interview, 2019).

In addition, the *Chengdu Urban Master Plan (1995–2020)* highlighted the development of urban transportation. The urban transportation development strategy focused on developing public transportation, establishing a transportation system with rapid rail and road transportation systems, integrating multiple transportation modes (Chengdu Municipal

Planning Bureau, 1995). In this case, the plan further strengthened the ring + radiation road network system and proposed the construction of five rail lines in the urban area.

According to the requirements of the MOHURD, the CDMPB prepared the *Chengdu Urban Master Plan (2011–2020)* by inviting the China Academy of Urban Planning and Design to participate in the process. The China Academy of Urban Planning and Design researched Chengdu's urban spatial development strategy and explored significant issues such as Chengdu's spatial layout and industrial development. Also, the *Chengdu Urban Master Plan (2011–2020)* adopted a combination of problem-oriented and goal-oriented research methods to strengthen the feasibility and foresight of planning. The plan identified the urban development strategy in Chengdu, such as urban-rural integration, regional coordination, spatial optimisation, and strengthening transportation hubs. It also emphasised the integration of the spatial structure of the urban system in the southern part of Chengdu to form the Tianfu New District, as shown in Figure 5-8 (Chengdu Municipal Planning Bureau, 2016).

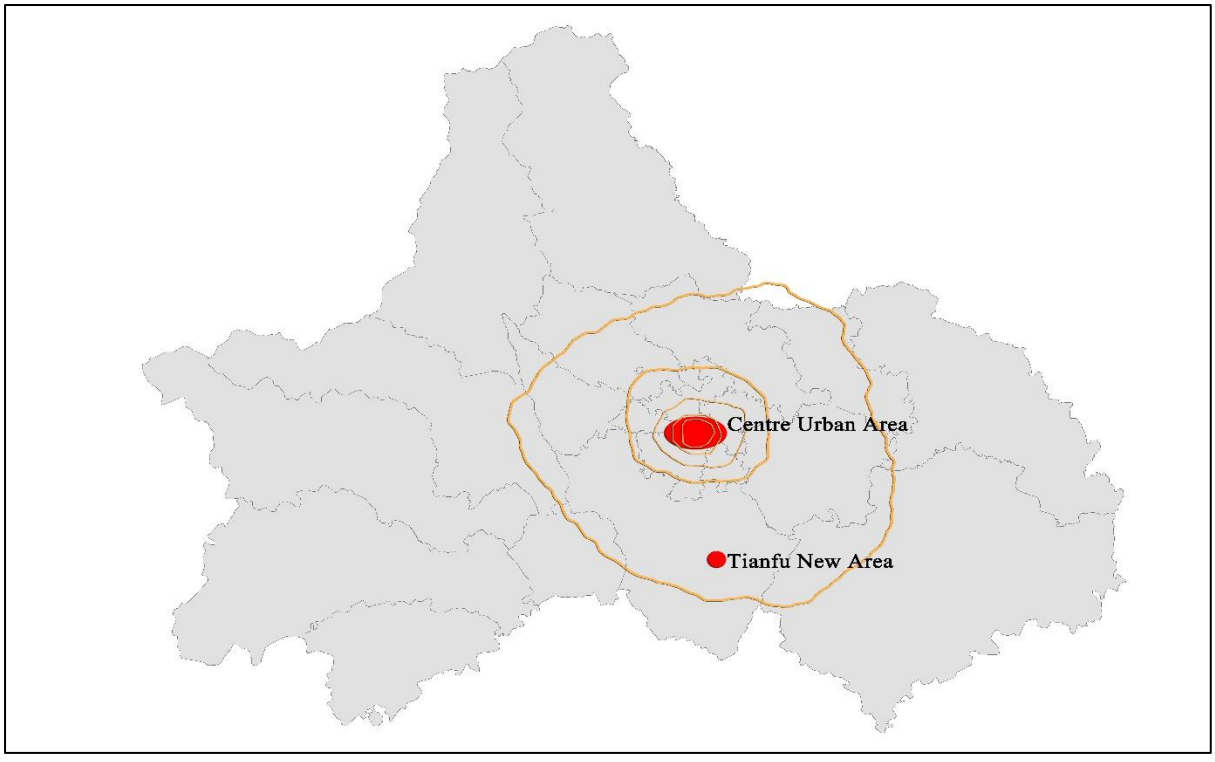

Figure 5-8: Chengdu Urban Master Plan (2011 – 2020)

Source: adapted from Chengdu Municipal Planning Bureau (2016).

This means that Chengdu's urban development will be in accordance with the dual centre concept, including the central urban area and Tianfu New District. It has also identified the need to establish a multi-level public transport system, which is based on the traditional bus,

with the metro system as the backbone, supplemented by tram and rapid bus transport (Chengdu Municipal Planning Bureau, 2016). This version of the urban master plan highlighted the importance of developing urban rail transport in Chengdu, focused on underground space, and proposed the TOD model. Detailed information is shown in Table 5-5.

Table 5-5: Urban Rail Transport and Underground Space Development in the Chengdu Urban Master Plan (2011 - 2020)

Articles	Contents
Article 41	Using the guiding role of infrastructure to strengthen the connection between the new district and the central city through highways, expressways, and rail transport and to adopt a TOD model for coordinating the development of land and transportation facilities in the Tianfu District.
Article 49, Article 54, Article 143, Article 144, Article 143, Article 150	Implementing the public transport priority policy by establishing a multi-level public transport system with rail transport as the backbone, road public transport as the main body, and taxi as a supplement; strengthening the coordinated development of urban transport and land use; planning urban rail lines to form a "ring + radiation" network.
Article 141, Article 142	Focusing on the development of urban areas with dense public activities and high development intensity, and major stations and urban centres determined by the rail transport network plan; developing underground space and establishing an underground space system relying on a metro network and urban public centres such as civil air defence engineering, parking in the central area, and underground commercial facilities.

Source: Chengdu Municipal Planning Bureau (2016).

Table 5-5 shows that Chengdu has some issues in planning VC and TOD matters. Planners have suggested the use of TOD for the development of Tianfu New District, but no information related to the central urban area. Moreover, unlike the *Shenzhen Urban Master Plan (2010–2020)*, the plan did not mention land for VC development, and coordination between socio-economic development and spatial arrangement. This implies that Chengdu did not form a comprehensive urban planning framework to support VC planning. In addition, the CDMPG only used traditional expert participation without public involvement in preparing the *Chengdu Urban Master Plan (2011–2020).*

Chengdu's planning framework has started to change after the central government selected Chengdu as one of the National Urban and Rural Comprehensive Supporting Reform Pilot Zones in 2007 (Chengdu Municipal Government, 2009b). The CDMG promulgated the *Chengdu Urban and Rural Planning Regulations* in 2009, and it provided a regulatory framework for Chengdu's planning. Specifically, this regulation identified that Chengdu's planning framework should include urban planning, town planning, township planning, and village planning. It highlighted the importance of public notice in the urban planning process.

It also proposed that the urban master plan, the town master plan, and the township and village plans be based on the national economic and social development plan and linked to the master land use plan (Chengdu Municipal Government, 2009a).

In this situation, Chengdu's planning framework started to become apparent. However, there was minimal information relating to public participation in the urban planning process. Although, according to the regulations, the CDMPB revealed the planning results to the public, this was an ineffective public participation method. There was no information to support how much public feedback they received and how they responded to the feedback. Chengdu's public participation in urban planning is still at the initial passive participation stage, elite planning is dominant, and there is no public participation or interaction (Expert 2, Chengdu, interview, 2019).

To strengthen the management of urban planning and ensure its effective implementation, the CDMPB issued the *Chengdu Technical Management Regulations for Urban Planning* and *Regulatory Detailed Planning Compilation Technology* as technical support. Thus, Chengdu eventually formed a systematic urban planning framework (see Figure 5-9).

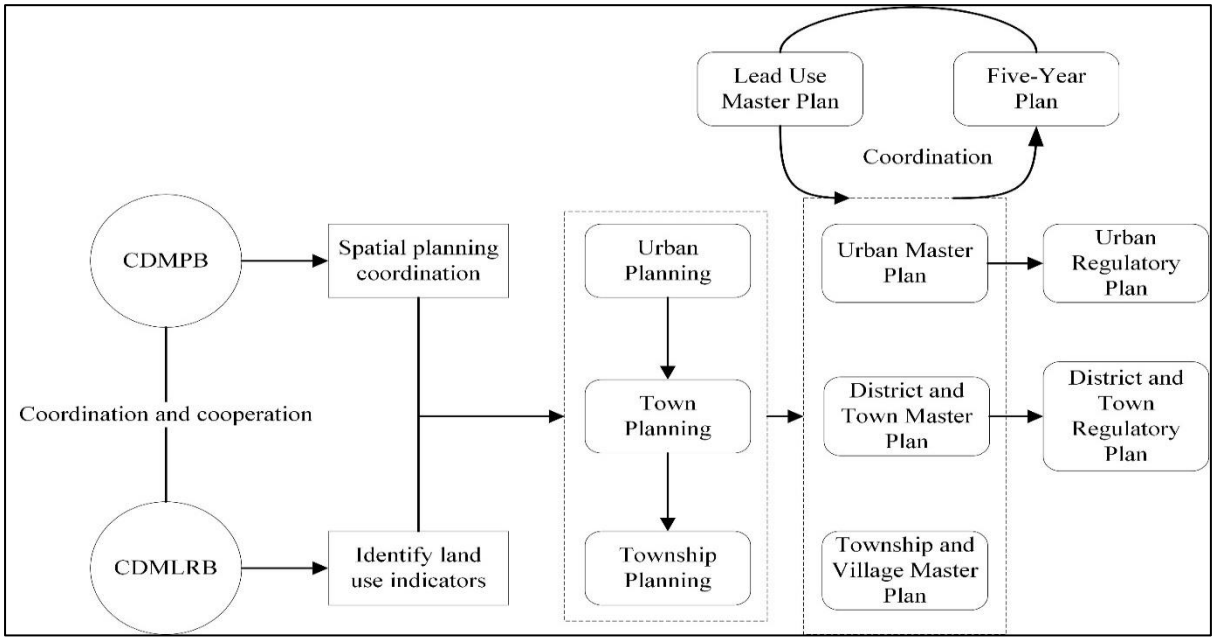

Figure 5-9: Chengdu's Urban Planning Framework

Source: drawn by author.

However, the CDMG has not directly mentioned Chengdu's VC development and the concept of VC in the urban master plan, resulting in a gap in planning guidance. This phenomenon means that planners and governmental officials may not know how to use VC, in

what form, and with whom (Planner 1, Chengdu, interview, 2019). Overall, although Chengdu has formed a systematic planning framework, there are still many problems that are not conducive to VC. For example, several versions of the urban master plan are inconsistent with the development of urban space, there is no guidance about VC planning, and public participation is weak.

5.4.2 Urban Rail Transport Planning Context

There is no specific national law on transportation planning in China. According to the *Urban and Rural Planning Law*, transportation planning is usually considered an integral part of urban planning (Shan and Yai, 2011). The ministries and administrations involved in conducting urban transport planning are indicated in Figure 5-10.

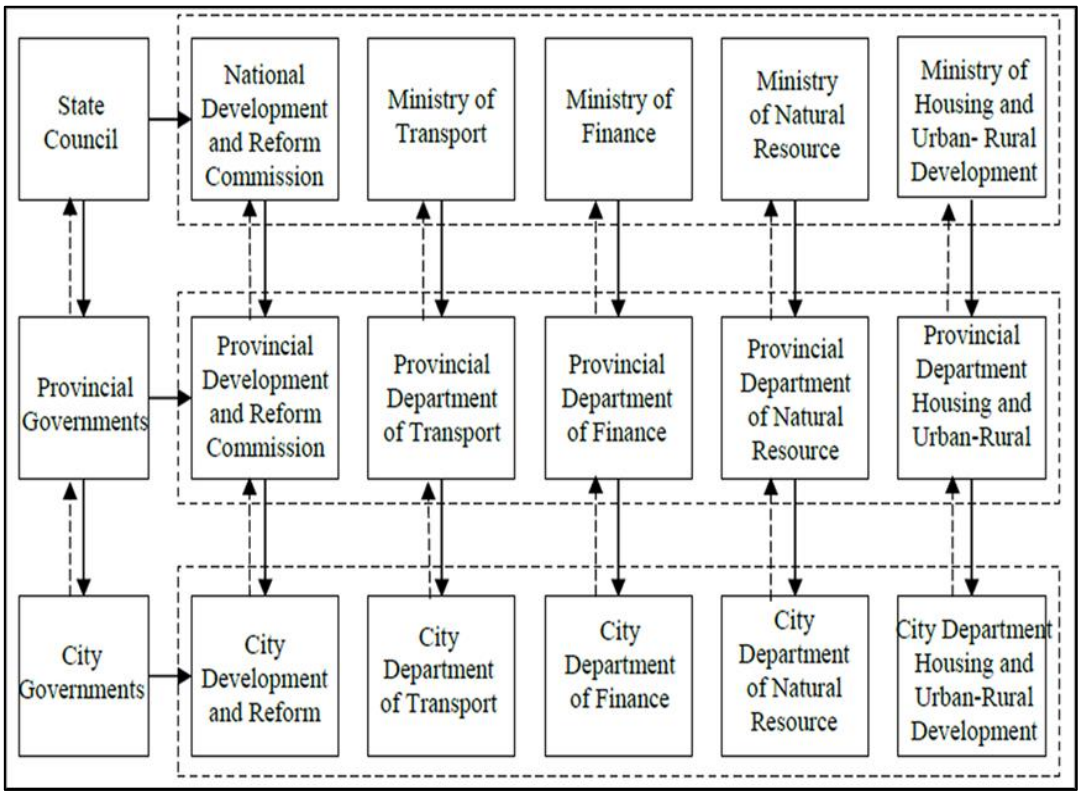

Figure 5-10: General Administrative Structure of the Urban Transport System in China

Source: drawn by author.

At the central level, to support VC planning and implementation, the State Council (2014) promulgated the *Opinions of the State Council on Supporting the Land Comprehensive*

Development of Rail Construction. This policy encourages the combination of government guidance and market independence to promote land developments related to rail construction. The document divided rail stations into existing and new rail stations and offered guidance on VC development strategies in China (see Table 5-6).

Table 5-6: Types of Urban Rail Stations in China

Station category	Land development strategies
Existing stations	• Prepare for reconstruction planning. • Provide land use policy support: support transport agencies to buy surrounding lands. • Promote the use of existing land resources: transport agencies can lease land, use land as registered capital, or transfer land between the subsidiaries of transport agencies. • Encourage development of the stations' aboveground and underground space.
New stations	• Support the unified joint construction of newly built railway stations and comprehensive land development projects. • Based on urban plan and land use plan, the scope and scale of land development should be identified. • Determine the conditions of planning and design such as building space, road traffic planning, development intensity, and construction sequence. • Supply lands in a market-oriented approach: bidding, auction, or listing

Source: State Council (2014).

In 2015, the MOHURD prepared the *Notice on Strengthening the Planning Related to the Comprehensive Development Around Rail Station Areas*. It further proposed to incorporate comprehensive land development around rail station areas into urban planning, and to coordinate rail station development and urban development (Ministry of Housing and Urban-Rural Development, 2015b). Meanwhile, the MOHURD published the *Guidelines for Planning and Design of Areas Along Urban Rail* to offer technological standards and norms. The guideline encourages compact land development near stations by specifying the construction density of different types of urban rail stations (transportation hub stations, central urban stations, group stations, special control stations, suburban stations, and general stations[12]) (Ministry of Housing and Urban-Rural Development, 2015a).

[12]See the land use function and construction intensity guidance
http://www.planning.org.cn/law/uploads/2015/12/4971_1449795706.pdf

The State Council (2017) prepared the *13th Five-Year Plan for Modern Comprehensive Transportation Systems* as the national-level plan that indicates the requirements and directions of transportation developments for 2016–2020. The plan encourages the comprehensive utilisation of transportation infrastructure and the aboveground, underground, and surrounding spaces in accordance with urban and transportation plans. In the same year, the *Guidelines on Promoting the Development of Municipal (Suburban) Railways* was jointly published by the NDRC, the MOT, and the MOHURD. This policy focused on exploring innovative investment and financial models for developing rail transport systems. It encouraged rail-related enterprises (transport agencies) to construct a comprehensive VC development mechanism through developing the surrounding property, property leasing and management, and commercial development of stations and depots (National Development and Reform Commission, 2017). However, the common issues of a series of supportive policies and plans is that these documents are simply statements of VC initiatives in China. It is not easy to find information related to planning and implementing VC in the local context in China.

At the provincial level, the *Guangdong 13th Five-Year Plan for Comprehensive Transportation* was formulated by Guangdong Provincial Development and Reform Commission and Guangdong Provincial Transportation Bureau to support the development of Pearl River Delta's inter-city railway and urban rail transport system. Moreover, Shenzhen's rail transport construction and the Qianhai Transportation Hub have also been listed as major transport infrastructure in this special plan (Guangdong Provincial Development and Reform Commission and Guangdong Provincial Transportation Bureau, 2017). Importantly, the *Guangdong 13th Five-Year Plan for Comprehensive Transportation* stated that the GPG encouraged private investors to participate in the construction and operation of transportation infrastructure (PPP) and explored VC with the rail + property model to attract private agents to directly invest in transportation projects (Guangdong Provincial Development and Reform Commission and Guangdong Provincial Transportation Bureau, 2017).

Similarly, the Sichuan Development and Reform Commission and the Sichuan Provincial Transport Department announced the *Sichuan 13th Five-Year Plan with Comprehensive Transportation Development* to guide transportation development. The document said that the provincial government would invest 210 billion yuan to support the construction of rail transport systems. It also stated that Chengdu had still not built an urban rail system network, and the SPG strongly supported the construction of Chengdu's urban rail transport (Sichuan Provincial Government, 2017). However, the SPG has not prepared any policies and guidance to support planning or to implement VC in Chengdu and Sichuan Province. Thus, the SPG has

not created a formal policy environment that supports VC, which means that VC planning lacks higher-level guidance.

At the city level, Shenzhen prepared the urban rail transport plan as a special urban master plan. The *Shenzhen Urban Master Plan (1986–2000)* did not involve a detailed urban rail transport plan because it focused on the road infrastructure. The *Shenzhen Urban Master Plan (1996–2010)* finalised the primary network of the Shenzhen rail transport system and the layout of the rail transport system according to the urban spatial development plan (Shenzhen Municipal Government, 2010c). During this period, the *Shenzhen Urban Rail Transport Construction Plan (2005–2010)*, as a short-term plan compiled in 2003, was evaluated by the GPG and approved by the State Council. This short-term plan was the foundation for Phase 2 of urban rail transport construction, and it claimed that the land use plan along the railway line had been incorporated into the rail transport plan for the first time in China (Shenzhen Municipal Planning and Natural Resource Bureau, 2011b).

However, in the early stage of Phase 2, the construction of the urban rail transport entered a freezing period in Shenzhen because of the lack of schedule requirements and penalties for failing to complete tasks (Governmental official 4, Shenzhen, interview, 2019). This phenomenon subsequently improved because Shenzhen became the host city of the 26th Universiade in 2007. Shenzhen's public transport problem was one of the most concerning issues of the International University Sports Federation. In this regard, the mayor at that time promised, on behalf of Shenzhen, that before the Universiade, the total length of Shenzhen's rail transport system would reach 177 km (it was only 22 km at that time) and would operate Line 3 to connect the city centre and the Shenzhen Universiade Centre (30-minute journey) by 2010. Finally, Shenzhen upheld its commitments and successfully held the Universiade. The Universiade was one of the reasons why the SZMG and the SZMC explored innovative funding methods for developing urban rail transport because of the demand for high-quality rail transport systems and the cost of facilities (e.g., venues) related to the Universiade (Xue and Fang, 2015).

After the Universiade, the SZMG maintained its enthusiasm and entered the Phase 3 of urban rail transport construction. The SZMPNRB and the SZMDRC commissioned the Shenzhen Urban Transport Planning Research Centre to prepare the *Shenzhen Urban Rail Transport Construction Plan (2011–2016)* as a short-term plan, which was approved by State Council in 2011. This plan further highlighted the importance of land use and rail transport developments. Specifically, it supported stations with high-intensity development of residential, commercial and office land within a radius of 200 m. At the same time, it promoted medium-

to high-intensity development within a radius of 200~500 m (Shenzhen Municipal Planning and Natural Resource Bureau, 2011b). Moreover, this plan divided the stations into four levels to design the surrounding land development (see Table 5-7).

Table 5-7: Functional Positioning of Stations and Corresponding Planning and Design Countermeasures in Shenzhen

Types of station	Characteristics	The strategy of land development
Comprehensive hub station	Large-scale comprehensive passenger transportation hubs	It involves multi-modal transportation and transfer functions, and integrates large-scale residential, commercial, employment, entertainment, and other facilities to provide comprehensive transportation and regional services.
Transportation transfer station	Traffic transfer stations or stations that are tightly integrated with the road network	The function is mainly traffic transfer, supplemented by services.
Regional centre station	Stations located in major activity centres and recent key development areas of the city	The function is mainly based on regional transportation services, ensuring the close connection between the stations and the neighbouring residential and commercial zones, office buildings and other facilities. Sites can be used for high-density commercial and residential development.
General station	Stations in residential areas	The site can be developed for medium- to high-density residential and supporting service facilities.

Source: Shenzhen Municipal Planning and Natural Resource Bureau (2011b), p.35.

More importantly, the *Shenzhen Urban Rail Transport Construction Plan (2011 – 2016)* officially proposed the principle of VC as follows: "The rail network constructed by the government through large-scale financial investment will greatly improve the accessibility of the land around the site and increase the value of the property along the line. To avoid the incremental land value stemming from the public investment are owned by private developers or neighbouring landowners, the benefit acquisition should strengthen the control and formulate a reasonable land policy. It can ensure that all or part of the public investment will bring back from benefits of land price increment, and then redistribute the benefits to ensure the fairness of public resource allocation" (Shenzhen Municipal Planning and Natural Resource Bureau, 2011b, p. 207). This indicates that the SZMG and the relevant governmental

sectors had a clear understanding of the VC concept, focusing on not only the economic benefits but also the social benefits. In this case, the notion of VC has been embedded in the planning framework, guiding VC development in Shenzhen.

Another highlight of the *Shenzhen Urban Rail Transport Construction Plan (2011–2016)* was that it officially proposed a planning framework that combined rail transport planning and urban planning. In this case, the short-term construction plan was able to adjust the relationships among urban planning, urban rail transport planning, and land use planning in Shenzhen. It formed the current urban rail transport planning framework shown in Figure 5-11:

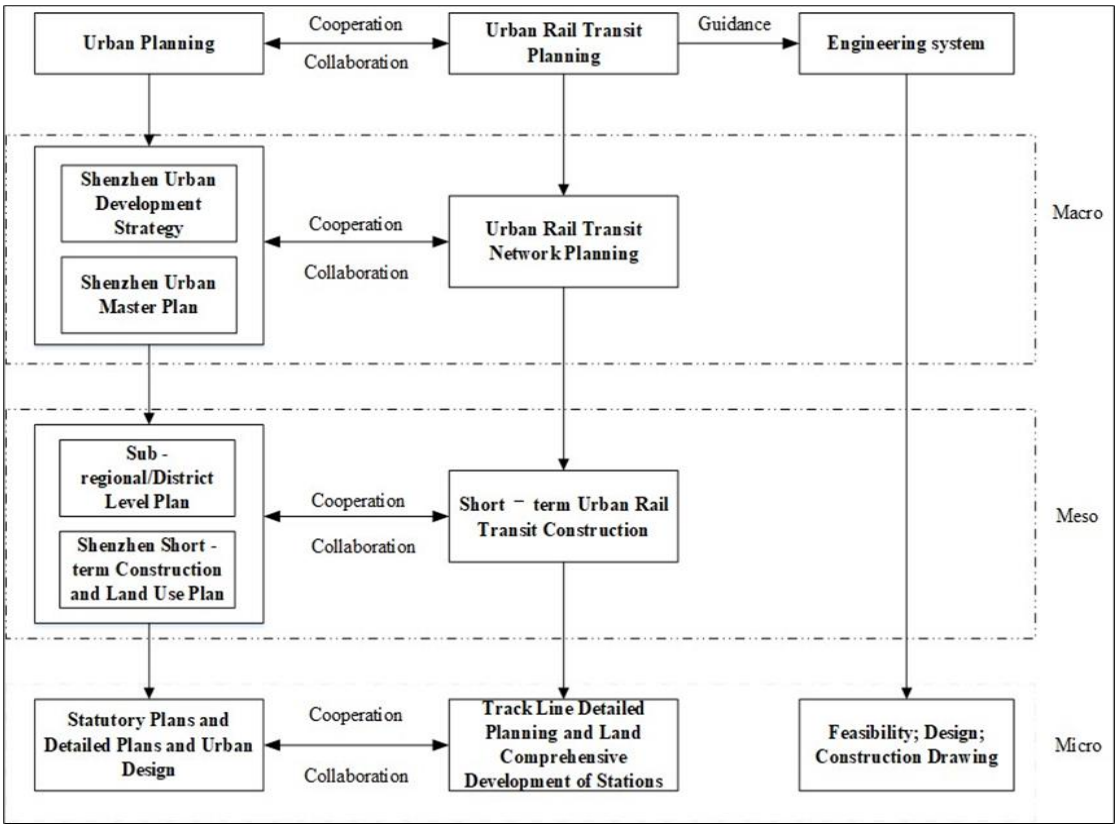

Figure 5-11: The Urban Rail Transport Planning Framework in Shenzhen

Source: adapted from Shenzhen Municipal Planning and Natural Resource Bureau (2011b, p. 32).

Moreover, the *Shenzhen 13th Five-Year Plan for Comprehensive Transportation* proposed that Shenzhen should develop TOD by encouraging high-intensity and mixed land use development around the stations, optimising the layout of public service facilities such as hospitals and schools, and realising a job–housing balance (Shenzhen Municipal Government, 2016). It indicated that one goal of socio-economic development in Shenzhen was to use VC development to optimise the structural distribution of living and working areas. In this case, the VC mechanism has been recognised as a government priority and strategic intention, and

may become a significant part of Shenzhen's economic plan. Shenzhen has developed the urban rail transport planning system to echo the Shenzhen urban planning framework by effectively coordinating urban planning, urban rail transport planning, and land use planning systems. This planning framework laid a basis for exploring the VC mechanism.

However, unlike public participation in the decision-making process of the urban plan, the SZMG did not seem to be enthusiastic about involving the public in the preparation of urban rail transport short-term plan. Although the SZMG and the SZMPNRB still used e-mail, hotlines, and online questionnaire surveys to collect public opinions, they reduced the participatory channels and time for public participation. Overall, despite the inadequate public participation, Shenzhen's urban rail transport planning showed coordination and cooperation with the urban spatial and land use plans, which may help to create an integrated design for stations that are part of VC projects. VC has been given an important position in Shenzhen's social and economic development. In this case, VC has gained the SZMG's attention, which can provide support not only in the form of technology but also from the political and institutional perspectives.

Similarly, transportation planning is a part of urban planning in Chengdu. In the *Chengdu Urban Master Plan 1982*, the CDMPB focused on developing the road infrastructure, and it did not mention urban rail transport development. In the *Chengdu Urban Master Plan (1995–2020),* five lines of 75 km were planned. However, there was a controversy about whether the proposed urban rail transport development should work to balance spatial development or prioritise development of the eastern and the southern areas, which implies internal conflicts in this version of the urban master plan (Miao, 2019).

In the *Chengdu Urban Master Plan (2011–2020),* Chengdu began the rapid development of the urban rail transport system and accordingly formulated two short-term construction plans that were approved by the State Council in 2013 and 2016, respectively. Under the intensive planning and construction, the mileage of Chengdu's track network surpassed that of many cities such as Shenzhen, Nanjing, and Wuhan, ranking fourth in the country (Sichuan Provincial Government, 2020). This achievement was attributed to the leadership of the CDMG, which dared to plan, make recommendations to the higher government, and construct. For example, in 2016, six lines started construction simultaneously. However, the *Chengdu Urban Rail Transport Construction Plan (2013–2020)* and the *Chengdu Urban Rail Transport Construction Plan (2016–2020)*, as short-term plans, did not mention VC and only focused on the task of constructing the urban rail transport system.

The central government's policies had a significant influence on Chengdu's urban rail transport planning. Initially, the State Council (2003b) issued the *Strengthening the Management of Urban Railway Transport Construction* in 2003, which determined certain conditions for the city to meet to build an urban rail transport system, such as the municipal fiscal budget revenue, GDP, population, passenger flow, and transportation intensity. Because Chengdu meet these conditions, the CDMG seised this opportunity to vigorously plan for urban rail construction and apply to the central government. However, because of the debt risk of urban rail transport construction, the State Council (2018a) then issued the *Opinions of the State Council on Further Strengthening the Management of Urban Rail Transport Planning and Construction* to increase the standards for project proposal. In response to this document, Chengdu's rail transport construction plan was cut to six lines of 84.75 km. According to the central government's requirements, local governments need to provide at least 40% of the capital (State Council, 2018a). In this case, the CDMG needed to supply more than three times the funds previously spent on construction (Planner 5, Chengdu, interview, 2019). Under this circumstance, Chengdu started to explore the VC mechanism in 2017–2018.

In 2017, the CDMPB published the *Chengdu 13th Five-Year Plan for Urban Rail Transport Construction*. This plan described the major issues of Chengdu's rail transport development: (1) the overall scale of the urban rail transport network still needed development, (2) urban rail transport construction lagged behind urban development, (3) poor connection with other modes of transportation, and (4) insufficient development and utilisation of lands around rail lines and stations (Chengdu Municipal Planning Bureau, 2017, p. 2-4). This was the first time Chengdu's planners and governmental officials realised that they had not considered VC matters in urban rail transport planning. The plan stated that "comprehensive property development around urban rail transport stations in Chengdu is insufficient, and the land value around the rail transport stations has not been effectively improved" (Chengdu Municipal Planning Bureau, 2017, p. 4).

In this case, promoting comprehensive land development around urban rail transport stations has become a key task in developing Chengdu's rail transport system. The *Chengdu 13th Five-Year Plan for Urban Rail Transport Construction* proposed to promote TOD development within 500–800 m of the site and explored the VC mechanism for raising funds for constructing the urban rail transport system (Chengdu Municipal Planning Bureau, 2017).

Furthermore, the CDMG prepared the *Regulation on the Administration of Urban Rail Transport* in Chengdu. Articles 24–27 regulated that for the land used for VC development, a unique design proposal needs to be prepared, submitted to the CDMG and CDMPB for

approval, and included in the regulatory planning. Article 10 also emphasised that the opinions of relevant organisations and the public should be consulted about urban rail transport planning (Chengdu Municipal Government, 2017c).

In 2018, the CDMPB and CDRTG compiled the *Special Plan for Comprehensive Development of Chengdu Rail Transport Stations*, which identified the four types of stations, as shown in Table 5-8. Moreover, taking "building a beautiful and liveable park city" as the basic principle of TOD development, the strategy of VC development followed several principles, including (1) creating an urban landmark with extremely high-density development in the core area within 100 m, (2) the urban scene is shaped by high-density development with a core area of 300 m, and (3) the low-density development within 700 m in noncore areas is used to create a "city to nature" environment (Chengdu Rail Transport Group, 2020). However, although the CDMG and the CDMPB issued documents suggesting that VC needs to be used, they focused on the urban design perspective and did not mention capturing and redistributing land value in Chengdu.

Table 5-8: Types of Urban Rail Transport Stations in Chengdu

Types of station	Characteristics	Numbers of stations
City-level station	Main city centres, comprehensive sub-centres, and comprehensive urban transportation hubs.	16
District-level stations	Main or subcentres of the city in each district and county, and modern service industry centres and advanced manufacturing industrial parks.	45
Group-level stations	Comprehensive service centres located in a group public service centre or a characteristic town centre, as well as agricultural industrial parks.	125
General stations	Orbital stations other than those outlined above.	528

Source: The Urban Planning Society of China (2020).

VC planning still has lots of issues in Chengdu. For example, transportation functions and urban functions are poorly integrated, it lacks detailed plans for land developments around rail transport lines and stations, the allocation of public service facilities is inadequate, and there are ineffective connections between the surrounding commercial facilities and the station's entrances and exits (Planner 2 and Planner 3, Chengdu, interview, 2019). The root cause of these problems is the lack of a rational planning framework to integrate urban planning and urban transport planning in Chengdu. The benefits of the land along the rail transport system

and surrounding the stations need to be further planned. In other words, VC is regarded as a separate type of planning, and it is not integrated in Chengdu's urban planning context.

5.4.3 Land Use Context

Land use and related policies are critical in VC projects because they are related to land value increases and recouping the increased land value (Suzuki et al., 2015). VC is dependent on the notion that land accrues value and that this value can be monetised and thus captured (Jillella et al., 2015). In China, the land use system has experienced continuous reform, which provides the implicit possibility of developing VC in China. A dual land system is used in China, as urban land is state-owned and rural land is collectively owned by local farmers and villagers (Ding, 2003). Before the economic reform and opening-up policy of 1978, stated-owned companies, governments, schools, and joint ventures, etc. could use the state-owned land free for an unlimited period, and the Constitution banned land transactions, and thus land had no commodity attributes and no value (Liu et al., 2014).

The land-use system in China began to change after 1978, progressing toward land commodification. Because of the opening-up policy, direct foreign investment increased and thus the demand for land use rose (Jiang et al., 1998). Therefore, the central government developed the land use rights system and allowed foreign investors to use land by leasing it (paying up-front fees to rent land) for a specific period. After that, the central government prepared a set of legislation and regulations to achieve land reform, making land have value and regulating land markets. Table 5-9 shows the laws and regulations of land commodification in China. In this situation, the land is a valued asset to increase government revenues and promote urban construction and economic development (Yeh and Wu, 1996). Moreover, land transactions must be conducted by bidding, auction, or listing. In this process, the local government represents the state to sign the contract with bidders (Ministry of Natural Resources, 2007). Theoretically, transferring land use rights through open bidding, auction or listing can promote transparency and competitiveness in a land transaction, thus guaranteeing the local government's land revenues. However, it may lead to the local transport agency not obtaining the land use rights from the local government for VC developments (Wang et al., 2019b).

In addition, China lacks an effective property tax system, and thus the role of property tax in the local public finance structure is very limited (Li and Song, 2008). Consequently, many local governments in China have turned to leasing state-owned lands to developers for a large lump-sum fee to finance the development of infrastructure and capital projects (Tao et al.,

2010), resulting in the utilisation of development-based VC for developing transportation, rather than fee- or taxation-based VC.

Table 5-9: Laws and Regulations of Land Commodification

Year	Laws and regulations	Highlights
1988	Constitutional Amendment	Land use rights can be granted and transferred.
1988	Land Management Law	The right to use state-owned lands and collectively owned lands can be transferred, and the state can implement a payment mechanism for using the state-owned lands.
1990	The Provisional Regulation on the Transfer of the Land Rights over State-Owned Land in Cities and Towns	The municipal and county governments are responsible for the transfer of land use rights.
2001	Notice on Strengthening the Management of State-Owned Land Assets	To ensure the openness and fairness of land transactions, municipal governments must promote the bidding and auction of land use rights. The results of the agreement are open to the public.
2002	Regulation of Bidding, Auction, and Listing for Transferring State-owned Land Use Rights	Lands for commerce, tourism, residential housing, recreational facilities, and mixed use, etc. should be sold by bidding, auction, or listing.
2004	Land Management Law	Regulates a top-down land use planning system.
2007	Property Law	Lands for commerce, tourism, residential housing, recreational facilities, and mixed use, etc. should be sold by bidding, auction, or listing.

Source: National People's Congress (1988); State Council (2001); Ministry of Natural Resources (2002); Ding (2003); State Council (2007); Tian and Ma (2009).

At the provincial level, the *Guangdong Province Land Use Master Plan (2006–2020)* was prepared by the Guangdong Provincial Natural Resources Department in 2009. It determined the total amount of land to be used in Guangdong province and highlighted three inter-city rail developments as the main goals in the short term. The Guangzhou–Dongguan–Shenzhen Line will pass through Shenzhen's Qianhai Transportation Hub (Guangdong Provincial Natural Resources Department, 2009). In 2012, the GPG promulgated a significant policy on titled *Perfecting the PRD Intercity Rail Transport with the Comprehensive Land Development Mechanism Along Lines*. It proposed adopting TOD to promote comprehensive land development and stated that the net income of VC should be shared by all parties and used for the funding shortfall in the construction and operation of intercity rail transport projects. It identified the main agents of VC (provincial transport agency or a partnership between the GPG and the city government), development scope (within 800 m), and revenue management (sharing based on responsibilities and investment ratio) (Guangzhou Provincial Government, 2012).

The Guangdong Provincial Housing and Urban-Rural Development Department prepared technical guidelines for TOD planning for an intercity rail station in the PRD in 2012. It requires investigation of the land use situation around stations based on the land use master plan, land ownership status, urban and rural planning, and other related conditions (Guangdong Provincial Housing and Urban-Rural Development Department, 2012). In this case, the provincial level government in Guangdong supported TOD and VC. The policy and guidelines are regarded as a reference for other regions and city governments. However, there are still many technical and institutional obstacles that have not been overcome, such as high costs, coordination between the GPG and the city government, and the ridership being lower than that of urban rail transport (Governmental official 1, Shenzhen, interview, 2019).

In Sichuan province, the SPG introduced the *Sichuan Province Land Use Master Plan (2006–2020)* in 2010. The plan stated that Sichuan Province should strengthen the function of Chengdu's comprehensive transportation hub, prioritising construction of the central hub of Chengdu and the west channel of Sichuan (Sichuan Provincial Land and Resources Department, 2009). This indicated that the SPG strongly supports supplying land for constructing transportation projects. However, there is no information related to the land used for constructing the urban rail transport system and development of the surrounding stations in Chengdu in the land use master plan. In 2014, the SPG prepared the Notice on Further Strengthening the Regulations on Land Transfer Management, which stated that the municipal government oversees land transactions, and the provincial government is responsible for supervision. The document stipulated that commercial, tourism, entertainment and other profit-oriented lands must use bidding, auction, or listing. This policy also required the planning sector to clarify and disclose indicators such as the spatial scope, land use, floor area ratio, building density, and green space ratio to the public (Sichuan Provincial Government, 2014). In this case, the provincial government policies mainly created a fairer and more open land transaction environment. However, there is no explicit mention of TOD and VC in the land use documents of provincial policies and regulations.

As a result of the decentralisation, municipal governments have prepared more targeted documents to promote VC planning and implementation. The *Shenzhen Land Use Master Plan (2006–2020)* was critical to VC development in Shenzhen. Firstly, it ruled that the land use planning framework, as the land use master plan at the municipal level, must be formulated by the SZMG and implemented by the SZMG upon approval of the State Council. The national and the provincial governments mainly control the total amount and layout of built-up lands, agricultural lands, and other lands in Shenzhen (Shenzhen Municipal Government, 2012). Secondly, this land use master plan also called for giving priority to guaranteeing the land needs

for constructing public transportation facilities and developing the surrounding areas. It provides a technological basis and strategic guidance for exploring the potential land for spatial development in Shenzhen. Thirdly, the SZMG described the demand for land capitalisation and different land financial tools. Table 5-10 shows the detailed information:

Table 5-10: Land Use for Spatial Development in Shenzhen

Articles	Relevant Contents
Article 12	Optimisation of ground space: increasing the intensity of construction land and optimising the structure and layout of land.
Article 65	0~10 m of underground, mainly as commercial services, public walkways, traffic distribution, parking, civil defence, and other functions; 10~30 m of underground as parking, traffic distribution, and civil defence.
Article 84	Prioritising land arrangements for affordable housing, focusing on areas with public transportation such as an urban rail transport system, as well as areas with concentrated demand such as dense city centres and industrial parks.
Article 108	Carrying out land capitalisation theory and management research; exploring innovative financial instruments.

Source: Shenzhen Municipal Government (2012).

Furthermore, the *Shenzhen 13th Five Year Plan for Urban Construction and Land Use* was prepared by the SZMG in 2017. It emphasised the construction of various urban rail transport routes and the combination of affordable housing and VC. The plan proposed to use 1000 m around the railway station as land for residential development to provide 40,000 units of affordable housing in Shenzhen (Shenzhen Municipal Government, 2017b). Through this plan, the SZMG also indicated that it aims to effectively mobilise enthusiasm for private investment, explore innovative investment and financing models for urban infrastructure and public facilities, and establish a land investment and financing platform (ibid.). As mentioned, land resources are constrained in Shenzhen, and thus it is vital to maximise the efficiency of urban construction on the limited urban land. In this case, VC has been seen as a way to deal with urban development issues with limited land resources in Shenzhen.

To explore innovative land finance and funding instruments, the *Shenzhen Land Management System Reform Overall Plan* was jointly approved by the Ministry of Natural Resources and GPG in 2012. Thus, with the support of higher-level government, land value as investment capital (LVIC) can be directly used in urban development projects in Shenzhen. Furthermore, the SZMG prepared a targeted policy entitled *Interim Measures for Land Value as Investment Capital of State-owned Land Use Right* in 2013. The policy stated that the LVIC proposal should be tested and applied by three companies, including the SZMC, Shenzhen Airport Enterprise, and the SEZ Construction and Development Enterprise (Shenzhen

Municipal Government, 2013). These two documents provided the institutional basis for VC in Shenzhen. However, the policy failed to provide guidance on how to do it, the process, and the procedure (Planner 2 and Expert 1, Shenzhen, interview, 2019).

To further refine the legalisation of land supply management in Shenzhen, the SZMG published *Several Opinions on Improving the Management of State-owned Land Supply* in 2018. It improved the land supply system and regulated the state-owned land supply method and scope in Shenzhen. Besides non-profit lands and unique situations (e.g., emergency rescue, disaster relief, and geological surveys), the lands for sale should follow the rule of bidding, auction, and listing to conduct the transfer of land use right or the LVIC method (only applicable for the SZMC, Shenzhen Airport Enterprise, and the SEZ Construction and Development Enterprise) (Shenzhen Municipal Planning and Natural Resource Bureau, 2018). Overall, Shenzhen's land use context provides a certain degree of technical guidance and institutional support for VC in Shenzhen. It is evident that promoting land capitalisation is crucial in Shenzhen's land use planning. It implies that Shenzhen's planners and governmental officials have attempted to clarify the logic of urban development and VC.

Similarly, the CDMG prepared the *Chengdu Land Use Master Plan (2006–2020)* in 2012, a programmatic document that implemented the most stringent land management system and coordinated land use in Chengdu. It pointed out the construction of an urban rail transport system and the supporting facilities were the critical projects for built-up land in Chengdu (Chengdu Municipal Government, 2012). Moreover, Article 95 of this plan stated that Chengdu needs to develop and utilise urban underground and aboveground space resources, optimise the urban land use structure, and fully realise the inherent value of urban land (Chengdu Municipal Government, 2012, p. 72). However, the concept and principles of VC are not included in this land use master plan. This means that VC has not been regulated in Chengdu's land use context.

In 2017, the CDMG published the *Implementation Opinions on Improving the Allocation of Important Land Resources* to promote the reformation of land resource allocation. This policy emphasised the reform of the charged land-use system in Chengdu. It required that the profit-oriented land (including aboveground and underground space) to be sold by bidding, auction, and listing. The policy highlighted that the public sector should promote fair land market competition and strengthen land market regulations (Chengdu Municipal Government, 2017b).

In the same year, the Chengdu Municipal Development and Reform Commission (CDMDRC) issued the *13th Five-Year Plan for Internationalised Urban Construction (2016–2020)* and underlined the importance of constructing an urban rail transport system in Chengdu. It proposed that by 2020, the mileage of the rail transport operating network should reach 508

km and the network in operation and under construction needed to reach more than 650 km. Rail transport should account for more than 60% of public transportation trips (Chengdu Municipal Development and Reform Commission, 2017). However, this plan did not describe the relationship between land use and urban construction. As mentioned in previous sections, Chengdu has not established a comprehensive planning framework to coordinate land use and transportation planning issues. In this case, there was no information relating to TOD and VC development in Chengdu in this short-term plan.

In 2019, to promote Chengdu's VC and TOD planning, the CDMG drafted a target policy entitled the *Notice of the Land Management Method for Comprehensive Development of Rail Transport Stations*. This policy described the scope of land development around urban rail transport stations in Chengdu. It recommended taking rail transport stations as the centre, and developing land with a radius of 500 m of public stations and 800 m for transfer stations. The policy also required bidders to have the ability to construct and operate rail transport lines (Chengdu Municipal Government, 2019e). It can be seen that this policy has formally solved the problem of how the CDRTG can obtain land for VC development. However, this policy was introduced after Chengdu had begun to construct some VC projects. This means that there was no clear policy to guide land acquisition at the early stage of VC planning in Chengdu.

Overall, policies and plans in Chengdu's land use context mainly focused on land transaction methods and the importance of land for urban rail transport construction. However, these documents did not consider various significant conditions in VC planning, including the integration of land use and urban rail transport planning, the concept of VC, the distribution of captured land value, land development strategies, and other planning issues. In this case, the land use context in Chengdu simply proposed VC, but there was no supportive guidance and logical policy framework to create a favourable environment for conducting VC in Chengdu.

5.5 Conclusion

This chapter identifies the opportunities and challenges of the VC mechanism in China, Shenzhen, and Chengdu. VC has potential in China because the favourable macro-environment (e.g., urbanisation, economic development, public transportation demand, a booming real estate market) is suitable for VC. This chapter shows the evolution of urban rail transport funding sources and the environment of private sector participation in investment. The chapter also examines the planning and policy environments of VC and implementation at different levels in China. It finds that higher-level governments have supportive attitudes towards VC.

However, because of decentralisation, they do not provide much substantial support to the local-level VC. At the city level, it is found that Shenzhen's planning and policy environment provides a good basis for VC projects through continuous planning reform in terms of public participation, institutional restructuring, and the establishment of coordinative and collaborative planning platforms. This indicates that the emergence of the VC mechanism was not achieved overnight but was the result of dynamic evolution, building an institutional foundation. The findings also demonstrates that Chengdu lacks a planning and policy framework that unifies urban planning, rail transport development, and land use. This implies that Chengdu's institutional environment is not prepared for planning and implementation of VC. The following two chapters explore the VC planning and implementation process in Shenzhen and Chengdu to identify how stakeholders work together in VC developments in the different local contexts.

Chapter 6: The Process of Value Capture in Shenzhen

6.1 Introduction

This chapter aims to explore the political-institutional, financial, and social partnerships among stakeholders in Shenzhen's Qianhai project. The chapter begins with an introduction to the Qianhai project, which is the first VC project in Shenzhen. This chapter also identifies the different stakeholders and their roles in the process of VC in Shenzhen. Importantly, the chapter investigates the complexity of the relationships among various stakeholders and sheds light on how the underlying partnership structures promote VC projects in Shenzhen.

6.2 Value Capture Project in Shenzhen: Qianhai Project

As mentioned in Chapter 5, the *Shenzhen Urban Master Plan (2010–2020)* listed Qianhai as one of the two city centres in Shenzhen. The Qianhai project is located in the Qianhai Shenzhen–Hong Kong Modern Service Industry Cooperation Zone (Qianhai Zone). Construction of the Qianhai Zone was a major national strategic decision made by the central government on the 30th anniversary of the establishment of Shenzhen SEZ. The area was beneficial for exploring new paths of economic reform, opening up, scientific development, and exploring new ways of close cooperation between mainland China and Hong Kong (Shenzhen Municipal Government, 2010a). When President Xi Jinping came to the Qianhai Cooperation Zone for a field trip in 2012, he described it as "relying on Hong Kong, serving the mainland, and facing the world" (Information Office of Shenzhen Municipal Government, 2020). In this case, building the Qianhai project had an important strategic place in the development of the country.

Specifically, the Qianhai project includes two parts: a depot and a transportation hub. The depot was the first VC project in mainland China. It is near the Li Yumen Station of Metro Line 1. Metro Line 1 was the first completed and operated metro line in Shenzhen in 2004. It has the largest traffic volume, passing through several CBDs, Shenzhen Railway Station, the Futian–Luohu centre, Qianhai, and Shenzhen Airport (Shenzhen Metro Corporation, 2011). In the Qianhai depot, three land parcels were used to develop VC projects with diverse functions, including residential, commercial, official, hotels, schools, affordable housing, and other public services. The land transaction used the listing method, and the SZMC won the bidding with

1.74 billion yuan in 2008. Table 6-1 illustrates the land transaction information of the Qianhai depot.

Table 6-1: Land Transaction of Qianhai Depot

Parcels	Parcel 1	Parcel 2	Parcel 3
Land use	Mixed residential and commercial land use	Mixed residential and commercial land use	Policy residential use (e.g., affordable housing)
Total land area (m^2)	138,592.94	216,302.03	134,764.8
Total floor area (m^2)	544800	263050	602150
Floor area ratio (FAR)	3.931	1.216	4.468
Height limit	200m	120m	120m
Land use period	70 years	70 years	70 years

Source: Shenzhen Land & Real Estate Exchange Center (2008).

Another part of the Qianhai project is the Qianhai transportation hub, which is near a branch station for various rail lines, including Metro Line 1, Metro Line 5, Metro Line 11, the Guangdong–Dongguan–Shenzhen intercity railway, and the Shenzhen–Hong Kong Airport Express line. After completion of the transportation hub, it is estimated that the daily passenger traffic will reach 750,000 passengers (TransForm, 2016). The Qianhai transportation hub used a local innovative VC mechanism, namely land value as investment capital (LVIC) to acquire the land in 2012. The land price was 14.56 billion yuan, and the SZMC obtained 40 years of land use rights from the SZMPNRB. The transportation hub covers an area of about 200,000 m^2, with a total floor area of about 1.28 million m^2 and a FAR of 6.39. The project involved the planning, design, and construction of a transportation hub with development of the surrounding properties that integrated commercial, office, residential, and hotel facilities.

Overall, under the attention of the central government, the SZMG and the SZMC developed the Qianhai project by relying on the TOD concept to build an international CBD and a liveable community with high density and multiple functions in the Qianhai Zone. It is the most important urban development project of Qianhai, and was the first case of VC utilisation in mainland China (Shenzhen Municipal Government, 2020). Figure 6-1 shows the Qianhai project's location and transportation corridors.

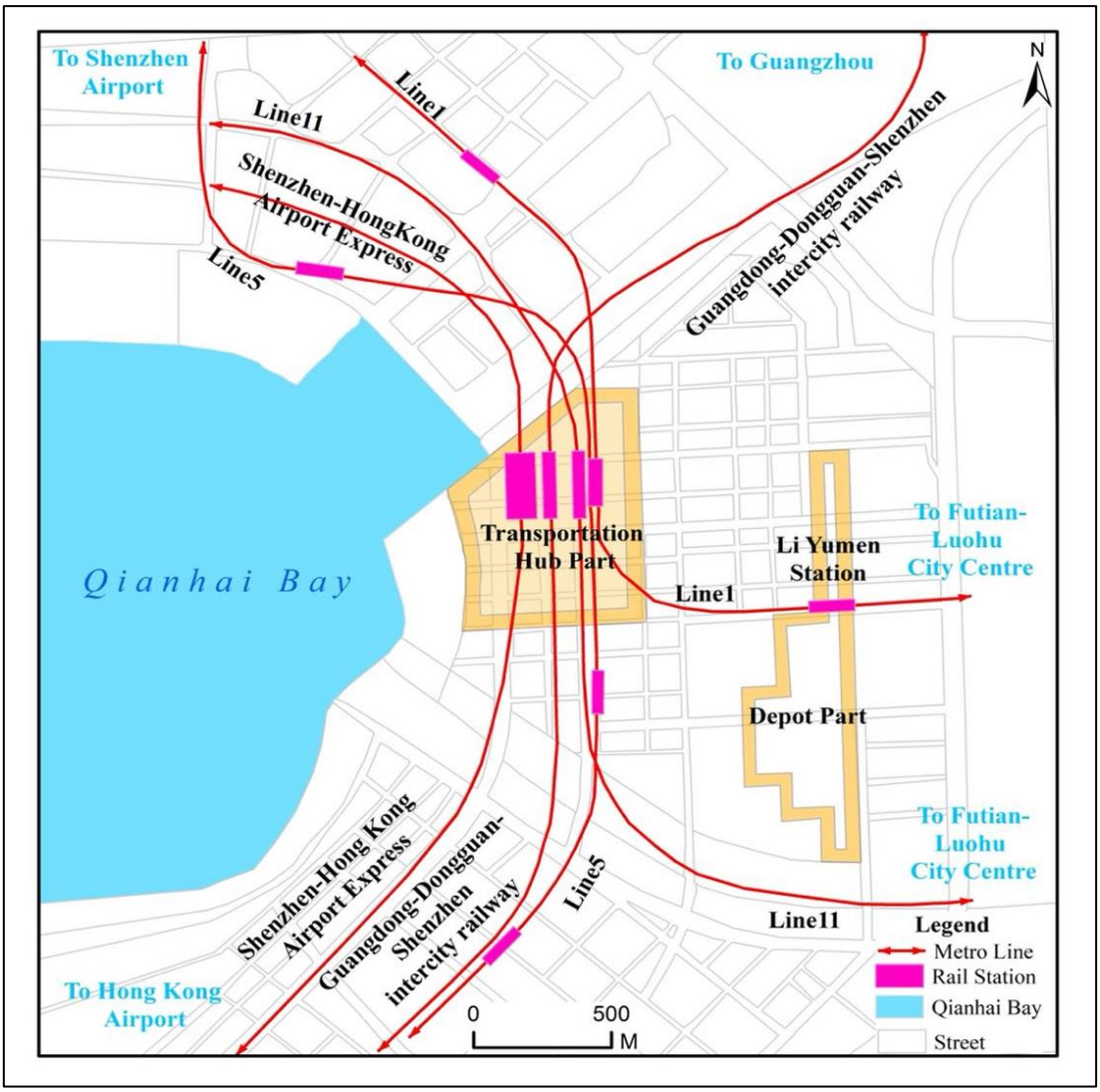

Figure 6-1: Location of the Qianhai Project

Source: adapted from Shenzhen Municipal Planning and Natural Resource Bureau (2011a, p. 2).

6.3 Key Stakeholders in the Value Capture Process

The planning and implementation of VC in Shenzhen mainly relied on the SZMG, its governmental sectors, the SZMC, and other organisations such as private developers, research institutions, and consulting enterprises. The NGOs and media can be regarded as advocates but had very limited influence on decision-making in the process. Figure 6-2 indicates the key stakeholders in Shenzhen's VC decision-making process.

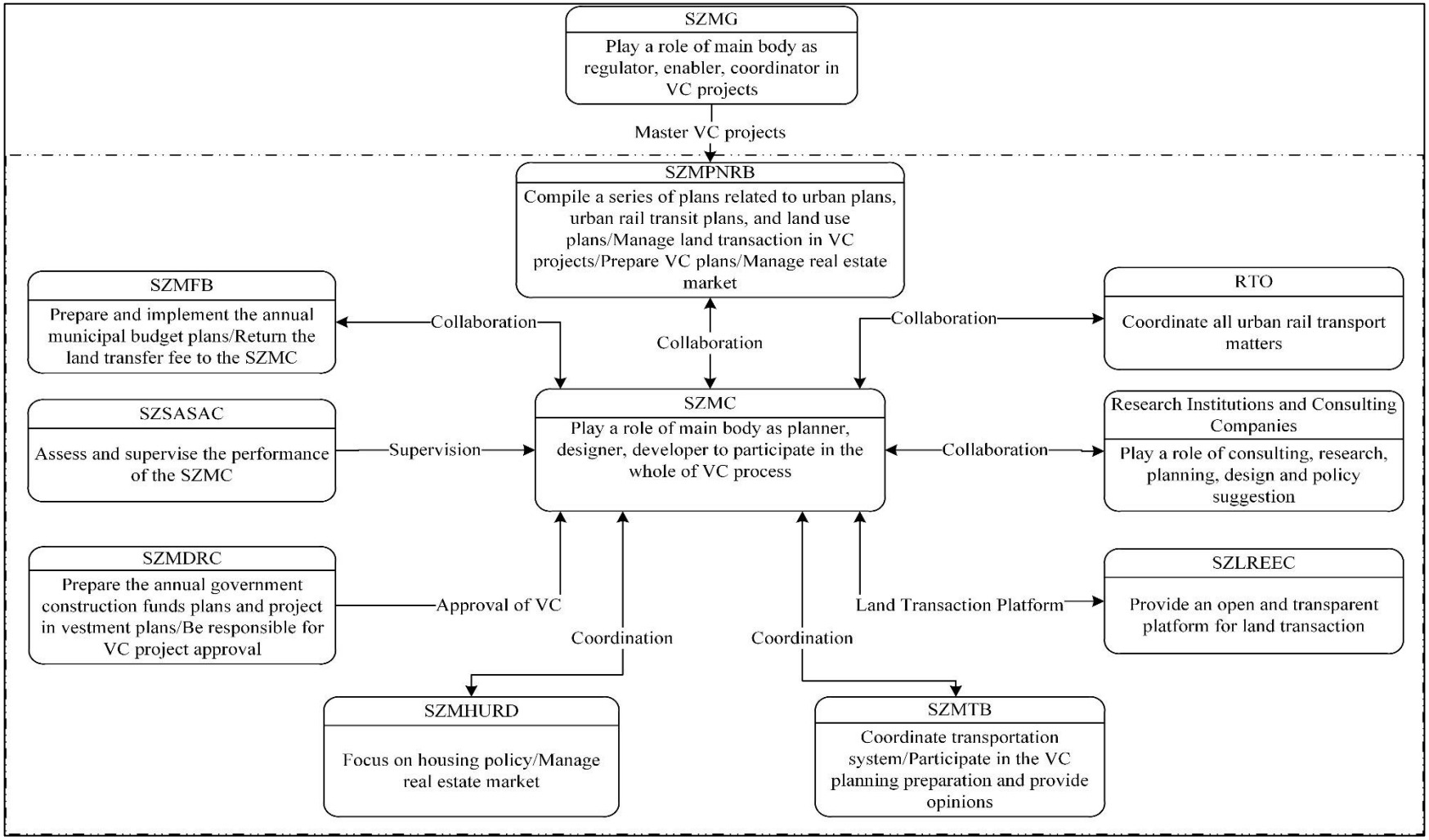

Figure 6-2: Key Stakeholders in Shenzhen's VC Decision Making Process

Source: drawn by author.

6.3.1 Governmental Stakeholders

The central government and the Guangdong Provincial Government (GPG) mainly impact VC through the approval and supervision of policies and plans in Shenzhen, but are not involved in the actual planning and implementation process at the project level. However, as discussed in Chapter 5, the GPG shows foresight and innovation towards TOD and VC development because it prepares the first regional TOD and VC development policy in China.

At the city level, the SZMG and several public authorities played significant roles in Shenzhen's VC process. The SZMG plays the roles of regulator, facilitator, and coordinator in the VC planning and implementation. Specifically, its governmental bureaus play various functions and roles in the VC process. The Shenzhen Municipal Planning and Natural Resources Bureau (SZMPNRB) is responsible for compiling the urban master plan, land-use master plan, and the urban rail transport plan. It managed land transfers and promotes intensive land use. The SZMPNRB also oversees housing construction planning and the real estate market in Shenzhen. At the VC planning stage, the SZMPNRB collaborates with the SZMC to prepare the VC plans, identifying the site, the land use, and the design. If adjustments are needed, the SZMPNRB must seek the opinions of SZMC when preparing the VC plan.

The Shenzhen Municipal Transportation Bureau (SZMTB) focuses on the operation of the urban rail transport system, including safety and maintenance. In the urban rail transport planning process, the SZMTB cooperates with the SZMPNRB, participating in the preparation of plans and providing opinions to the SZMPNRB.

The Shenzhen Municipal Housing and Urban–Rural Development Bureau (SZMHURD) focuses on premium housing, affordable housing, and housing related to other policies in Shenzhen. It coordinates and collaborates with the SZMPNRB to manage Shenzhen's real estate market.

The Shenzhen Municipal Finance Bureau (SZMFB) prepares and implements the annual municipal budget proposals. It is responsible for supervising the collection, distribution, and utilisation of funds for developing urban railways. Importantly, the SZMFB returns the land transfer fee to the SZMC to support the VC mechanism.

The SZMDRC cooperates with the SZMFB and prepares the annual government construction funding and project investment plans in Shenzhen. It is responsible for VC project approval and coordination.

The Shenzhen State-owned Assets Supervision and Administration Commission (SZSASAC) is responsible for supervising and managing state-owned assets. In VC, it assesses and supervises the performance of the SZMC.

The Shenzhen Land and Real Estate Exchange Centre (SZLREEC), established by the SZMG, is a subordinate branch of the SZMPNRB. It provides an open and transparent platform for land transactions.

The SZMG also set up the Rail Transport Office (RTO) to undertake all the tasks of coordinating urban rail transport affairs related to planning and design, finance and investments, construction, operation, and supervision in Shenzhen.

6.3.2 State-Owned Enterprises and Private Stakeholders

The SZMC, a municipal state-owned enterprise, was established in 1998 by the SZMG. It has established an industrial system of constructing and operating railways, property development, and asset management. The SZMC plays a significant role in Shenzhen's VC, as it is granted power over the land in and around stations and obtained the support of the SZMG. The SZMC vigorously promotes the VC mechanism because it believes that VC is an effective way to overcome financial limitations to construct and operate the urban rail transport system (Shenzhen Metro Corporation, 2019). More importantly, VC can help the SZMC in Shenzhen's development and urban management. The SZMC participates in the entire process of VC planning and implementation.

Private enterprises, including developers and non-developers (e.g., business enterprises, investment enterprises, and technology enterprises), can participate in VC projects directly or in cooperation with the SZMC in the Qianhai Cooperation Zone. To a certain extent, these private enterprises are competitors with the SZMC in the VC projects in Shenzhen.

6.3.3 Professionals, NGOs and Media

Research institutions such as the Shenzhen Urban Planning and Land Resources Research Centre , the Shenzhen General Institute of Architectural Design and Research Enterprise, and the Shenzhen Urban Transport Planning Centre play a role in consulting, research, planning, and design in VC related to transport and land use. Research institutions also contribute to the relevant policy and plan proposals. For example, the Shenzhen General Institute of

Architectural Design and Research Enterprise provided suggestions for the design and planning proposal of the Qianhai project. The Shenzhen Urban Transport Planning Centre participated in Shenzhen's transportation planning process, such as for the short-term urban transport rail construction plan. Through an encouraging formal and comprehensive planning process, global stakeholders are welcome to shape project plans and designs. For example, Williams Sale Partnership Ltd, Leigh & Orange Ltd, and Amenagement, Recherche, Pole d'Echanges participated in the Qianhai project through open bidding as consulting companies or designers.

The roles of NGOs and the media are considered to be popularisation of and advocacy for VC. However, they have a very limited influence on VC planning and implementation. NGOs (e.g., Shenzhen Urban Rail Transit Association) can organise forums and seminars to invite other stakeholders to communicate and discuss the VC and TOD issues. The media can report on the VC concept, the project's progress, and other information to local community. The media adopts a branding strategy to help shape the image of VC for local residents.

6.4 Partnerships in Shenzhen's Value Capture Process

The purpose of this section is to explore the partnership strategies (political–institutional partnership, financial partnership, and social partnership) in Shenzhen's case during the planning and implementation of the VC mechanism. The section examines how governments, transport agencies, private developers, and local communities interacted and cooperated in the process, and how they impacted the planning and implementation of VC in Shenzhen.

6.4.1 Political–Institutional Partnership

This section presents the political–institutional partnership in the development of the Qianhai project in Shenzhen. The political-institutional partnership data collected and analysed during the field work were grouped into categories of political support, sharing planning power and land transaction, building institutional arrangements, and supportive institutional capacity. The analysis sheds light on how multiple governmental sectors and local transport agencies worked together to smooth VC planning in Shenzhen.

6.4.1.1 Political Support: Consensus and Continuity

Political support was one of the important factors promoting Shenzhen's VC. All levels of government strongly supported the Qianhai project directly or indirectly. Although the central government did not express its support for the Qianhai project directly, it provided political assistance to the development of the Qianhai Cooperation Zone. As mentioned in Section 6.2, the geographic location of the Qianhai Cooperation Zone had economic, political and transportation importance in China's development. It obtained political support from President Xi Jinping. After President Xi became the General Secretary, Qianhai was the first place he went for a field trip. One participant mentioned:

> *"He [President Xi] issued a general mobilisation of 'non-stop reform and openness' for Qianhai Cooperation Zone during his visit." (Governmental official 2, Shenzhen, interview, 2019)*

The development of the Qianhai project was linked to the relationship between the central government and Hong Kong. The deeper the cooperation, the more commercial value was created for Qianhai. For example, to attract more of Hong Kong's small and medium enterprises, registered capital restriction of the 5 million yuan was lifted for Hong Kong's small and medium enterprises in the Qianhai Cooperation Zone. This situation helped to increase job opportunities, demands of living, traffic flows, and agglomerations in the Qianhai Cooperation Zone, which provided an opportunity to use VC to fund transportation projects (Governmental official 5 and 9, Shenzhen, interview, 2019).

The GPG prepared a policy entitled *Several Opinions of Guangdong Province for Supporting Qianhai's Accelerating Development and Opening Up* to optimise and enhance the functions of Qianhai (Guangdong Provincial Government, 2013). As mentioned in Chapter 5, the GPG also has given substantial support to the development of VC. It dealt with the lack of targeted policy support at the provincial level, which is a common issue of VC in the context of China. As one interviewee said:

> *"[…] We invited a team of consultants, including Peking University Scholars, Lay-out Planning Consultants Ltd., SZUTPC, etc., to design a long-term funding framework for the operation of the Pearl River Delta Intercity Railway. We recognised the essence of the VC approach." (Governmental official 1, Shenzhen, interview, 2019)*

Although this policy does not focus on VC projects at the city level, it at least shows that the provincial government understands the concept and use of VC, and the policy can serve as a reference for projects at the city level.

The SZMG played the most crucial role in the hierarchical structure and directly influenced the Qianhai project. Because of the decentralisation of finance and administration, the SZMG has significant land lease, fiscal, and urban planning autonomy. Importantly, local politicians play vital roles in building urban rail transport systems and developing VC projects. The former mayor claimed that TOD has become an essential means for Shenzhen to break through the urban development bottleneck (Planner 2 and Governmental official 4, Shenzhen, interview, 2019). In this case, the former mayor stressed the significance of constructing urban rail transport many times in various government meetings, for example:

> *"Urban development drives the development of various undertakings, and Shenzhen needs to establish the idea that building a metro is building a city." (Speech of the former mayor, presented at the City Development Working Conference, 2011)*

However, the SZMG faced great funding pressure because of the strong demand for urban rail transport in Shenzhen. A participant in the SZMPNRB described the funding pressure as follows:

> *"The average cost of metro construction in Shenzhen is about 1 billion yuan. The SZMG subsidises the operating costs of each metro line by about 30 million yuan per year. Moreover, the urban rail transport is the public welfare, so the fare is very cheap. It is difficult to make profits from the fare." (Governmental official 8, Shenzhen, interview, 2019)*

Considering the issues of urban development and funding sustainability, the SZMG promoted the Qianhai project. The location of Qianhai gained the attention of higher-level governments, and it made local politicians drive the vision more passionately. It progressed well during these former local politicians' administration. In this case, developing the Qianhai project was regarded as an essential political goal in Shenzhen.

More importantly, local political support for the Qianhai project remained consistent after a change in local politicians. In addition to the traditional land bidding, auction, or listing methods, LVIC, as an innovative local VC method and the policy of the Shenzhen Land Management System Reform Overall Plan, was approved by the central government and GPG with the support of the now current mayor and the secretary of the Shenzhen Municipal Committee (Shenzhen Municipal Government, 2012). Some participants described other efforts made by local politicians to develop the VC project in Shenzhen, for example:

> *"When the urban rail transport construction approval began to tighten, which will undoubtedly affect our VC project planning. So, the mayor and secretary of Shenzhen*

Municipal Committee went to Beijing many times to negotiate with the central government for construction approval." (Planner 1, Shenzhen, interview, 2019)

"The mayor and secretary of Shenzhen Municipal Committee and other government leaders often conduct on-site investigations on the progress of Qianhai projects. They also listened to the SZMC's report on the project progress" (Manager 2, Shenzhen, interview, 2019)

It is evident that the development of the Qianhai project has largely depended on political support by the higher-level government and the substantial contributions of local political leaders to VC. Additionally, as mentioned in Chapter 5, Shenzhen's continuously reformed planning framework and policy formulations have closely connected urban planning, land use planning, and urban rail transport planning. Thus, the introduction of the VC mechanism is regarded as rational in Shenzhen. Overall, political support can be viewed as an important factor to help VC development, especially if the political support can reach a consensus in a hierarchal structure.

6.4.1.2 Sharing Planning Power and Land Transaction

With the central and local political support, the SZMG and the SZMC formed a close partnership in the Qianhai project, facilitating VC planning in Shenzhen. Specifically, because land transactions must conduct bidding, auction, or listing rather than making arrangements, the SZMG had to seek a way to bypass the regulatory barrier to ensure that the SZMC could obtain the land parcels of the VC projects (Wang et al., 2019a). The SZMG set some unique conditions for the land transactions (listing) of the Qianhai depot. The SZMG required the bidders to have the following two qualifications: (1) have the ability to construct and operate urban rail transport lines and the ancillary facilities, and (2) have experience in building and operating more than one urban rail transport line. Many interviewees thought these conditions were specific to the SZMG and questioned whether this approach undermined market competition. For example, some participants made statements such as the following:

"Developer enterprises do not have the experience about urban rail transport development. Such conditions almost make the SZMC become the only legal bidder. "(Developer 2, Shenzhen, interview, 2019).

"This is unfair because developers do not know whether the SZMPNRB is going to build a metro line in a certain area and which land near the station can be used for real estate development. However, the SZMC may know, so the information is asymmetric." (Expert 1, Shenzhen, interview, 2019)

However, the SZMG did not consider that there were specific bidding conditions for the VC land transactions and argued that:

> *"Projects in Shenzhen are often reviewed by the central government and may be stopped if we do a land transaction with special conditions. So, we do not do that." (Governmental official 3, Shenzhen, interview, 2019)*

What is being debated here is what bidding conditions can be considered. However, it is generally accepted that special conditions are established for land transactions in a VC project. This is because the SZMG did not give developers opportunities to join the Qianhai depot. Hence, with the help of the SZMG, the SZMC successfully received the land parcels of the Qianhai depot. Specifically, the SZMC had opportunities to participate in the VC planning process, and studied the planning indicators (e.g., FAR, land use, development intensity) required by the SZMPNRB and formulated a design proposal for the Qianhai depot. The SZMPNRB optimised the proposal based on the SZMC's thoughts. This means that the SZMC was granted planning power to determine the land use and zoning of the VC project. However, the SZMC still needed to seek the final approval of the SZMPNRB for the VC proposal. In addition, because the SZMC is responsible for urban rail transport construction, the SZMC has the power to intervene in the land use plans in the early stage of urban rail transport planning (Manager 2, Shenzhen, interview, 2019). Therefore, the SZMC can reserve some lands for the VC development, instead of passively waiting for the SZMPNRB to provide planning guidance.

The SZLREEC then offered a land transaction plan, and the SZMC paid an initial land-use payment to the SZMFB. The SZMFB then transferred the payment to the SZSASAC. After receiving the land lease payments, the SZSASAC moved the payment back to the SZMC as registered capital from the SZMFB. Other main stakeholders in this type of VC included the SZDRC (responsible for project approval), the SZMPNRB (responsible for the adjustment of regulatory planning, construction planning approval, and land supply) and the RTO (responsible for coordination and cooperation) (see Figure 6-3). Through this process, the SZMG granted land use rights to the SZMC for free and allowed the SZMC to capture most of the increase in land value. Thus, the financial status of the SZMC improved significantly.

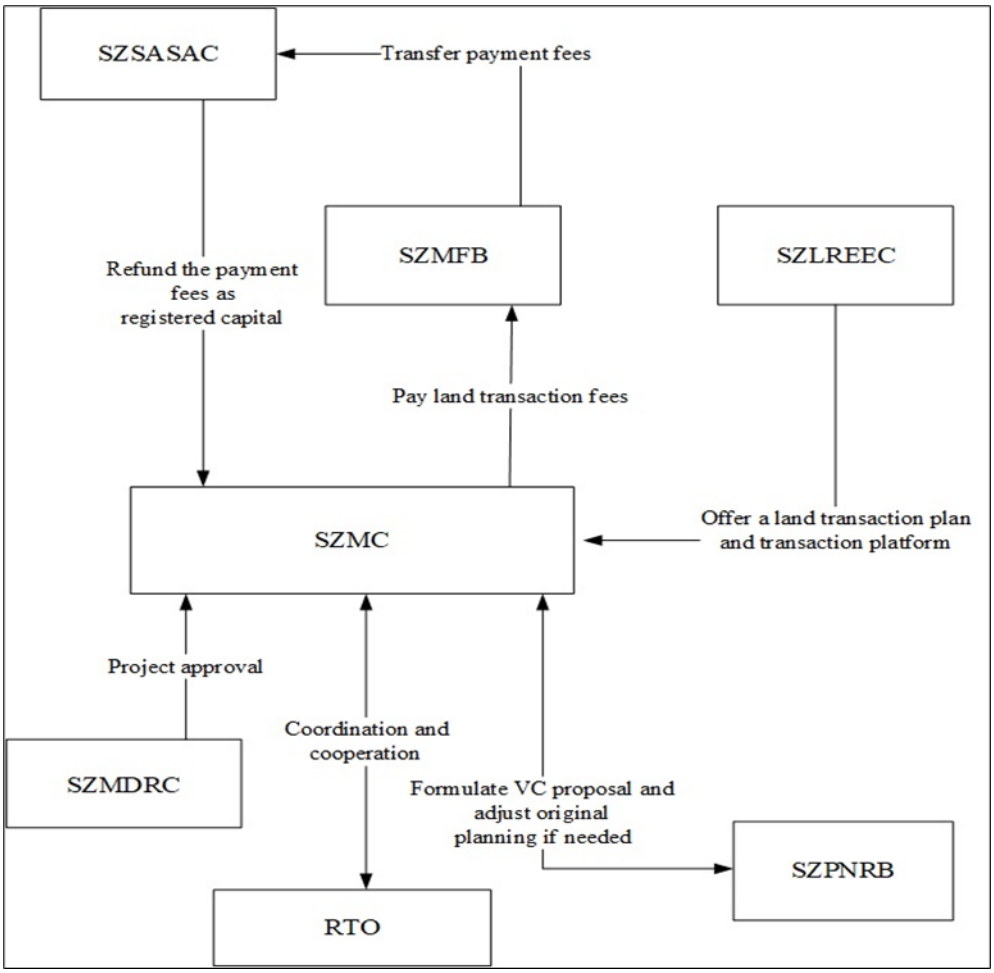

Figure 6-3: VC Mechanism in Shenzhen: Land Transaction with Special Conditions

Source: drawn by author.

In the Qianhai transportation hub, assisted by the policy entitled Shenzhen Land Management System Reform Overall Plan, the LVIC mechanism was used for its development. In this case, the SZMDRC formulated an initial annual investment and financing plan. The SZMPNRB then formulated an annual plan for LVIC and selected the site. After that, the SZMC was granted planning power and became responsible for formulating the VC proposal, and the SZMC proposed an application for the use of LVIC to the SZMPNRB. According to the SZMC's application, the SZMPNRB collaborated with the SZMC to discuss and identify the land price and planning indicators of the Qianhai transportation hub, and asked for feedback from the SZDRC, the SZMFB, and the SZSASAC. Once the SZMG had approved the application, the SZMPNRB, the SZSASAC, and the SZMC signed the tripartite contract for land acquisition. Finally, the SZMC completed the capital registration. In the LVIC, the land value put into the capital of local transit agencies in the form of bookkeeping. The SZMG

allowed the SZMC to hold the full incremental land value from the LVIC mechanism. Figure 6-4 shows the LVIC mechanism.

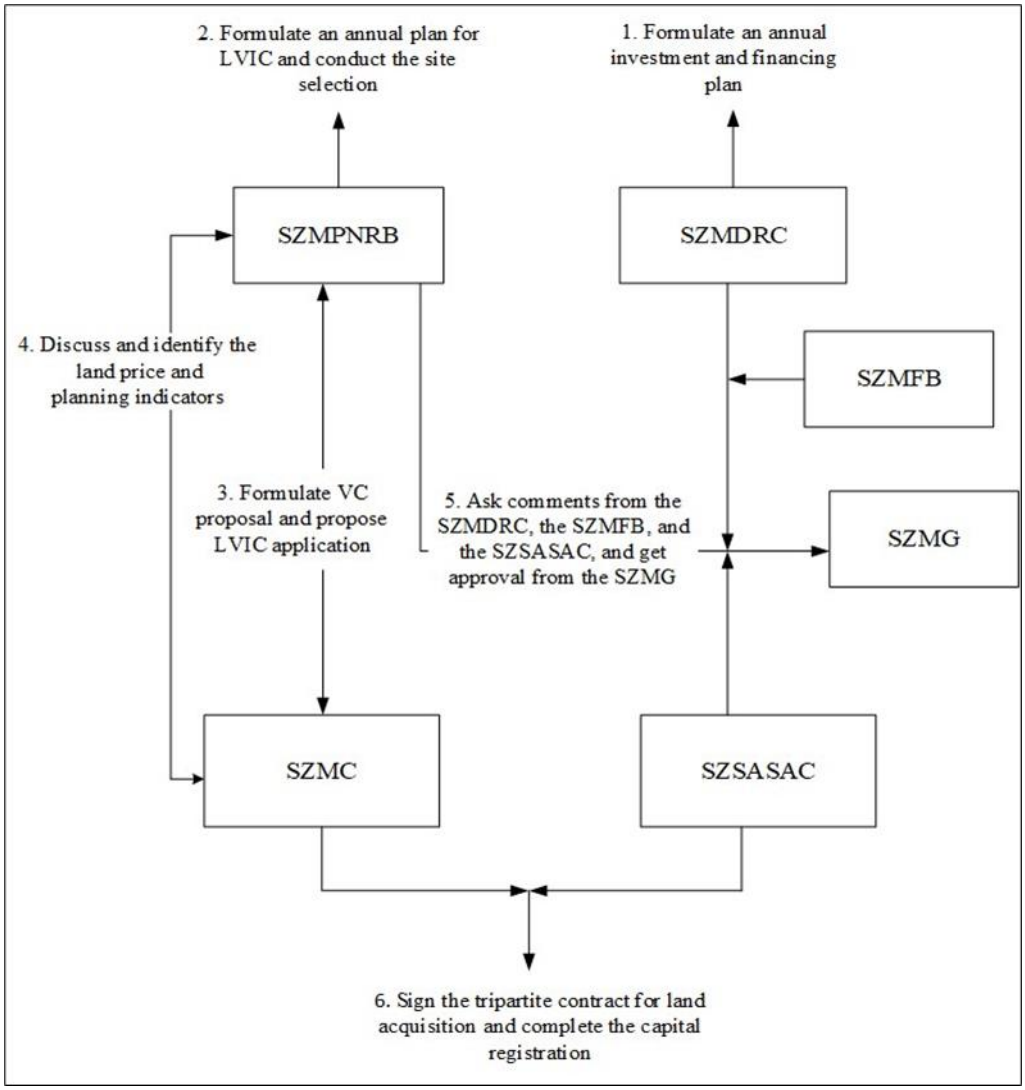

Figure 6-4: VC Mechanism in Shenzhen: Land Value as Investment Capital

Source: drawn by author.

As such, the LVIC mechanism implies that the SZMG's governmental sectors and the SZMC partnered to mobilise land resources through an innovative policy and created an enabling environment to bypass barriers to land transactions. This means that land parcels were arranged for the SZMC, rather than bidding, auction, or listing. The LVIC mechanism was recognised as a win–win situation:

> *"For the SZMC, it is not necessary to pay the land price, and they only need to invest in the construction cost. The sales and rent income can be used to address the*

operation problem. For the SZMG, the pressure of the government can be reduced because there is no need to give money to the SZMC, and only give their lands." (Consultant 2, Shenzhen, interview, 2019)

Interviewees also identified other advantages of LVIC, including saving the costs of land use fees and time and improving efficiency. One planner explained the reasons for the success of the LVIC in Shenzhen:

"Shenzhen's planning framework enables the integration of urban planning and metro financing schemes based on the integration of rail transport planning and urban planning. […] combined with the land development, land use utilisation status, and planning conditions along the route, we can evaluate the funding gap, the incremental land value, and the scale of land transfer." (Planner 1, Shenzhen, interview, 2019)

The SZMG also offered the SZMC the power to plan and implement the modes of property development and the distribution of VC income. This means that the SZMG did not interfere in the property development stage of the VC project. Some interviewees suggested that if they wanted to maximise the incomes of VC, the SZMC could be granted more planning power. However, some participants opposed this suggestion because the SZMC pays attention to the rail transport system and cannot control the transportation and land use of the city (Governmental official 4 and 5, Shenzhen, interview, 2019). In this case, the governmental sectors supported the involvement of the SZMC throughout the whole process in the Qianhai project and shared planning power with the SZMC but maintained the power of approval.

Overall, the partnership between the SZMG (including intergovernmental sectors) and the SZMC shape the VC planning process. On the one hand, the SZMC was granted great power to participate in planning matters and formulated the VC proposal by itself. On the other hand, the SZMG used its significant institutional capacity to smoothly promote the VC mechanism by transforming the land transaction and planning framework, helping the SZMC become the main participant in the VC project.

6.4.1.3 Building Institutional Arrangement

Building institutional partnerships between the SZMG and the SZMC is important to ensure efficient operations. First, by restructuring the land use bureau and planning bureau and combining their functions (as mentioned in Chapter 5), the design proposal of the VC project, such as the location, the station's function, spatial development, and floor area, was formulated smoothly. This helped to decrease the coordination and approval time. However, some

participants felt that the integration of the planning and land use bureaus was not enough to help VC in practice. As one interviewee stated:

> *"We must realise that there are diverse stakeholders involved in the VC project, even in lots of urban development projects. An institutional arrangement to ensure interactions between all different stakeholders is essential. We need to establish a platform to share information, perceptions, communication, and eventually reach an agreement." (Planner 2, Shenzhen, interview, 2019)*

In this case, as early as 2005, the SZMG established an institutional arrangement, the RTO, to dedicate all tasks of coordinating urban rail transport affairs related to planning and design, financial and investment, construction, operation, and supervision in Shenzhen. To support the coordination work of the RTO, the mayor is a director of the RTO. The members of the RTO are governmental officials from different local government sectors, including the SZDRC, the SZMPNRB, the SZMTB, the SZMFB, the SZSASAC, the district level government, and the SZMC (Shenzhen Municipal Government, 2005).

> *"The RTO is in charge of coordination and cooperation in the VC process. To provide timely information and facilitate communication, we set the office in the building where the SZMC is located." (Governmental official 5, Shenzhen, interview, 2019)*

From this perspective, the institutional arrangement of the RTO is considered to be a helpful instrument for communicating information and for mutual recognition in the development of VC. It provided a transparent platform for local intergovernmental sectors and the SZMC. Usually, the RTO organised official government meetings to discuss demands and negotiate interests for the VC project. To balance their conflicting interests, the intergovernmental sectors and the SZMC share their information, demands, and opinions in the RTO meetings. When these key stakeholders knew each other's situation and problems, they can adjust their demands and interests to align their goals. For example, some participants made the following points:

> *"The goals of the various intergovernmental sectors may not be consistent. The SZMPNRB has requirements for planning goals, but other governmental sectors may not care. Through communication, we should at least reach a consensus that these decisions are not made based on the interests of one department, but based on considering the development of the whole city." (Governmental official 3, Shenzhen, interview, 2019)*

> *"[…] to add a bus terminal and improve the kindergarten environment, the SZMTB, the SZMC, the SZMPNRB negotiated many times via RTO, and the FAR and land*

development areas have been changed three times." (Governmental official 9, Shenzhen, interview, 2019)

It was found that adjustments to the design and planning techniques can be flexibly resolved through communication and negotiation within the RTO. However, the requirements of providing affordable housing and other public facilities were clearly defined in the bidding documents and the tripartite contract for land acquisition, rather than by negotiation. In this case, the SZMG was required to hand over the infrastructure to the government at no cost after completion (Governmental official 7, Shenzhen, interview, 2019). Through such formal contracts, the SZMC needed to adjust its demands to enter to the Qianhai project.

Overall, the RTO as an institutional arrangement, increases the mechanism of effective partnerships among the SZMG, its governmental sectors, and the SZMC. As the leader of the RTO is the mayor, the RTO was authorised to make decisions for coordinated issues in the VC project. At the least, it raises awareness among these stakeholders to understand each other's purposes and reach a common direction.

6.4.1.4 Supportive Institutional Capacity

Through the partnership between the SZMG and the SZMC, the VC project in Shenzhen has made good progress and decreased public funding pressure. Their partnership has also improved institutional capacities to help resolve a series of pragmatic issues. For example, after Phase 3 of urban rail transport construction in Shenzhen, the central government restricted the use of the LVIC method, as described below:

"To improve the public services such as energy, transportation, environmental protection, and affordable housing projects, the central government proposes the guidance for advocating the LVIC for non-profit lands. While the central government encouraged the land transaction with profit lands to use the open bidding, auction or listing." (Governmental official 4, Shenzhen, interview, 2019)

This means that the land for property development could not adopt the LVIC method, except for land for affordable housing. In other words, the SZMG could not directly grant commercial property development land parcels to the SZMC. Although affordable housing can use the LVIC mechanism, the SZMC only receives 5% profits when the government repurchases the affordable housing land parcels, so the SZMC is not enthusiastic about it (Governmental official 7, 8 and Manager 1, Shenzhen, interview, 2019). As the Shenzhen land market environment is more open, there are fewer conditions restricting bidders during land

transactions. The SZMG can choose a real estate developer as a partner directly and bypass the SZMC. One governmental official described the rationale for choosing developers as partners:

> *"[…] the land transaction price can be higher. We can use this part of the land income for the special purpose and use it for public transportation development." (Governmental official 9, Shenzhen, interview, 2019)*

However, most interviewees argued that if the SZMG lost the partnership with the SZMC, it would be a bad situation because the SZMG must provide both lands and subsidies together to the SZMC. This means that the SZMG will only receive one-off land transfer fees. The later real estate profits will be nothing related to the SZMG, and thus the funding pressure of the SZMG will increase again. In addition, some land around the station was reserved by the SZMC when the metro line was planned, which would increase the negotiation cost of the VC project if other private developers were responsible for property development. Under this circumstance, the SZMG and the SZMC still hoped to keep the LVIC method for all land use types, remaining in this partnership. As one interviewee mentioned:

> *"The underlying reason is that the central government do not want to state-owned assets flow out. However, the SZMC is a wholly state-owned enterprise, and it can completely monitor the capital by the SZMG. On this basis, we [SZMG and SZMC] discussed reasons for keeping LVIC, and are trying to convince the central government." (Governmental official 3, Shenzhen, interview, 2019)*

Evidently, the LVIC mechanism reflects the SZMG's institutional capacity, and it is further enhanced by the partnership between the SZMG and the SZMC. Supportive institutional capacity allows SZMG and SZMC to have efficient knowledge to face dynamic challenges. Firstly, the progress of the VC development has not stopped because of changes in the central government's intention. On the one hand, the SZMG and the SZMC can continue to use LVIC mechanism to develop affordable housing. On the other hand, the separate partnership between the SZMG and professional developers may become a third acceptable VC mechanism in Shenzhen. Secondly, the SZMG is aware of the advantages and disadvantages of working with professional developers and the SZMC. Thirdly, instead of blindly obeying the central government, the SZMG actively works with the SZMC to find solutions. This is because the SZMG and the SZMC clearly realise that VC is a complex planning and policy tool that cannot be easily implemented, and they have accepted that developing VC involves trial and error (Planners 2 and 3, Shenzhen, interview, 2019).

In addition, the SZMG and the SZMC have started to consider the VC project's localisation issues. Indeed, the development of Shenzhen's rail transport and VC projects cannot be

separated from the experience of Hong Kong, providing an inspiration and a reference (Xue and Fang, 2015; Yang et al., 2020a) . However, there is some debate over whether the experience of Hong Kong can be adopted directly. This is because the land transaction method and the design concept of the VC projects are different in Hong Kong (Governmental official 6 and Planner 3, Shenzhen, interview, 2019). For example, a respondent considered that using Hong Kong's VC model should depend on the context:

> *"Nor can we say that the Hong Kong model is omnipotent. When there is much land, we can learn how the HKSAR government directly gives the Hong Kong MTRC. However, if there is scarce land, land prices can be compared through bidding. This will increase revenues." (Manager 2, Shenzhen, interview, 2019)*

This shows that Shenzhen's VC mechanisms may have entered an era with little connection to Hong Kong's experience, and that diversified VC mechanisms have been used in Shenzhen. Overall, the partnership between the SZMG and the SZMC has enhanced the institutional capacity to face dynamic changes and to continuously develop and rethink Shenzhen's VC mechanism in a solution-oriented manner.

6.4.2 Financial Partnership

This section identifies how local transport agency developed a financial partnership to build operational capacities for property development in the VC project. Illustrated by participants' comments, the section is divided into four categories: incentivising developers, partner selection and property development methods, organisational structure, and sharing risks and benefits.

6.4.2.1 Incentivising Developers

Participants highlighted that incentivising developers to participate in the VC project is crucial for building financial partnerships between the SZMC and the developers. Specifically, a robust real estate market can attract developers because it is critical to ensure the VC projects' feasibility and attractiveness in an area. As discussed in Chapter 5, high property prices can provide favourable conditions for using VC via the rail + property model in Shenzhen. When the SZMG and the SZMC planned for the VC, the TOD concept was an effective strategy of guidance promoting the integration of transportation and land use (Shenzhen Municipal Government, 2021). In other words, increasing ridership and creating mixed land uses around

the rail transport stations might help increase the land value. However, the hidden contradiction of this phenomenon is that working-class or low-income groups cannot afford such high property prices, but they depend on public transportation to a greater degree. The SZMG adopted the affordable housing strategy to deal with this issue in the Qianhai project:

> *"To solve the problem that the rich may have occupied the houses near the rail service, we provided a number of affordable houses in Qianhai Zone to try to balance this problem. We calculate lots of indicators related to the job–housing balance, population flow, point of interest […] achieving a differentiated housing system." (Governmental official 7, Shenzhen, interview, 2019)*

Thus, after assessment and consideration, the real estate market in Qianhai would have high-end and middle-end housing and low-end affordable housing. Different social groups' housing conditions and affordability are not unified but layered. Shenzhen, as an immigration city, includes indigenous people, immigrants with *Hukou* status, and immigrants without *Hukou* status. These social groups have different income and education levels, and occupation and thus have different housing needs. As an emerging community, Qianhai would include residents with different socioeconomic statuses, which provides a robust and diversified real estate market to motivate developers.

Additionally, developers explained that even if there was a robust real estate market, they needed to see the sincerity of the SZMG and the SZMC. This implies that developers emphasise practical issues and they do not readily invest in VC projects because they know the high costs of these projects.

> *"[…] If the VC project is located around densely peasant houses and the planned transportation cannot be constructed, developers have no incentive to participate in the VC projects. What the SZMG and the SZMC can provide to us are also crucial." (Developer 1, Shenzhen, interview, 2019)*

In this case, other incentives for private developers must accompany VC investments. As interviewees mentioned:

> *"Increasing the FAR is a method to attract developers. Due to the high cost, the government also acquiesces to developers to improve their enthusiasm for the project through planning changes in the process." (Governmental official 9, Shenzhen, interview, 2019)*

> *"The planning adjustment of Qianhai project occurred three times. One reason is that the land consolidation and surrounding planning required for the construction of the real estate project cannot be realised according to the original plan, and planning*

indicators have to be adjusted. Another underlying reason is that it is an approach to highlight benefits to developers." (Expert 2, Shenzhen, interview, 2019)

Apparently, allowing a higher FAR and flexible planning are attractive to private developers because this means that higher density developments and supportive land use are included in the VC project. In this case, a robust real estate market and the perceived benefits of the VC project were helpful for incentivising developers to participate in the Qianhai project (Developer 1, Shenzhen, interview, 2019) . The next section explores how developers were selected and the financial partnership were established in the Qianhai project.

6.4.2.2 Selecting Participants to Develop a Financial Partnership

The SZMC contributed to the establishment of financial partnerships with developers at the project implementation level. The SZMC was solely responsible for developing affordable housing. However, to improve the capacity for commercial property development, the SZMC partnered with professional developers. In the case of the Qianhai depot, the SZMC selected the developers for civil engineering, marketing work, and constructing properties. Specifically, the SZMC had two performance requirements for bidders. The first requirement was that the bidders must have at least one real estate project completed or under construction with a construction area of at least 200,000 m^2 in China by 2008. The second requirement was related to PPP experience in real estate development. The SZMC required bidders to at least have one real estate project with a contract amount of 3 billion yuan or no less than 200,000 m^2 completed or under construction through PPP by 2008 (Shenzhen Metro Corporation, 2013). Eventually, two sole enterprises and three consortium enterprises were considered as candidates. Most of these enterprise candidates were state-owned enterprises at the central level, except for Fujian Jiulong Construction Group Co., Ltd.

"We are seeking a strong partner who should have rich property development experience, strong funding, and working experience with PPP." (Manager 1, Shenzhen, interview, 2019)

After careful assessment, two enterprises (CITIC Group and Fujian Jiulong Construction Group) formed a consortium and won the bid. The CITIC Group was initiated and approved by Deng Xiaoping in 1979 (CITIC Group, 2019). Led by the central stated-owned enterprise, along with a professional private enterprise, the CITIC Group consortium had advantages over other sole central stated-owned enterprises or consortia of central and local stated-owned enterprises.

The CITIC consortium provided a solid financial guarantee in the bidding materials and could construct the developments within a shorter period and with greater efficiency. Moreover, the CITIC Group had a good brand reputation, rich management experience, and strong financial ability. Fujian Jiulong Construction Group Co. has good civil engineering construction capability. The roles of the CITIC consortium were recognised as improving the quality of the Qianhai depot and helping to cultivate SZMC's real estate brand (Manager 2, Shenzhen, interview, 2019).

This type of financial partnership for developing property in the Qianhai depot was described as:

> *"Under this model, the benefits of incremental land value do not have a relation with developers, and developers do not participate in the distribution of VC income. SZMC pays the fees to the developer after obtaining the income from property development." (Governmental official 6, Shenzhen, interview, 2019)*

> *"[…] the SZMC needs to face greater financial pressure because after completing the project construction, the SZMC needs to pay a certain percentage of construction mark-up fees to the developers." (Developer 2, Shenzhen, interview, 2019)*

At the same time, the SZMC retained the right to control the project's plan and land management, which ensured the development direction of the VC project. In this situation, the SZMC has absolute decision-making power to manage the VC project and can obtain all the revenue from increases in land value resulting from property development. This partnership between the SZMC and the CITIC consortium has two faces. On the one hand, it increased the costs of the SZMC for developing the VC project as it had to pay extra fees to the developers. On the other hand, it helped the SZMC finished the project on time with high quality, and adopted professional developers' strategies to increase the sale price.

To further explore property development methods, the SZMC paid more attention to building a partnership with private developers in the case of the Qianhai transportation hub. The SZMC carefully considered the issues of sharing risks, resources, and funding. Interestingly, the SZMC directly ruled that the bidders must be a consortium and did not accept sole enterprises. The partnership model was described as follows:

> *"In order to speed up the implementation of the project, the bidding condition requires the developer company and the construction company to form a joint bidder, and after the bid is awarded, the developer company and the SZMC jointly serve as Party A, and the construction company becomes Party B. Party A obtains the benefits of the project according to the agreed proportions and jointly invests, share risks and*

benefits. Party B is responsible for civil engineering and cannot enjoy the VC benefits." (Manager 1, Shenzhen, interview, 2019)

For the Qianhai transportation hub, the SZMC proposed stricter requirements for bidders involving qualifications, financial situation, technical situation, and management capacity. For example, the SZMC required potential developers and constructors to have grading qualifications for real estate development issued by the MOHURD. The SZMC asked for enterprises' net assets and bank credit certificates, and prosperous real estate development experience (e.g., super-tall buildings, shopping malls, or comprehensive real estate developments with a construction area of over 200,000 m^2). The SZMC also expected the managers of the bidding enterprises to have worked in a professional real estate company for at least 5 years and to have successfully hosted and managed real estate projects (Planner 2 and Manager 2, Shenzhen, interview, 2019).

Eventually, Construction Engineering Corporation Ltd (CSCEC) and Vanke formed a consortium and won the bid. Vanke is a private real estate enterprise established in 1984, and it is a Fortune 500 enterprise. It has extended its position of being a "good residential supplier" to being "urban and rural construction and living service providers". The projects of Vanke cover poverty alleviation, education, health support, rural revitalisation, and climate change (Vanke, 2018). It is evident that Vanke is a private corporation with social accountability, which could reduce cultural conflicts with the SZMC (Manager 3, Shenzhen, interview, 2019). Moreover, a partnership between the SZMC and Vanke had already been built before the development of the Qianhai transportation hub. This means that an existing working relationship served as a reference for partner selection. However, it is difficult to state that the existing partnership was a critical direct factor when choosing developers, because the bidding process was competitive rather than one that granted bids to business friends. The CSCEC is a state-owned enterprise at the central government level established in 1982, and its business scope includes construction work, architectural engineering, and real estate development. The CSCEC has undertaken more than 6000 projects in 130 countries and regions abroad (China State Construction Engineering Corporation Ltd., 2019). Undoubtably, this consortium was trusted by the SZMC to deliver the Qianhai transportation hub part with good quality.

Overall, selecting the right partner is crucial for the smooth implementation of the Qianhai project. Local transport agency, as a local stated-owned enterprise, concentrates on public interest, meaning that their products or services are related to guaranteeing the conditions of national economic development and people's lives. This characteristic normally conflicts with enterprises' goal of making a profit. In this situation, in addition to considering financial,

technological, and managerial aspects, the selected partner should also have a sense of social responsibility to make it easier to achieve a common goal.

6.4.2.3 Financial Partnership Structure

The SZMC explored different organisational structures to conduct in-depth partnerships with developer consortiums in the VC project. This is because the SZMC and developers had tensions in financial partnerships because of their unequal status. Some participants described the issues as follows:

> *"As the main body of the VC project, the SZMC plays a role of leader. It has a strong intention to manage and control the entire development cycle, but the SZMC [found it] difficult to undertake such coordination responsibility. While developers consider themselves professional and want to have more discourse power." (Expert 2, Shenzhen, interview, 2019)*

> *"Developers are relatively in a disadvantageous position compared to the SZMC because they do not have land use rights. However, developers focus on project benefits and therefore have a demand for project decision-making power." (Consultant 1, Shenzhen, interview ,2019)*

This suggests that both the SZMC and the developer desired to play a more critical role and have more power in the VC implementation process. In fact, as mentioned in an earlier section, with the central government limiting the scope of application of the LVIC mechanism, the private developers can already participate in VC projects in direct partnership with the SZMG, rather than in partnership with the SZMC. In this market environment, if private developers and the SZMC want to establish a smooth financial partnership, the SZMC needs to design an organisational platform to facilitate cooperation between the SZMC and developers.

For the Qianhai depot, the SZMC established a project department to manage and communicate with the developer consortium. The project department aimed to manage the VC project and deal with the issues of coordination between the SZMC and the developers in the implementation process. The personnel of the project department were dispatched by both the SZMC and the developer consortium. However, the personnel dispatched to the project department were on secondment and therefore worked for both their original organisations and the project department. The dual identity meant that the personnel did not communicate very smoothly because they joined the project department to achieve the goals of their original organisations and played games for their respective organisations (Manager 2, Shenzhen, interview, 2019). Within this organisational structure, the partnership between the SZMC and

the developers was subject to the contract, which clearly stipulated the development goals, reward and punishment measures, and the liability for any breach of contract.

For the Qianhai transportation hub, the SZMC and the developers jointly established a joint venture (called the project company) in accordance with the cooperative ratio 51:49. The joint venture has its own independent legal representative, official seal, decision-making mechanism, and fund account.

> *"[…] The partners can use the project company to manage the project development decisions, which simplifies the internal system to related partnership matters." (Developer 2, Shenzhen, interview, 2019)*

This implies that the project company, as an independent organisation, could make decisions on property development. This was a relatively fair situation for both the SZMC and the developer consortium, as both parties empowered and invested in the project company. Even though both sides' personnel were still seconded to the project company, the allocation of investment responsibilities and related interests between the SZMC and the developer consortium could be made more transparent through the cooperative ratio. The project company also recruited new employees who had strong experience in real estate development and management.

In addition, to developing an in-depth partnership, the SZMC bought shares in Vanke and became the largest shareholder of Vanke in 2017 (Shenzhen Metro Corporation, 2017). One interviewee explained the underlying meaning of this:

> *"[…] Vanke is a highly qualified real estate developer. The SZMC is seeking good developers to partnership, and further improves the real estate brand reputation of SZMC […] meet the situation of win- win." (Expert 4, Shenzhen, interview, 2019)*

It was found that the SZMC prefers to partner with developers for developing VC projects for real estate rather than developing them alone. The SZMC has explored different ways to strengthen these partnerships, as mentioned earlier, by setting up the project department and the project company, and becoming shareholders. This is because SZMC realises that at this stage, it is not able to build high-quality VC projects alone. Some participants highlighted this:

> *"How should the SZMC play the rail + property model? At the initial stage, it should focus on cooperative development because the SZMC does not have the strength to make high-quality things on VC's property development. The SZMC must rely on the reputation of professional real estate companies to win-win together." (Planner 1, Shenzhen, interview, 2019)*

The SZMC considered that in addition to the geographical location, the housing types, the surrounding environment, and convenient transportation, the brand reputation of the developer is a factor increasing the land value (Media 2 and Expert 3, Shenzhen, interview, 2019). Regarding the developers' brand reputation, one interviewee mentioned the possible future development:

> *"[…] As the SZMC's real estate brand matures and its capabilities increase, we will increase the proportion of independent development." (Manager 2, Shenzhen, interview, 2019)*

Overall, the current development strategy is that the SZMC relies on the experience and technology of professional real estate companies and shares a portion of the VC profits with the real estate companies in the early days. The SZMC is going through a learning process, and when the SZMC's real estate brand has been built, it will probably change the property development strategy. Notably, there is another type of partnership between the SZMC and private developers, namely the establishment of a joint stock company. Although this has not been used in the Qianhai project, it has been used in Shenzhen's VC. According to the participants' comments, the most significant difference from the establishment of the project company is that the land use rights are transferred from the SZMC to the project company, and both parties, as shareholders, jointly invest, share the risks, and share the revenue. Therefore, this section revealed that the SZMC can determine and develop different types of partnership with professional developers according to the specific situation.

6.4.2.4 Sharing Risks and Benefits

The development of the Qianhai depot applied a loose partnership method and did not involve many resources and funding sharing. Specifically, the developer was responsible for applying for approval, construction, marketing work, and obtaining the commission fees. In comparison, the SZMC took charge of investment and obtained all the benefits.

> *"In the Qianhai depot, the SZMC bears all risks, including the investment and market risks of the projects in the process of real estate development. The developers do not have too many risks, only have the risk like construction risk." (Developer 1, Shenzhen, interview, 2019)*

Moreover, the SZMC must face a collaborative risk because this development model is not very attractive to developers. One participant from the SZMC described it as follows:

> *"It meets the government requirements for the closed operation of state-owned assets, but the developers can get too little profit. Developers may not be enthusiastic." (Manager 2, Shenzhen, interview, 2019)*

To minimise the collaborative risk, goals and responsibilities were clarified in the contract, along with rewards and punishments. Thus, the developer could take certain responsibilities and risks rather than avoid them, ensuring that the VC project was completed on time. As a manager from the SZMC explained:

> *"In order to supervise the developer to fulfil the corresponding obligations, we identified clear goals for both parties, including project quality goals, development cycle goals, cost goals, project real estate sale cycles and sale goals, profit margins and investment goals." (Manager 1, Shenzhen, interview, 2019)*

The Qianhai transportation hub involved an agreement partnership for developing property. Specifically, the SZMC and the developer of the consortium (Vanke) invested in the Qianhai transportation hub according to the ratio of 51:49 with the corresponding benefits and risks. All benefit sharing was based on this investment ratio:

> *"We can transfer risks to the developer consortium. We roughly divide risks into financial, development, construction, and operational property risks at this stage." (Manager 1, Shenzhen, interview, 2019)*

Specifically, the SZMC transferred the financial and construction risks to the contractor. This is an important reason why the contractor needed to be a large central state-owned enterprise. Such enterprises have a solid financial ability and a good reputation for construction capability. The developers shared the development costs and the operational property risks with the SZMC. This partnership agreement relieved the pressure on the cash flow of metro construction and real estate development, and transferred a range of risks to the consortium. Although the risks of the consortium increased, the consortium is still motivated because it can obtain greater benefits through its investment. As the interviewees stated:

> *"The developer can enjoy the revenues of VC, so it is willing to undertake these risks. […] The location of this project is attractive, and the developer invests not in assets, but the future of Vanke." (Developer 2, Shenzhen, interview, 2019)*

> *"The traditional real estate development model has fallen into a bottleneck, and land prices are too high to obtain new projects. However, grabbing the development opportunities of the urban economic circle with the rail + property model is of great significance to developers' future." (Expert 4, Shenzhen, interview, 2019)*

Notably, some participants revealed that the land use rights still belonged to the SZMC in all property development methods, and developers use the name of the SZMC to carry out their activities. The advantage was that the SZMC can take the development initiative and build a high-quality professional metro real estate brand. Overall, the SZMC and the developer are willing to partner with each other to share the responsibilities and risks for developing the VC project. Different benefit-sharing and risk allocation mechanisms can be adopted by the SZMC and developers based on the different financial partnership approaches.

6.4.3 Social Partnership

This section explores the role that communication and trust played in building relationships between local government and local communities in the VC project. The themes of social partnership can be divided into positive communication and professional consultation, limited public consultation, contributions by residents, trust building, and cultural factors.

6.4.3.1 Positive Communication and Professional Consultation

Media and e-government services played a crucial role as a link between the local government and the local public in the Qianhai project. Specifically, the mass media provided broadcasts and reports to disseminate relevant VC information and stories (Media 1, Shenzhen, interview, 2019). When discussing the Qianhai project, the media always described it as "the first case in mainland China", "choosing Qianhai", a "success", the "learning experience of Qianhai", "affordable housing", and other positive words. Some of public trusted the media's blueprint; others shared different opinions via social media, for example, "Stop shouting slogans", "Slogans are to sell lands for a good price", and "House prices are going up again, and we cannot afford it". Although the public shared their complaints on social media, the mass media promoted the VC project as advanced and beneficial to the public, providing transportation and improving quality of life. As one expert said:

> *"In the absence of negative news such as corruption and serious environmental damage, VC's decisions were not easily changed." (Expert 3, Shenzhen, interview, 2019)*

The SZMG allowed the e-government service to share information with the public. When conducting the bidding prices and changing the planning indicators of the Qianhai project and other VC projects, local government released the relevant information via the e-government

service platform. Telephone numbers, e-mails, and physical addresses were published, making it easier to contact the SZMG. The SZMG utilised social media such as Weibo and WeChat for communicating with the public. It registered a public account to post updates and respond to public comments. In this case, the public could obtain the information more easily and quickly through the internet and social media platforms.

Because of China's strict media censorship system, the role of media was criticised because it seemed to be working for the government and did not assume the role of presenting different voices to the government (Media 2 and Expert 4, Shenzhen, interview, 2019). However, interviewees from the SZMG and the SZMC considered media control to be necessary. For example, one participant mentioned in the interview:

> *"There is no doubt of the incitement power of the media. If it is not controlled, there may be news that denigrates the government and destroys social stability, thus undermining the relationship between the government and the people." (Governmental official 2, Shenzhen, interview, 2019)*

This information indicates that some participants considered media control to be reasonable. This is because if they disseminate negative news, the progress of the project, and the image of local government and local transport agency will be significantly damaged, resulting in public distrust of local government. As the SZMG actively discloses information, the media has acted as propaganda and there were no reports of negative news such as corruption. The Qianhai project was promoted positively.

Research institutions and private consulting companies were greatly involved in Shenzhen's VC process. As a consulting team, they helped formulate the feasibility studies and design proposals, conducted field trips to collect data, undertook big data processing, and provided professional strategic consultation. Selection of the consulting team was via open bidding; thus, reputable domestic and international consulting organisations could win the bid. The SZMG worked with the consultancy companies Nikken Design, Jones Lang LaSalle, and the Shenzhen Municipal Design and Research Institute for the TOD planning for the Qianhai Cooperation Zone. The SZMC involved consultants such as SZGIADRE, Leigh & Orange Ltd, and Shenzhen Metro Engineering Consulting Ltd. in the Qianhai project.

International consulting companies usually have rich data on and experience in VC and TOD projects. They can bring global concepts and principles to a local VC project. Domestic consultants are familiar with local planning, design, and operating mechanisms, knowing what is appropriate for local institutions and conditions. Thus, a combination of international and domestic consultants is an approach for integrating resources and obtain complementary

advantages. In this case, the capacity to plan and design the VC project were improved (Expert 2 and Consultant 1, Shenzhen, interview, 2019).

Another crucial role of consultants was described as:

> *"The existence of the consultant company has a certain lobbying significance. Suppose the government is not satisfied or confused with a project. The consultant company will act as a communicator, even a risk-taker." (Consultant 2, Shenzhen, interview, 2019)*

In this case, the consultant's brand and reputation are important. Through the participation of consultants, the VC project can strengthen its persuasiveness so that when it encounters difficulties and uncertainties, the local government can believe that the VC decisions are correct. However, some participants argued that the consulting companies' involvement was considered as a tool to improve the technological and management ability rather than to improve democracy in the VC process. For example, an expert claimed the following:

> *"Consulting companies served the employers, rather than the public, so it is only a means to improve the credibility of local government and local transport agency. They still do not represent the demand of the public." (Expert 3, Shenzhen, interview, 2019)*

Academics were also involved in the VC process. They were involved in seminars and workshops to provide suggestions on the VC project. For example, the Qianhai Transportation Hub Expert Seminar was held by the SZMG and invited governmental sectors, the SZMC, and academics to propose comments on the VC project.

6.4.3.2 Limited Public Participation

As mentioned in Section 5.4.1, Shenzhen has a strong tradition of public participation in urban planning. Some residents have an understating of VC matters as VC has been included in Shenzhen's urban master plan. However, the effectiveness of public participation in VC was considered to have been decreased by the limited handling of public comments and the short period of public participation. The SZMC conducted public participation for assessing the environmental impacts of the Qianhai project, and submitted the results to the SZMG.

For the Qianhai depot, the publicity period was 10 working days after the release of the project information. A public survey was distributed to 60 people living near the VC project. The results showed that all people living nearby supported the Qianhai depot because they were satisfied with the environmental protection measures. However, public participation in the

Qianhai depot phase was considered superficial because the contents of the public survey were too simple, and the people living nearby did not consider writing detailed suggestions. The short duration of the public participation period (10 working days) influenced the enthusiasm for public participation (Resident 1, Shenzhen, interview, 2019). In this case, the SZMG, the SZMC, and the neighbouring public seemed to be completing a process-based task rather than true public participation.

For the Qianhai transportation hub, a public survey was distributed to the nearby residents, schools, and organisations, with about 85 individual surveys and three organisational surveys, but only 10 working days were allowed for public participation. Compared with the Qianhai depot, the results of the survey were more diverse because of the expanded sample size. The interviewees revealed the following:

> *"87% of the interviewed public expressed support for the project, 11.0% of the public remained neutral, and 2% opposed it. The reason for objection was that the environmental protection implementation of the existing project was not enough, and opponents were worried that there would be no implementation of environmental protection in this project." (Planner 4, Shenzhen, interview, 2019)*

To deal with the worries of the public, the SZMG and the SZMC soon contacted their opponents and communicated with them in time. Opponents generally hope that during the construction period of the project, adequate measures will be taken to control the adverse effects of noise, dust, air pollution, and garbage. To relieve their worries, the SZMG and SZMC explained the environmental protection plan to opponents, which included no construction at noon and night, using vibration reduction and noise reduction walls, and regularly spraying water to suppress dust (Planner 3, Shenzhen, interview, 2019). The expert also mentioned that the environmental amenity might influence the revenue of VC projects:

> *"Environmental issues such as noise and air pollution indeed impact the property price. […] The relationship between land finance and air quality in China is worth exploring. Local government should pay more attention to the concerns of nearby resident regarding environmental issues in VC projects" (Expert 3, Shenzhen, interview, 2019)*

In this case, the SZMG and the SZMC responded to residents' inquiries on time and reduced their concerns that environmental pollution would harm them, which had a positive effect on public support for the VC development (Resident 2, Shenzhen, interview, 2019). However, there were some problems in public participation in the Qianhai transportation hub. For example, the SZMG and the SZMC disclosed information to the public relatively late because they had already made the most critical decisions. Moreover, the short duration of public

participation meant that people did not have time to learn the details of the Qianhai project. In this case, the SZMG and the SZMC did not share accurate VC information directly, causing some nearby residents to consider it to be a general real estate project.

In addition, NGOs had limited participation in this VC project. On the one hand, they organised many events in Shenzhen, such as the International Rail + Property Development Forum, the Collaborative Development Seminar of Metro and Property Development, and the International Seminar on Comprehensive Development and Architectural Engineering Design of Rail + Property. These events provided a platform to communicate and share experiences for the government, local transport agencies, international experts, academics, consulting companies, and developers. An interviewee from an NGO stated that:

> *"At the current stage, we can effectively mitigate conflicts between bureaucratic government departments and other stakeholders by providing a tie through workshops and forums. More importantly, we can improve our capabilities and social status, which may lead to better participation in VC projects in the future." (NGO, Shenzhen, interview, 2019)*

On the other hand, NGOs were not allowed to participate in the VC decision-making process. The biggest problem was that these NGOs were not considered to represent public interests. Generally, the leaders of non-profit and social organisations are entrepreneurs. If these entrepreneurs pursue their own goals, the results may harm public interests. As one interviewee stated:

> *"I acknowledge that these organisations are useful in a Western context because they are established spontaneously and fight for the public. However, most representative of China's NGOs are entrepreneurs, and they fight for their benefits." (Governmental official 3, Shenzhen, interview, 2019)*

Nevertheless, some other participants pointed out that the government always used excuses to bar NGOs from participating in urban development projects. These NGOs are marginalised organisations and were considered to be a disturbing factor influencing the progress of VC (NGO and Expert 1, Shenzhen, interview, 2019). This is because the local government and NGOs lacked shared goals and did not communicate with each other. Despite efforts by NGOs to participate in the VC project, NGOs did not know how they could work with the local government. The local government also lacked an institutional channel for involving the NGOs in the VC process.

6.4.3.3 Contributions by Residents

As it is a young city of immigrants, residents in Shenzhen have incentives to communicate with the local government regarding transportation and VC matters. This may be related to the fact that the SZMG focuses on attracting and retaining talents and professionals who are essential in supporting the city's competitiveness and sustaining economic development (Morrison, 2014). These residents have enough knowledge and capability to comment on Shenzhen's urban development. Moreover, as a representative of immigrant culture, Shenzhen represents openness, diversity, innovation, and integration (Xie and Li, 2017). These characteristics are developed and supported by understanding and communication from the people of Shenzhen (Expert 3, Shenzhen, interview, 2019). One participant from the SZMPNRB mentioned:

> *"Everyone in Shenzhen pays more and more attention to urban rail transport development and nearby site facilities. […] we [SZMPNRB] received more than 8,000 emails from residents because we planned to change the route and station location." (Governmental official 4, Shenzhen, interview, 2019)*

The actions of residents brought a range of ideas to shape the development of VC in Shenzhen. Firstly, residents mentioned the issues of accessibility and amenity. At the beginning of the construction of the Qianhai project, residents worried about the lack of public transportation in the Qianhai Cooperation Zone and the inconvenience of access to nearby facilities such as bus stations and pedestrian lanes. To address residents' concerns, the SZMG actively sought measures to deal with the convenience issue. For example, the Qianhai Green Transportation Corporation was established by the SZMG in 2014. It provided car parks, shuttles, and commuter buses between metro stations and destinations (Media 1 and Planner 1, Shenzhen, interview, 2019).

Secondly, the residents' preferences led to planners rethinking the issues of development-based or ridership-based VC planning. The conflict between planners and residents focused on current prosperity and developing suburban areas. As one consultant noted:

> *"In China, local governments prefer to design the urban rail routes and the metro stations in a suburban area. They hope that the suburban area will develop fast when transportation is available here. However, the fact is not like that. People do not want to move, at least in the short time." (Consultant 2, Shenzhen interview, 2019)*

The Qianhai project adopted the development-based approach. This research does not discuss the development-based and ridership-based approaches further, as it is outside the scope of the project. The point is that the opinions of the public can provide more points for

consideration by the local government. Based on the residents' preferences, the SZMG considered developing existing stations in city centre areas and new stations in growing suburban areas. The SZMG prepared supporting policies and comprehensive plans for Qianhai, such as attracting talent, housing subsidies, employment policies, and tax policies to attract people to come to the city (Shenzhen News, 2021). Thus, the efforts of SZMG have gained public support for the Qianhai project.

Thirdly, there was a debate between local government and local people over fares. If the fares can be increased appropriately, it will help the SZMG and reduce transport funding pressure for the SZMC. The SZMDRC put forward three plans to increase the fares, but local residents opposed these increases. On the one hand, the public did not consider the ticket fare to be cheap in Shenzhen compared with other cities. On the other hand, the public doubted that investment in rail + property projects would lead to the public sector needing more money. In this case, Shenzhen's residents provided many suggestions and opinions to the SZMG by email. One governmental official mentioned:

> *"We received about 600 emails, and the public provided lots of suggestions. For example, the government did not provide adequate information; residents should not undertake the issue about fares and operating costs; VC projects have already benefited the metro system […] we conducted public replies for these issues." (Governmental official 6, Shenzhen, interview, 2019)*

Ultimately, the fare increase plan was halted because of local public opposition. The SZMG realised that it should explore developing a pricing method for rail transportation and then reach a consensus with the public. The underlying reason for the opposition was that the SZMG and the SZMC did not conduct a public survey at the beginning (Expert 1 and 3, Shenzhen, interview, 2019). Thus, the public did not accept these demanding measures without communication, making them feel excluded from participating. The public started to doubt the legitimacy of VC projects. Fortunately, the SZMG realised the problem and began to respond to the local people and required the SZMC to disclose more operation information so that the public could understand the operation status and future plans of the urban rail transport. One local governmental official mentioned:

> *"We will not adjust the metro fare for the time being. […] the responsibilities of the government, local transport agency and passengers in the investment, construction and operation of rail transport have to be clearly defined. We need more research on these issues."(Governmental official 2, interview, 2019)*

In this regard, the public voice truly impacted the decisions regarding the urban rail transport system in Shenzhen. As mentioned above, the immigrant culture may bring a strong sense of participation and rich knowledge to the public. The SZMG also heard the different voices of local residents and took practical action to solve problems rather than bypassing the problems. For example, if there had been no action to tackle the fare issue, the VC may have been opposed because residents could have thought that the SZMG and the SZMC would levy extra fees from local people because of the high costs of VC projects. Thus, such bottom-top communication is crucial for recognising the public's demands and integrating the public's thoughts in the decision-making process. Moreover, it promotes the public sectors' capacity to respond, making adjustments before worse outcomes occur.

6.4.3.4 Building Trust

Trust building is a vital factor impacting VC development and public support in Shenzhen. Diverse factors affected the trust between the SZMG and the public. The previous sections have already explored the various communication and consultation methods used to strengthen relationships between the local government and the public. Communication and consultation can improve public trust in the local government, the local transport agency, and VC projects. Although public participation in VC projects could still be improved in Shenzhen, the residents showed proactive and critical behaviours, and the SZMG actively responded to the public's comments. These behaviours helped to build trust in the local government. As an expert mentioned:

> *"The government's positive attitudes towards problem-solving can provide a sense of belonging to the public. […] If the government truly works for the public interest, the government should respect the public, not ignore public." (Expert 2, Shenzhen, interview, 2019)*

The media plays a significant role in building trust because trust in the government is related to reporting positive news and information. In turn, if the public receives negative news and information, such as corruption and inaction, the public will be unsatisfied and distrust the local government. In the Qianhai project, the people received positive information, leading to public trust in the local government. As a nearby resident said:

> *"From the media report, I know the advantages of the Qianhai project. The government makes a lot of efforts, and Shenzhen has good performance, whether in terms of urban development, GDP, high-tech development, transportation*

development, etc. So, I believe that the SZMG can make Qianhai project a success." (Resident 2, interview, 2019)

Moreover, political commitments and institutional capacity are crucial factors for building trust between the SZMG and local people regarding the Qianhai project. As analysed in the political–institutional partnership section, political consensus and continued commitment to developing Qianhai and VC mechanisms made the Qianhai project trustworthy. The SZMG is also efficient, and the civil servants have a good attitude toward service. Public participation in the Qianhai project showed that Shenzhen's public institutions have the awareness and ability to innovate in service and self-innovation (Resident 1 and Media 2, Shenzhen, interview, 2019). The capacity of other key stakeholders is also critical to fostering a trust relationship between the SZMG and locals. As mentioned earlier, developing financial partnerships with well-known private developers and consultation with experts showed the professionalism of the Qianhai project, which may have convinced local people to trust the VC project.

Lastly, the VC project's provision of affordable housing was also a significant factor in building trust between the SZMG and local community. The SZMG emphasised the relationship between affordable housing supply and the VC project (Shenzhen Municipal Planning and Natural Resource Bureau, 2016). This is because affordable and mixed-income housing is considered to be an important part of effective TOD and is a way of distributing the increased land value to local residents. Through the provision of affordable housing, local people, especially low-income people, can afford to buy or rent houses in Shenzhen.

For the SZMC, offering affordable housing was an essential requirement of partnering with the SZMG. In the Qianhai project, the SZMC has delivered 22,400 units of affordable housing to local community. The social responsibility of the SZMC was highlighted:

"The effectiveness of Shenzhen VC is not only reflected in economic benefits, but also social benefits. The SZMC has built about 30% of the affordable housing in Shenzhen for the SZMG, solving the housing needs of low-income and young people." (Governmental official 8, Shenzhen, interview, 2019)

Providing affordable housing can solve the problem of high housing prices in Shenzhen, thus benefitting the local community and increasing public well-being. However, because affordable housing is limited, eligibility in the housing's selection pool is restricted to those with Shenzhen *Hukou* status.

"People with a Shenzhen hukou can apply for affordable housing directly. However, for non-hukou people, they have to spend one to two years to get a Shenzhen hukou.

Moreover, because the number of affordable housing units is limited, people with hukou also need to wait in line." (Expert 1, Shenzhen, interview, 2019)

To try to address local housing needs, the SZMG has promised that by 2035, affordable housing in the market will account for about 60% of the total local housing supply (Shenzhen Municipal Government, 2018a). Overall, the provision of affordable housing, as a beneficial institutional action, has helped to strengthen trust between the SZMG and the local community. Importantly, it brought VC in Shenzhen in line with theory, where the benefits of VC are no longer just shared between the government and private sectors, but it also begins to flow to local communities. In this way, VC can create economic and social value in Shenzhen.

6.4.3.5 Cultural Factors

This section highlights the importance of traditional Chinese culture, including Confucianism and *guanxi*, in Shenzhen's VC and shaping social partnership. Specifically, Confucianism helped build trust between the local government and the local people. According to Confucianism in China, people think the government is reliable because it is entrusted with more power to work for the public. One expert said:

"Chinese people hope the government can understand the needs of the people and fight for their needs. […] Political authority as a basic condition of social order." (Expert 3, Shenzhen, interview, 2019)

Thus, trusting the government is a rational way to pursue social welfare. Another underlying reason for the public to trust the Qianhai project was because it had obtained support from different governments levels. This reflects the Confucian principle of respect for authority (parents, teachers, and governments) (De Jong, 2017). Similarly, expert consultation was also related to respect authority:

"Talents, experts, and scholars are a type of authority associated with teachers. [...] consultants work for the government authority […]. However, this cultural characteristic can affect residents' reluctance to express their opinions publicly." (Expert 4, Shenzhen, interview, 2019)

As mentioned earlier, the public trusts the Qianhai project because SZMG and SZMC hired experienced consulting organisations, including private consultants, research institutes, and experts. This measure worked. Because open bidding was used to select reputed consulting groups, the public showed more trust in the public authorities, although they did not participate in the VC process. As for NGOs, traditional culture lacks a community structure that is willing

and able to participate in government decision-making. In this case, it was found that even if NGOs were missing in the decision-making process, there was no strong public opposition in the VC project (Expert 2, Shenzhen, interview, 2019).

Confucianism was also reflected in the characteristics of *guanxi* among multiple stakeholders, which facilitated the partnerships in the VC project. Firstly, the *guanxi* between the central government and the SZMC is inseparable from the development of VC at the local level. In addition to the good institutional capacity of the SZMG, SZMG's close *guanxi* with the central government also helped the SZMG to actively negotiate with the central government to change the LVIC policy.

The *guanxi* between the SZMG and the SZMC was mentioned in interviews:

> *"Because of close guanxi, SZMG can provide affordable housing construction of VC projects directly to SZMC […] if the SZMC has not lost much revenue this year, the SZMG will give rewards. But in fact, the performance of the SZMC may be not good. The SZMG is always behind the SZMC (Governmental official 5, Shenzhen, interview, 2019)*

This indicates that by relying on the *guanxi* with the SZMG, the SZMC obtained the privilege of protecting its interests. More importantly, based on their *guanxi*, they trusted each other, reducing transaction costs and avoiding complex negotiations in the decision-making process (Expert 2, Shenzhen, interview, 2019). It can be concluded that the SZMG and the SZMC have good *guanxi*, which means that their intimate relationship involves trusting each other, helping each other, and loyalty.

Guanxi also exists between the local government and the local people. An expert described this type of *guanxi*:

> *"It is a family-like relationship […] In traditional China's Confucianism, we often use the term parental officials [13] to describe local government. Not only do governmental officials think they are parental officials, but ordinary people also think the same." (Expert 3, Shenzhen, interview, 2019)*

In fact, the term "parental officials" implies that local government's duty naturally has certain paternalistic characteristics, such as benefiting, loving, and nurturing the residents. It

[13] The term "*parental officials*" (父母官) refers to governmental officials, the usage of which goes back to as early as the Han Dynasty.

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also indicates the hierarchy, because the parents are the authority in the family relationship (Tong, 2011). This concept of parental officials makes it difficult for people to feel negative when facing projects that are conducive to urban development projects, such as the Qianhai project or other rail + property projects (Expert 1 and Media 2, Shenzhen, interview, 2019). In general, *guanxi* links the local government and residents together. It helps to attract the support of residents, so that residents can feel happy about it and perceive the possibility of a better life. This positive emotional foundation has contributed to the VC project in Shenzhen and withstood public opposition.

Lastly, *guanxi* was mentioned many times in interviews in describing the financial partnership between the SZMC and Vanke. Vanke is a company headquartered in Shenzhen, with a similar social background and a historical connection with the SZMC. Thus, it obtained more trust from the SZMC. The previous successful partnership experiences also led Vanke and the SZMC to form a partnership based on friendship. As one participant noted the following:

> *"Vanke and the SZMC partnered three times before the Qianhai project. It is not surprising to choose Vanke again. They are like friends." (Consultant 1, Shenzhen, interview, 2019)*

However, participants from the SZMC and Vanke stressed that their partnership was based on open bidding, but the traditional culture led people to describe it as *guanxi*. This implies that *guanxi* can be derogatory in a certain context, and the SZMC and Vanke avoided using this word. The SZMC and Vanke want to convey that their partnership is built on recognition of each other's strength and competence.

6.5 Conclusion

This chapter analyses the roles of the key stakeholders in Shenzhen's VC process. The chapter also demonstrates that political–institutional, financial, and social partnerships were crucial for the VC development in Shenzhen. In terms of the political–institutional partnership, Shenzhen has a stable political agenda and consistent policies and plans supporting VC development at all levels of government. Moreover, the partnership between the SZMG and the SZMC helps them to mobilise land resources through policies and institutional innovation. These institutional and policy innovations involve decentralising planning power in favour of the SZMC for developing the land and building institutional arrangements, which creates an enabling environment in the VC process. The political–institutional partnership enhances the

institutional capacity to tackle dynamic challenges in VC planning and implementation. This political–institutional relationship provides a foundation for the success of the VC projects in Shenzhen.

The analysis of this research also finds that the SZMC actively established the working relationships with developers through open bidding, which helps to build a financial partnership for developing property. The SZMC carefully selects the developers and explores various models to build a financial partnership with the developers. The relationship helps in perceiving and sharing the risks and benefits, developing a unique brand, and being sensitive to the market conditions. The SZMC prepares a precise mechanism for communicating and sharing resources with developers to achieve their mutual financial objectives.

Regarding social partnership, the SZMG and the SZMC develops clear communication channels (e.g., media, e-government service, public participation) with local people and professional networks but excluded NGOs. Although the public participation organised by the SZMG is relatively limited, the presence of proactive residents helps shape the communication in the VC process. The SZMG also builds trust between local government and the public. The results show that economic performance, political commitment, stakeholders' capacities, and benefits to the community are crucial to building trust. In addition, Confucian culture and traditional *guanxi* are reflected in the VC project, explaining the phenomena of trust and partnerships in the VC process. Overall, this trusting relationship avoids public opposition to the Qianhai project in Shenzhen, even if there is some dissatisfaction with the local government.

Chapter 7: The Process of Value Capture in Chengdu

7.1 Introduction

This chapter analyses how the theoretical partnerships in Chapter 3 worked in Chengdu's VC process. The chapter begins with an introduction to the Luxiao project in Chengdu. The roles of key stakeholders in Chengdu's VC process are then explored. Importantly, this chapter explores the status quo of the many stakeholders' collaboration and communication in Chengdu's VC project. It attempts to shed light on how these partnerships work in the VC process in Chengdu.

7.2 Value Capture Project in Chengdu: Luxiao Project

The Luxiao project is located near the southern boundary of Chengdu, approximately 16.5 km from the city centre. It is built in Chengdu's High-Tech Industrial Development Zone. The High-Tech Industrial Development Zone focuses on the industrial development of electronic information, biomedicine, and the new economy (Chengdu High-tech Industrial Development Zone, 2020b). This suggests that a wide variety of international and domestic enterprises may drive the agglomeration and the demand for accessible transportation. Luxiao project is located on Metro Line 6, which connects the western boundaries of Chengdu, the city centre, and Tianfu New District. In *Chengdu's 13th Five-Year Plan for Urban Rail Construction*, Metro Line 6 was a key project approved for construction and was asked to speed up construction to ensure that it operated in 2020 (Chengdu Planning Bureau, 2017). Four other metro lines (Metro Line 11, 20, 29, and 30) will pass through Luxiao station by 2035 according to the long-term plan (Chengdu High-tech Industrial Development Zone, 2020a). Figure 7-1 illustrates the location and transportation network of the Luxiao project.

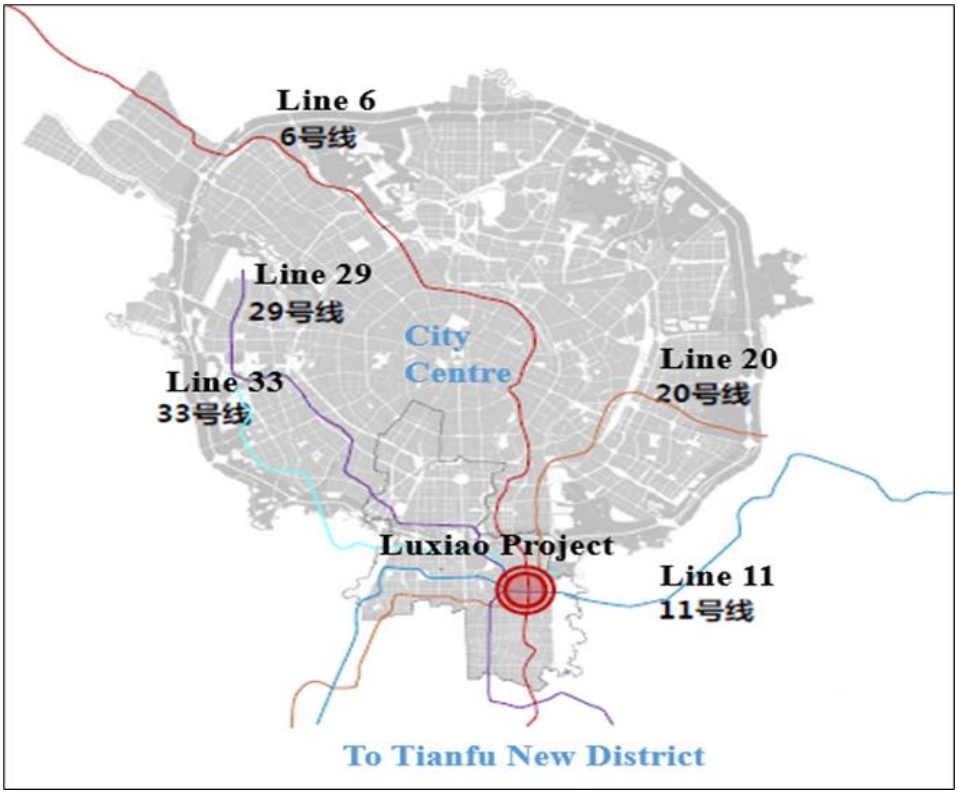

Figure 7-1: Location of Luxiao Station

Source: adapted from Chengdu Rail Transport Group (2018, p. 6)

The purpose of the Luxiao project is to respond to the strategy of expanding the city to the south, help to coordinate regional industrial development, attract industrial and residential populations, and deliver public service and facilities. The project aims to develop high-end industries (e.g., new economy and kinetic energy) and design a park city to attract residents (Chengdu High-tech Industrial Development Zone, 2020a). Based on the principle of TOD, the Luxiao project aims to impact a radius of 300–400 m around the station. Because the location of the Luxiao project was in a suburban area, the land price was low, and local transport agency could more easily obtain land resources at a low cost. In the Luxiao project, the land transaction process was by open listing. The Chengdu Municipal Land and Resources Bureau (CDMLRB) sold two land parcels around and over the Luxiao station, and finally the CDRTG obtained the land resources at the reserve price. Table 7-1 shows the information on the land transaction in this VC project.

Table 7-1: Land Transactions of the Luxiao Project

Parcel number	Parcel 1	Parcel 2
Net land area	137,510.99 m^2	133,036.36 m^2
Land use classification	Commercial land for 40 years and residential land for 70 years	Commercial land for 40 years and residential land for 70 years
Floor area ratio	2.168	3.756
Auction price	6592 yuan/m^2	3334 yuan/m^2
Deal price	6592 yuan/m^2	3334 yuan/m^2

Source: Chengdu Land and Resources Bureau (2019b).

As can be seen from the description in this section, the Luxiao project was selected by the CDMG and the CDRTG as the first official VC project in Chengdu because of its potential accessibility and cheap land price, and because it met the requirements of spatial development. As the starting project of Chengdu's VC mechanism, the Luxiao project received a lot of attention from local stakeholders. However, the development of the Luxiao project was not mentioned in the urban master plan and other policies because of the inadequate planning framework, as discussed in Chapter 5. This led to controversy over the actual development of the Luxiao project, although it has been implemented. In this context, the Luxiao project was chosen in this thesis to demonstrate the complexity of Chengdu's VC projects, thus providing a holistic picture of VC initiation, planning and implementation.

7.3 Stakeholders in the Value Capture Process

Key stakeholders in Chengdu's VC decision-making process spanned the public and private sectors, research institutes, and consultancies. The NGOs and media played the roles of advocates but had very limited influence on VC decision-making. Residents were not formally involved in the VC planning and implementation. By conducting a stakeholder analysis, this section explores the roles of stakeholders in the VC process in Chengdu. Figure 7-2 indicates how the key stakeholders formally interact and collaborate in Chengdu's VC decision-making process.

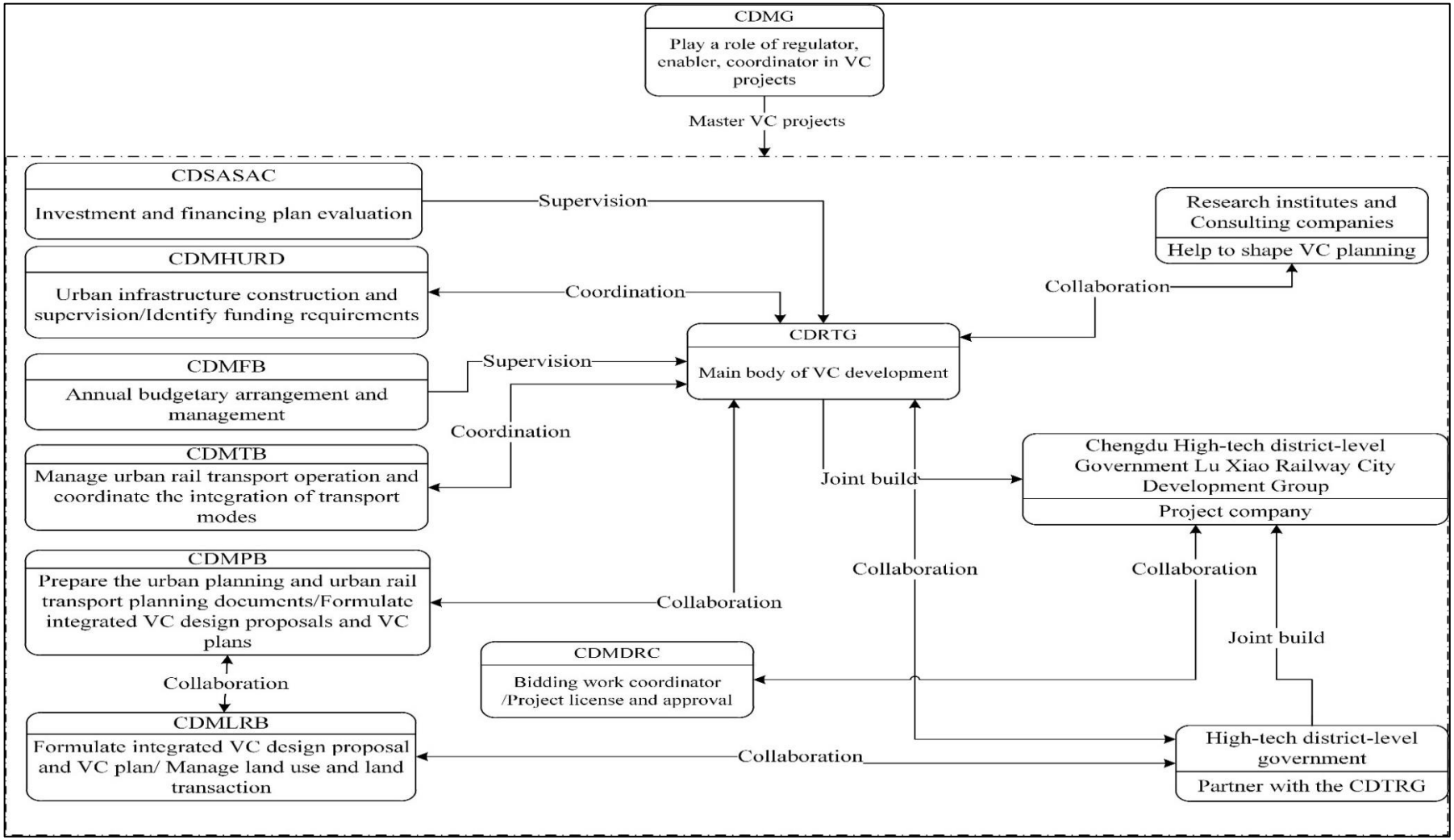

Figure 7-2: Key Stakeholders in Chengdu's VC Decision-Making Process

Source: drawn by author.

7.3.1 Governmental Stakeholders

The central and provincial governments play limited roles in Chengdu's VC process. There is no information, including media, interviews, and documents, that reveals the role of the central government in the Luxiao project. The most significant influence of the central government is the approval for construction of Chengdu's urban rail transport system and the creation of supportive policies to encourage local governments to explore the VC mechanism. The SPG plays the role of a supporter and regulator. As mentioned in Chapter 5, the SPG prepared some policies to regulate land transactions and the PPP environment, and indicated the need for VC. However, the SPG does not directly participate in the Chengdu's VC project's planning and implementation.

At the municipal level, the CDMG plays the main role in the VC process. The CDMG and its governmental sectors are key actors in understanding Chengdu's development needs and paths. They are responsible for the detailed planning and implementation of the Luxiao project. Specifically, the CDMG regarded TOD via the VC mechanism as an urban strategy to reshape the urban economic geography, optimise urban space, and develop public transportation in Chengdu. The CDMG contributes to preparing policies and plans related to VC development and coordinated all the VC projects. The CDMG's governmental sectors also plays significant roles in the VC planning and implementation, as described below.

The CDMPB is responsible for compiling the urban planning and urban rail transport planning documents, and for urban design in Chengdu. At the planning stage, CDMPB collaborates with the CDRTG, the district–level government, and Chengdu Municipal Land Resources Bureau (CDMLRB) to formulate a specific plan and technical guidelines for VC, including the use of control of ground and underground spaces in the land surrounding the station.

The CDMLRB manages land use matters and land transactions. The CMLRB works with the CDMPB[14], the Chengdu Municipal Housing and Urban–Rural Development Bureau (CDMHURD), the CDMTB, and the CDRTG to identify the land resources around the station and control the land transfer. The CDMLRB also partners with the district-level government and the CDRTG to work out the land supply plan.

[14] In 2019, the CDMLRB and the CDMPB were merged to create the Chengdu Municipal Planning and Natural Resources Bureau.

The CDMHURD is in charge of the construction and supervision of urban infrastructure, including real estate, urban renewal, public facilities, urban rail transport, etc. It manages the collection, use, and supervision of construction funds. It determines the annual investment and funding requirements for urban rail projects.

The CDMTB is responsible for supervising and managing urban railway transport operations, and formulating relevant operational management measures and passenger service standards. It identifies the operation and maintenance costs of the project. In addition, the CDMTB coordinates the transfer and connection of different urban rail transport routes and other modes of public transport, such as buses and BRT.

The Chengdu Municipal Finance Bureau (CDMFB) prepares the annual budgetary arrangements for fiscal funds and guides financial allocation in the VC project. The CDMFB provides guidance to complete the settlement of land transfer fees, property rent and sale fees, and increases in land value.

The Chengdu Municipal Development and Reform Commission (CDMDRC) is responsible for approving and initiating VC projects. The CDMDRC guides and coordinates the bidding, auction, or listing associated with the project.

The Chengdu State-Owned Assets Supervision and Administration Commission (CDSASAC) is a governmental sector that supervises the local stated-owned enterprise. The role of the CDSASAC is to evaluate the CDRTG's annual investment and financing plan, and supervise the actions of the CDRTG.

The government of the High-tech district had a significant role in Chengdu's Luxiao project. The district-level government collaborates and coordinates with the CDMPB, CDMLRB, and CDRTG to frame the VC project's specific plan and the land supply plan. It also undertook the fund-raising work and managed part of the revenue from VC.

7.3.2 State-owned Enterprises

The CDRTG, as a state-owned enterprise, was established in 2004. The CDRTG is responsible for the investment, construction, operation, and resource development of Chengdu's urban rail transport system. It is also responsible for developing land around the metro stations. The CDRTG participates in formulating specific plans and the land supply plans for VC with the city governmental sectors. The CDRTG is in charge of compiling the Luxiao project's integrated design and plan. In addition, the CDRTG is required to work out a plan for

constructing and operating the urban rail transport system. The CDRTG, as the main body in the VC project, aims to carry out the VC project, and participate in urban planning and urban development. In the Luxiao project, the CDRTG builds a partnership with the High-tech district-level government by establishing a joint venture: the Chengdu High-tech District Luxiao Railway City Development Group.

7.3.3 Professionals, NGOs, and Media

Some other stakeholders play a role in Chengdu's VC project. In the planning process, the CDRTG hires consulting companies such as Deloitte, Nikken Sekkei, and Savills, and research institutes such as the Sichuan Institute of Architectural Design and Research and China's Academy of Urban Planning and Design to form a research team for shaping the VC plan.

The media and an NGO (e.g., Chengdu Association of Urban Planning) are responsible for widespread dissemination of knowledge because the concept of VC project was a new thing for Chengdu's locals. For example, the mass media organises feature articles on the VC project. The NGO prepares some forums to facilitate communication among key stakeholders. However, they are not involved in the decision-making process of the Chengdu's VC project.

7.4 Partnerships in Chengdu's Value Capture Process

This section examines the partnership structures in Chengdu's case to explore how multiple stakeholders worked together to develop the VC project. The findings reveal how the three types of partnerships (political–institutional partnership, financial partnership, and social partnership) help Chengdu promote the VC project. At the same time, this section exposes the obstacles and problems in the planning and implementation of the Luxiao project, indicating that Chengdu's VC has many uncertainties.

7.4.1 Political-Institutional Partnership

Political-institutional partnership in Chengdu reveals how governmental sectors and local transport agency work together to smooth VC planning and tackle challenges in the process. It is categorised into four subthemes, including increasing political support, sharing planning

power and land transaction, building institutional arrangement, and the issues of institutional capacities.

7.4.1.1 Increasing Political Support

The central government paid attention to the overall development of VC in China through formulating targeted policies such as the Opinions of the State Council on Supporting the Land Comprehensive Development of Rail Construction and Guidelines on Promoting the Development of Municipal (Suburban) Railways, as described in Section 5.4. Following these guidance documents, VC in Chengdu has entered a period of accelerated development. Furthermore, Section 5.4 found that the SPG did not provide policy guidance for the development of VC in Chengdu. However, the participant from the provincial government showed strong trust in the ability of CDMG:

> *"We fully support Chengdu to engage in VC development. […] We are mainly responsible for the supervision and will not intervene too much, but the premise is not to violate laws and regulations." (Governmental official 1, Chengdu, interview, 2019)*

Although support from higher levels of governments was not direct and was informal, the CDMG began to advocate for VC. However, the attention given by the central and provincial governments to the Luxiao project was inadequate. Some participants argued that the location of the Luxiao project was not attractive enough, leading to less attention. An expert pointed out the following:

> *"Is there a problem with location selection? I think the answer is yes. In the site selection, should we spend more time on how to attract the attention of the higher-level governments or private sectors instead of just considering where the land is cheap." (Expert 2, interview, 2019)*

This means that when selecting a site for VC development, it is important to consider not only the technology and cost, but also the availability of government support to better access resources for subsequent development. However, the site for the Luxiao project was selected on the basis of cost considerations and did not seem to be sufficiently attractive to the higher levels of government.

At the municipal level, the role of local politicians was significant in proposing VC in Chengdu. Before 2017, the political proposition of the former mayor and secretary of the Chengdu Municipal Committee was to develop urban rail infrastructure vigorously, mainly relying on government funding for its construction. Therefore, even though a VC project had

been proposed (the Cui Jiadian project), it was delayed for a long time because it a lacked local political support (Governmental official 2, Chengdu, interview, 2019). In 2017, a new Secretary of the Chengdu Municipal Committee was appointed. Under the new political regime, TOD and VC mechanisms have been brought to the top of the political agenda. An interviewee explained this as follows:

> *"The new Secretary of Chengdu Municipal Committee is very energetic. After he took office, the VC project was quickly promoted. He is very concerned about developing the Chengdu railway transport system, such as the scale, talents, and funds. For example, he even visited the campus recruitment fair of the CDRTG. Moreover, he often goes to the CDRTG to supervise works in person." (Manager 2, Chengdu, interview, 2019)*

Moreover, the local politicians regarded VC and TOD as obvious choices for enhancing urban development and dealing with funding pressure to cover the high costs of building an urban rail transport system (Governmental official 2, Chengdu, interview, 2019). With local politicians' support, the CDMG organised field trips to Shenzhen, Hong Kong, Tokyo, and Singapore to learn about their VC and TOD experiences. The mayor and the secretary of Chengdu Municipal Committee held a special meeting on comprehensive VC and TOD development with the relevant municipal and district-level governmental sectors and the CDRTG. At the meeting, the secretary of the Chengdu Municipal Committee stressed that it was necessary to understand the importance of comprehensively developing VC, as it was conducive to solving funding difficulties for construction and operation (Chengdu Municipal Government, 2018a).

In addition to supporting VC, the mayor and the secretary of Chengdu Municipal Committee also strongly supported the CDRTG becoming the main body in the VC process. Local politicians and the CDMG trusted the capabilities of CDRTG and provided powerful help to solve the difficulties encountered by the CDRTG. As one participant mentioned:

> *"Usually, when we meet difficulties, we ask for help from the mayor and the secretary of Chengdu Municipal Committee, and they will help us to coordinate. They will call relevant stakeholders to have a meeting together, putting the problem on the table and solving it face to face." (Manager 1, Chengdu, interview, 2019)*

From planning to implementation, the Luxiao project only took one year, showing the importance that local politicians and the CDMG attached to the development of the VC project. Moreover, since the VC project was a government-led project, Chengdu's political leadership made the development of VC one of the city's most important political goals. Correspondingly, driven by the political leadership, the Guidelines for Integrated Urban Design of Chengdu Rail

Transport Stations were compiled by the CDMPB to provide technical guidance. The technical contents mainly include industrial development, land use layout, urban form, use of underground space, slow-moving systems, and transportation connection systems, providing detailed guidance for planning the station (Chengdu Municipal Government, 2019c).

Therefore, Chengdu's promotion of VC was primarily attributed to the support of local politicians, especially the new Secretary of Chengdu Municipal Committee, who played a vital role in promoting VC. Nevertheless, political support has also become a significant potential risk in Chengdu.

> *"The VC project is influenced by the politicians' will, so collaboration and coordination among actors under the politicians' leadership is important. However, political dynamics often lead to changes in policies, so even if the policies are introduced, they may change. If the change of politicians, what will happen is unknown, because the overall institutional environment of Chengdu is not ready for VC planning." (Expert 1, Chengdu, interview, 2019)*

This corroborates the analysis of Chengdu's political environment in Chapter 5, namely that it lacks targeted regulations and policies, as well as a sound planning and institutional environment for VC projects. Although political support can provide support in the early stages of VC, relying on political support alone is risky. Over-reliance on local leadership was identified as one of the most important risks of VC investments in Chengdu (Governmental official 3 and Planner 2, Chengdu, interview, 2019).

7.4.1.2 Sharing Planning Power and Land Transaction

With the support of local politicians and the CDMG, the CDMPB partnered with the CDRTG to conduct a study of Chengdu's overall VC strategy in 2018. This study is a guide for VC planning in Chengdu, and it identified that the development scope of VC projects covers 714 stations and 75 depots. The land development is within a 500-m radius of a general station and a 800 m radius of a transfer station (Chengdu Municipal Government, 2019a). The rail transport sites for VC development were divided into four levels in Chengdu (Table 7-2). The Luxiao project was a district-level site project.

Table 7-2: Levels of VC Sites in Chengdu

Site levels	Description
City level	A city-level site is located in the city centre, sub-centre, or comprehensive transportation hubs.
District level	A district-level site is located in the main centre or sub-centre of each district, and the comprehensive service centre of a modern service industry or advanced manufacturing industrial zones.
Group level	A group-level site is located in the public service community centre, the characteristic town centre, or the comprehensive service centre of an agricultural zone.
General level	Other sites besides the three categories above.

Source: Chengdu Municipal Government (2019c).

Based on the partnership with the CDMG, the CDRTG obtained the power to plan for VC. Specifically, the CDRTG invited international and domestic consulting companies to formulate the Luxiao Project Integrated Design in 2018. It said that the Luxiao project was intended to build a community through TO, with a park city life scene, including functional and cultural facilities (Chengdu Rail Transport Group, 2019). To achieve the goals of the Luxiao project, the CDRTG proposed adjusting the regulatory plan to change the original land use and zoning plan; the CDMPB reviewed these adjustments. The participants listed some of the major adjustments to the Luxiao project:

> *"First, we increase the public service facilities such as schools and community care centres. Second, we increase and expand roads, and increase green areas. Third, the original large number of commercial compatible residential lands have been adjusted to pure commercial and residential lands, which is relatively independent of commercial and residential lands." (Planner 3, Chengdu, interview, 2019)*

> *"[…] the height of the building was adjusted to 180–210 metres, which may lead to a new landmark." (Planner 5, Chengdu, interview, 2019)*

The CDRTG was granted great planning power by the CDMPB and became responsible for all planning and design matters in the Luxiao project. Therefore, the CDRTG participated in the planning and designing of both individual projects and the city's overall VC planning. Moreover, the CDRTG was granted power to participate in the land resource planning process and formulate a land transaction scheme in the VC project. The CDRTG partnered with the CDMLRB and the CDMPB to prepare the annual land supply scheme for Chengdu's VC projects. Afterwards, based on the relevant land transaction regulations and laws mentioned in Section 5.4.3, the method of supplying land for the VC projects was bidding, auction, or listing.

"We believe that sharing power with the CDRTG is very important for the VC project. Only if the CDRTG participates in the whole VC process, they can play the most effective role." (Planner 2, Chengdu, interview, 2019)

In the Luxiao project, the land parcel transaction process was via the listing method. Local governments favoured the listing format because the long listing time leads to the possibility of multiple bids and easier government intervention (Wang et al., 2018b). It also meant that more than two bidders are not necessarily required in the land transactions of the VC project (Governmental official 5, Chengdu, interview, 2019).

In the land transaction process, the CDMG had to consider how the CDRTG could obtain the land for VC development, and it set some special bidding conditions to bypass the regulatory barriers and benefit the CDRTG. Specifically, the CDMG allowed state-owned and private companies to participate in the bidding. Nevertheless, the CDMG required the bidders to have experience in constructing and operating an urban railway. It needed these bidders to have experience in constructing and operating six or more metro line networks. Moreover, the completed metro lines must not be less than 200 km (Chengdu Land and Resources Bureau, 2019a). Another way that a favourable environment was created for the CDRTG was the following:

"The government offered 30% discount for land prices of Luxiao project to the CDRTG, and the government sold the land at the reserve price." (Manager 1, Chengdu, interview, 2019).

There was no doubt that only the CDRTG was qualified to win the bid. The CDMLRB provided a low land price to the CDRTG, which helped the CDRTG reduce the cost of land acquisition. In this regard, based on the partnership between the CDMG's governmental sectors and the CDRTG, the regulatory barriers to land transactions in the VC project were bypassed, allowing the CDRTG to obtain the land resources successfully. However, some participants criticised this practice because it undermined fair competition in the land market. For example, as one expert noted:

"Is this the right thing to do? Is this fair? Isn't the 30% off on the land price a loss of state-owned assets? At the same time, it is unfair to other bidders." (Expert 3, Chengdu, interview, 2019)

To enhance the financial ability of the CDRTG, the High-tech district-level government (investment sector) offered funding support and established the project company with the CDRTG to acquire the land. After the land resources had been obtained, the CDMDRC issued the project license to the CDRTG. The CDMPB, CDMLRB, and CDMHURD issued

certificates and licenses such as the Land Use Planning License, the State-Owned Land Use Right Certificate, and a construction planning permit to allow the project to begin construction. Finally, under the leadership of CDMFB, *special funding for rail transport* was established by the CDRTG to manage and distribute the increased land value in the fund return phase. In other words, the CDMG granted the power to the CDRTG to manage the revenues of VC. Figure 7-3 illustrates how the government sectors and the CDRTG worked together in the Luxiao project.

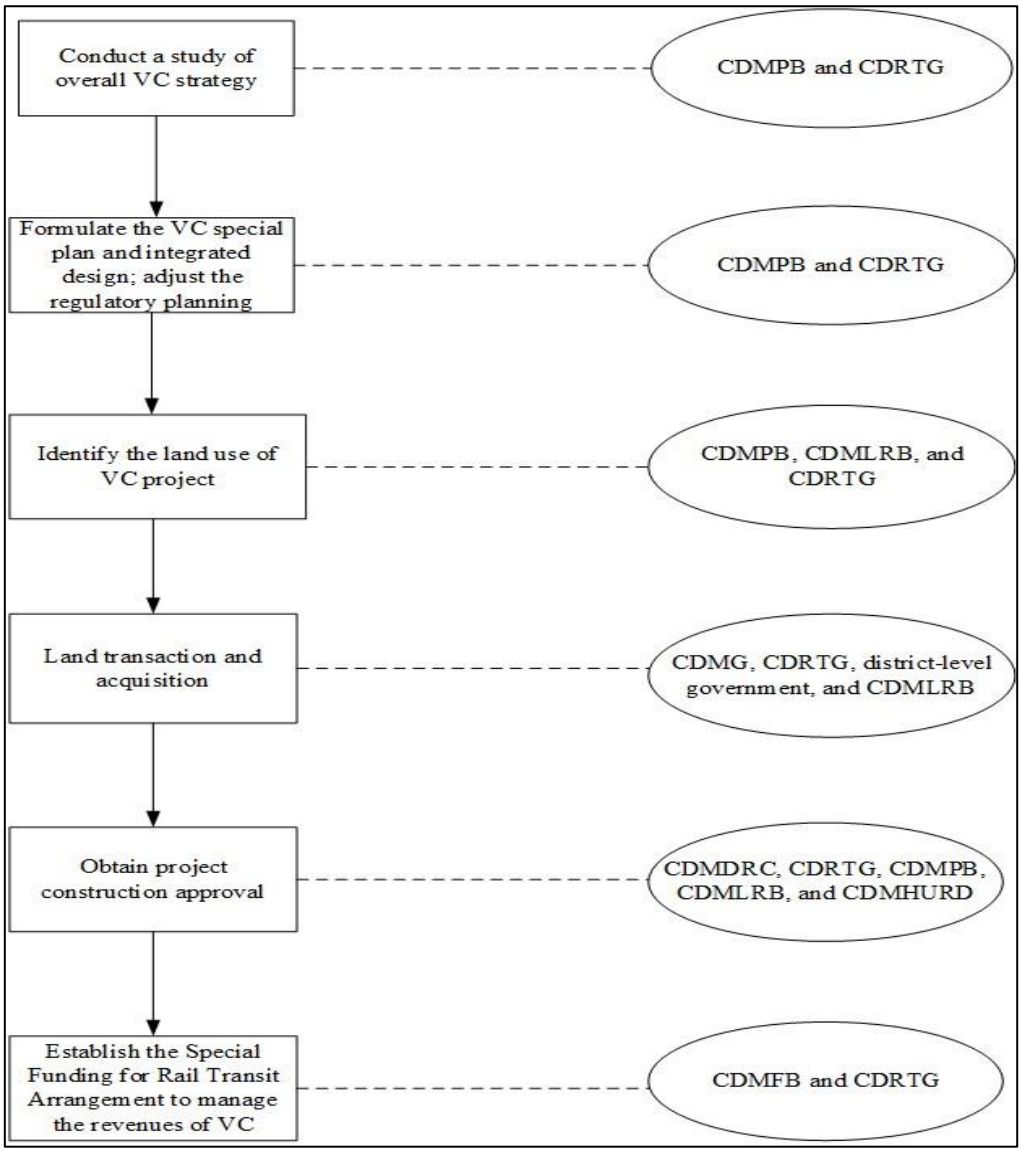

Figure 7-3: The VC Mechanism in Chengdu: Land Transaction with Special Conditions

Source: drawn by author.

Overall, the decisions regarding VC are formulated and implemented in a government-led manner in Chengdu. In the planning process, with the support of the CDMG, the CDRTG partnered with multiple governmental sectors and participated in the VC planning process. The

CDRTG obtained power from the CDMG to plan and manage the VC revenue. This is a significant factor that promotes Chengdu's VC under an inadequate planning and institutional framework (as discussed in Section 5.4).

7.4.1.3 Building Institutional Arrangement

To ensure the effectiveness of the partnership between the CDMG and the CDRTG, the CDMG facilitated institutional reforms, which established the Chengdu Municipal Rail Transport Comprehensive Development Leading Group (Leading Group). The Leading Group was responsible for regulating and coordinating the roles of the stakeholders in the VC process. The members of the Leading Group included the CDMDRC, the CDMFB, the CDMLRB, the CDMPB, the CDMTB, the CDMHURD, the CDSASAC, the district-level governments, and the CDRTG. The deputy mayor served as the group leader, which means that this partnership arrangement has the power to enforce the rules for collaboration in the VC process. The Leading Group was considered the most important institutional arrangement for communicating and negotiating the interests and opinions of different parties, ensuring that VC could be planned and implemented in Chengdu. As some participants noted:

> *"The Leading Group has leadership to facilitate the formation of partner relations among various departments and coordinate planning and management of Luxiao project." (Governmental official 2, Chengdu, interview, 2019)*

> *"The office of Leading Group has been set up in the CDMPB, and almost all VC matters have been solved in this Leading Group" (Governmental official 7, Chengdu, interview, 2019).*

The Leading Group played an important role in the VC process. First, as mentioned above, the CDRTG prepared a specific plan called the Integrated Design of Luxiao Project and the CDMPB organised a review of the plan. The role of the Leading Group in this process was to propose a focus for the plan in terms of development intensity and project scope, as well as optimising land use and increasing land values and revenues. The Leading Group also had the ultimate power of approval over a plan amendment (Governmental official 8, Planner 2 and 5, Chengdu, interview, 2019).

The Leading Group also coordinated the land resources for the Luxiao project. Usually, the land and investment resources are administered by the district-level government in Chengdu. However, with the support of the Leading Group, the land resources were controlled by the CDMLRB, which decreased conflict between the district-level government and the CDRTG.

The participants from the CDRTG revealed that the CDRTG felt that it was challenging to develop coordinated and collaborated activities with the district-level governments because they did not want to share resources with the CDRTG (Manager 2 and Planner 4, Chengdu, interview, 2019). A participant from the district-level government also noted:

> *"We [district-level government] think the VC is a mature practice and can find lots of examples as a reference. So, we trust we can do our own VC projects and then all the increased land value can flow directly to us instead of sharing with the CDRTG." (Governmental official 9, Chengdu, interview, 2019)*

To deal with their conflicts, the Leading Group helped CDRTG to partner with the district-level government. The Leading Group coordinated the income ratio of land consolidation between the district-level government and the CDRTG. An interviewee revealed the following:

> *"If the district-level government-funded land consolidation, the district-level government-CDRTG net income ratio of land consolidation is 1:1. However, if the CDRTG conducted the land consolidation, the district-level government-CDRTG income ratio would be 1:3. The CDRTG finished Luxiao project's land consolidation process." (Governmental official 6, Chengdu, interview, 2019)*

It is evident that the Leading Group offered a platform on which the CDRTG could coordinate and collaborate with the district-level government on land-sharing matters to achieve its goal of VC development. In this situation, the CDRTG became a powerful organisation through the support of the Leading Group. The Leading Group guaranteed that the CDRTG could communicate with the district-level government on resource issues and enable the relevant local governmental sectors to adjust the plans and designs in line with the CDRTG's expectations.

At the same time, the CDRTG is required to complete tasks assigned by the Leadership Group, such as building public toilets and nearby bus terminals in the Luxiao project at no cost (Manager 1 and Governmental official 5, Chengdu, interview, 2019). These requirements were also stipulated in the bidding documents (Chengdu Land and Resources Bureau, 2019a). As one interviewee pointed out:

> *"VC is a game of land resources. The Leading Group has led and coordinated this game.[…] Based on the partnership between the CDMG and CDRTG, they both provide some benefits to each other, so as to achieve a win–win situation" (Consultant 2, Chengdu, interview, 2019)*

Overall, the Leading Group can be seen as a tool for demonstrating the CDMG's capability and for developing and maintaining partnerships between local governmental sectors and local

transport agencies. The institutional platform internalises political support and provides an environment for the relevant institutions to reach an agreement through close participation and joint effort.

7.4.1.4 The Issue of Institutional Capacity

From the analysis in the previous sections, it is clear that the partnership between the local government sectors and local transport agencies has brought significant benefits to the VC project. However, some institutional capacity issues remain unresolved. According to the participants' comments, the main doubts lie in three areas. Firstly, although the district-level government and the CDRTG have established a partnership for sharing land resources and benefits, the capacity of the CDRTG was still doubted by some other stakeholders. For example:

> *"As it stands, CDMG requires each district-level government to provide lands and partner with CDRTG to develop at least one rail + property project. This decision seems to be too hasty. After all, we have not seen any results yet, and we do not know what kind of development is appropriate for the Chengdu style." (Media 2, Chengdu, interview, 2019)*

> *"It is true that the CDRTG has a good capacity for constructing and operating the urban rail system. However, regarding real estate development and commercial operation, the CDRTG lacks the experience to do these matters." (Planner 1, Chengdu, interview, 2019)*

This suggests that the advancement of the Chengdu's VC was largely a result of political support during the partnership, but the inherent capacity issues were not felt to have been significantly improved. The CDRTG did not have real estate development capacity or experience, and no real estate companies were involved in the decisions regarding the Luxiao project.

Secondly, the feasibility of the VC plan of the CDMPB and CDRTG, who planned more than 700 stations for VC development at once, was uncertain. Despite the uncertainties, the district-level government and the CDRTG still established the partnership with strong local political support and planning incentives. However, this does not mean that there is no impact on VC development in Chengdu. In reality, after the Luxiao project, all district-level governments took a wait-and-see attitude towards continuing other VC projects for a certain period of time and slowed down the pace of development in Chengdu (Governmental official 6, 7 and 9, Chengdu, interview, 2019). This implies that the VC planning issue has been

resolved to some extent through the partnership between local government sectors and the CDRTG. However, as analysed in Section 5.4, the fragmented planning framework in Chengdu has not been addressed in essence. In this case, the planning output of the VC project was questioned by some interviewees.

Thirdly, the CDMG was not able to communicate with the central government when faced with its new policy on rail transport construction. In 2018, the State Council issued Further Strengthening the Management of Urban Rail Transport Planning and Construction to improve the standards for project proposals, such as the budgetary revenue of municipal finance, GDP, population, passenger flows, and transport intensity (State Council, 2018b). In particular, the policy stipulated that the proportion of government investment in the total project investment should not be less than 40%, except for projects that clearly apply the PPP model in their urban rail transit construction plan (State Council, 2018b). The CDMG responded to the policy of the central government by taking the initiative to reduce the construction of 19 routes with 700 km (Sohu News, 2019). This may have affected the overall development of VC in Chengdu. As some interviewees stated:

> *"It can be said that the CDMG is responding to this policy passively. Neither the government nor CDRTG has tried to find a solution, for example, by adopting more PPP models and incorporating PPP into the VC development. This is also a form of encouraging innovative capital investment in rail transit by the central government." (Expert 1, Chengdu, interview, 2019)*

> *"The adjustment of the lines will have an impact on the planning of VC, especially on the site selection. The urban rail transit system is the basis for our development of TOD and VC." (Governmental official 7, Chengdu, interview, 2019)*

This suggests that the CDMG and the CDRTG did not try to find a way to overcome the policy challenges created by the central government. According to participants' comments, this may be for two reasons. On the one hand, not trying to overcome the challenge was caused by the unequal status of the local and central governments and the hierarchical management system. On the other hand, it suggests that the partnership between CDMG and CDRTG did not significantly improve their institutional capacities in the VC process, including the ability to respond to unexpected changes in the policy environment and to solve problems.

7.4.2 Financial Partnership

This section explores how the CDRTG selected partners for developing properties in the VC project in Chengdu. The section first analyses how and why the CDRTG established a financial partnership with the district-level government, and reveals the problems in their partnership. Then it explains the financial partnership approach taken by the CDRTG and the district-level government. Moreover, the section discusses how they share the risks and revenues of the VC project. Finally, the section focuses on how their financial partnership did not address several issues of property development in the VC project.

7.4.2.1 Partner Selection and Building Financial Partnership

As mentioned earlier, the High-tech district-level government offered the financial help to CDRTG for obtaining the land resource of Luxiao project. With the support of the CDMG, the joint venture between High-tech district-level government and the CDRTG was also responsible for developing properties in the Luxiao project. Unlike the traditional rail + property, which involves partnering with professional developers, the CDRTG preferred to build a partnership with the district-level government because it was urgent to find a way to deal with the funding gap issue and improve the performance of Chengdu's state-owned enterprises (Governmental official 5 and Expert 3, Chengdu, interview, 2019). Nevertheless, this kind of partnership for property development led to a controversial view of the Luxiao project:

> *"Open and transparent marketisation that the government has been emphasising. Fair practice should adopt open bidding and choose the best-qualified partner. However, it seems like we cannot find it in the first VC project in Chengdu." (Expert 2, Chengdu, interview, 2019)*

> *"The capabilities that CDRTG should value most when looking for a partner is real estate development and management capabilities. However, these capacities have not been well founded in partnership with the district-level government."(Planner 2, Chengdu, interview, 2019)*

In this case, this kind of partnership only tackled the funding issues for developing properties. Because of the lack of professional developers, knowledge on real estate development and management was still missing. The district-level government also had several doubts about building a financial partnership with the CDRTG. As one participant from the district-level government noted:

"We [district-level government] questioned whether the CDRTG could complete all projects (13 projects into the first batch) and ensure the sustainability of the funding for the part they were responsible for.[…] The CDRTG has no experience in real estate development, so we are also worried. Can partnership with the CDRTG get revenues of VC projects? Chengdu's business districts are already very saturated." (Governmental official 9, Chengdu, interview, 2019)

It can be seen that there are still uncertainties about the feasibility of the VC project in Chengdu. This is because of two reasons. One is that the CDRTG planned to construct many of the VC projects simultaneously, so the district-level government was concerned about the funding guarantee of Chengdu Metro. On the other hand, the district-level government also needs to invest in other public services and facilities. In this case, whether it was worthwhile investing in VC projects was also a concern for the district-level government. However, the CDMG and the CDRTG were very confident about the funding capacity for Chengdu's VC projects and stated the following:

"Although large-scale investment spending has increased the company's financial pressure and debt pressure, the CDMG has strongly supported us. Its support forms a good guarantee for the construction and the repayment of debts." (Manager 2, Chengdu, interview, 2019)

"We can be very responsive to say that the CDRTG has a very high credit ranking. In addition, Chengdu's economic development is relatively fast, and its comprehensive financial strength is strong, which helps to support the CDRTG's overall credit level." (Governmental official 8, Chengdu, interview, 2019)

In this case, because of the strong support by the CDMG, the CDRTG had a good reputation from a financial perspective. This is because the CDRTG, as a local state-owned enterprise managed by the CDMG, was guaranteed by the municipal government in terms of financial capital and bank financing capacity. Ultimately, although the district-level government had some concerns, it agreed to establish a financial partnership with the CDRTG to develop properties in the Luxiao project. Some participants mentioned the factors that attracted the district-level government to participate in the VC project with the CDRTG:

"In fact, because the power of the municipal government is greater than that of us, so we [district-level government] need to follow the CDMG." (Governmental official 9, Chengdu, interview, 2019)

"[…] the VC saves the land and space resources, and it offers a higher quality of service and infrastructure that can improve the quality of life of residents (Planner 1, Chengdu, interview, 2019).

"[…] the current regulatory planning can be adjusted by increasing roads and changing building height limits." (Manager 1, Chengdu, interview, 2019)

Nevertheless, the partnership between the CDRTG and the district-level government was fragile because their relationship was developed and maintained by political power to some extent, which created an underlying political risk. The participant from the CDRTG highlighted the following:

"Now we [CDRTG] get strong support from the local politicians. However, if there is a change of local politicians, will we still get such great support? To be honest, we are worried about this problem because, without the support of political leaders, we may have no way to game with the district-level government." (Manager 1, Chengdu, interview, 2019)

It is evident that the district-level government was willing to establish a partnership with the CDRTG, influenced by the hierarchy and attracted by the social benefits of VC projects. Importantly, the original planning indicators could be adjusted through partnering with the CDRTG. This is because it is difficult to make adjustments to the regulatory planning without reasonable cause. Through VC development, the district-level government can participate in adjusting the planning indicators. This means that the district-level government may earn more municipal revenue, and, at the same time, meet the needs of the local community. However, the financial partnership, which relies too much on political factors, makes their relationship full of uncertainty.

7.4.2.2 Financial Partnership Structure

The CDRTG and the district-level government jointly established the partnership's organisational structure in the form of the joint venture, a project company named the Chengdu High-tech District Lu Xiao Railway City Development Group to manage all matters in the Luxiao project. They own the project company's shares: the CDRTG owns 51% and the district-level government holds 49%. This project company is an independent legal entity, and the company's employees were dispatched from both organisations and by social recruitment. An interviewee revealed that:

"There were only about five employees with relevant real estate development working experience, and they were not professional. They only participated in general construction works or played the final approval role. They did not know the whole process of developing VC's real estate." (Manager 2, Chengdu, interview, 2019)

This proves that there was an extreme shortage of professional developers in the process of cooperative real estate development, even though the CDRTG was aware of this problem. In this regard, most interviewees suggested that the CDRTG should establish partnerships with professional developers as soon as possible instead of acting alone. The CDRTG needs to realise that some concessions of interest are necessary to complete VC projects better.

The function of the project company was identified as providing a platform to make communication and negotiation easier between the CDRTG and the district-level government. Compared with other private enterprises, the CDRTG, as a state-owned enterprise, still focused on public services and public value. It has a similar working philosophy and culture to the district-level government. Therefore, the district-level government and the CDRTG can usually maintain communication smoothly.

However, because of different opinions about the revenues of the VC project, they had to negotiate the development of different property types. On the one hand, the district-level government preferred to construct more buildings for commercial land use, such as shopping malls, restaurants, and entertainment facilities. On the other hand, the CDRTG desired to build more residential housing, as it could earn money quickly. Some participants explained their thoughts:

> *"We think [the district-level government] commercial land use will be more attractive to consumers and investors, and can provide continuous commercial tax revenue." (Governmental official 9, Chengdu, interview, 2019)*

> *"The biggest controversy in our negotiation is the type of property development. […] One thing I want to say is that the project is not located in city centre areas and establishing a business district to earn money is not easy." (Manager 1, Chengdu, interview, 2019)*

Subsequently, the CDRTG and the district-level government jointly organised many face-to-face meetings to coordinate this issue. To better deal with the issue of property development, they also jointly organised feasibility research to support their view of point. The planner described this as follows:

> *"We did rich research for the Luxiao project. We chose the research range of about 20 kilometres by a 3-kilometre radius of the station, and there are about 300,000 population, and most of them have advanced education and high income. We think they can afford to buy the housing, and they have strong consumption ability." (Planner 4, Chengdu, interview, 2019)*

In this regard, ultimately, the CDRTG and the district-level government reached a consensus that the upper limit of commercial proportion in one land parcel would be 25%, and that of the other would be 73% (Manager 1, Chengdu, interview, 2019). In this situation, the requirements of the CDRTG and district-level government were both met. Therefore, the project company can be seen as a vital link to join the CDRTG and the district-level government together to solve problems.

7.4.2.3 Sharing Risks and Revenues

As mentioned in the previous section, the CDRTG and the district-level government built the project company for the partnership. After establishing the project company, they shared the responsibilities and risks of the Luxiao project. Specifically, the CDRTG was mainly responsible for planning, designing, constructing, and operating the properties of the Luxiao project, whereas the district-level government was in charge of attracting investors. Correspondingly, the CDRTG undertook the risks of constructing and operating the properties, whereas the district-level government was responsible for the financial risk (Governmental official 4 and 6, Chengdu, interview, 2019). They jointly faced the macro-risks, such as policy risk, political risk, and market risk. Among these risks, the policy and political risks were highlighted:

> *"Most risks should not be an issue, and goals and responsibilities are divided in the contract. We already have proven infrastructure construction technology and management experience to deal with these risks. However, the biggest fear are policy and political risks, which are beyond our control." (Manager2, Chengdu, interview, 2019)*

> *"The scary thing is that the city government has pushed hard for VC and TOD in recent years, but what about in a few years? If the municipality's direction changes, then we [the district-level government] could face a loss of investment. (Governmental official 9, Chengdu, interview, 2019)*

It can be seen that since VC is still a new concept in Chengdu, the CDRTG and the district-level government may not be able to handle the consequences of the policy and political risks. This also means that the current institutional and planning environment in Chengdu does not inspire confidence in the use of VC. In addition, market risk was the main risk revealed by the participants, resulting from the lack of professionals with real estate knowledge in this financial partnership (Governmental official 10, Planner 5, and Developer, Chengdu, interview, 2019).

Under these circumstances, it is challenging to ensure that VC-based real estate development will deliver the expected benefits. As some participants noted:

> *"The design of Luxiao project shows the diversity of real estate design. However, how much income each type of real estate will generate and how to maximise the income these problems are not reflected. I think they should carefully design the specific types." (Developer, Chengdu, interview, 2019)*

In fact, market risks can be reduced to a certain extent through partnerships with professional developers. They have the ability and knowledge to analyse the market conditions more accurately. Moreover, well-known development brands can also help to advertise the VC real estate projects (Consultant 1, Chengdu, interview, 2019). However, the project company did not show much thought about response to the market risk.

Interestingly, the division of the revenue from VC was not dependent on the ratio of shares in the project company. In the Chengdu model, a way that the CDMG stipulates that the VC revenues from land development must be included in the municipal budget, and the special funds for rail transport, as a special funding arrangement, was established (Chengdu Municipal Government, 2019b). This funding arrangement requires the benefits of land development to be locked in along the rail transport to implement the VC strategy. The functions of the special funds for rail transport were described as:

> *"The purpose of setting up special funding arrangement is to ensure that the revenues stem from increased land value flow into the CDRTG rather than into the district-level government. With the funding arrangement, the CDRTG sets up a special bank account to receive traditional government funds and VC funds for urban rail transport development. The CDRTG is responsible for the management, accounting, and utilisation of funds." (Governmental official 6, Chengdu, interview, 2019)*

The funding arrangement means that it provides a transparent and effective income distribution mechanism. In doing so, the district-level government must ensure that investment funds are raised on time and handed over to this fund management mechanism. At the same time, the funding arrangement can ensure that the revenue of VC can flow to the CDRTG for constructing and operating the real transport system, instead of being used by the district-level government for constructing of other public service facilities. This mechanism again illustrates the dominant position of the CDRTG in VC development in Chengdu.

7.4.2.4 Issues of Property Development

Although the CDRTG established a partnership with the district-level government to resolve the investment issue, the results of developing different types of properties remains questionable because of the lack of expertise of developers in the VC process. Regarding residential housing, the Luxiao project was located in the High-tech district, which has strict restrictions on residential housing. In this district, the CDMG restricts residents who want to buy houses in this area through *Hukou*. The conditions for buying a house include: (1) having *Hukou* status or having a stable job and paying social insurance for more than 24 months; and (2) families with two or more registered residents who own one or no housing units or a single adult who has not purchased a house (Chengdu Municipal Government, 2018b). Thus, the ability of residential sales in the VC projects to meet the expected targets was questioned, as mentioned by one participant:

> *"The High-tech district is one of the most popular districts in Chengdu. If people have the opportunity, everyone will want to buy residential housing in this area. However, there are questions about who is eligible to buy and who has the money to be able to buy. This has led to unpredictable residential sales in VC's real estate projects. Moreover, there is no targeted policy relating to sale VC's real estate projects, so what are differences from the general project?" (Governmental official 10, Chengdu, interview, 2019)*

However, the housing purchase restriction policy is regarded as an effective policy to protect the healthy development of real estate (Li et al., 2020). On the one hand, it is an effective way to control excessive increases in house prices, thus ensuring the standard of living and avoiding financial risks and macroeconomic fluctuations. On the other hand, without restrictions, rising house prices in China will lead to increased wealth inequality between those who do not own a home and those who do. However, the situation at this stage suggests that a balance between the housing purchase restriction policy and VC development has not been discussed (Governmental official 10 and Expert 3, Chengdu, interview, 2019).

In addition to the restrictions on house purchases, the location of the Luxiao project in the suburbs makes people think about whether they want to move from the city centre to the suburbs. Residents may be reluctant to change their lifestyles. Also, Luxiao project did not guarantee quality schools, hospitals, and other public facilities (Expert 1, Chengdu, interview, 2019). As mentioned by some participants:

"I know everything around me now, where is the supermarket, where is the delicious restaurant, and friendly neighbour. I do not want to leave my comfort zone." (Resident 2, Chengdu, interview, 2019)

"I would prefer to be in the city centre where Chengdu has the best schools. I want my children to have the best education. Even though I work in this neighbourhood, I am not sure the quality of my child's education will be guaranteed if I move here." (Resident 1, Chengdu, interview, 2019)

Likewise, there are concerns about the development of commercial properties. Whether the effects of commercial property will be as expected is also uncertain. This is because Chengdu has many well-established commercial districts. For example, Chunxi Road, Chengdu's most famous commercial street, was built in 1924. For nearly 100 years, residents of Chengdu have been accustomed to shopping on Chunxi Road. This commercial street is attractive to residents. Thus, the CDMG has renewed and expanded this commercial area many times. In this case, a similar issue with residential housing development has occurred, i.e., changing the residents' traditional behaviours and long-term lifestyles (Developer and Expert 1, Chengdu, interview, 2019). An expert also highlighted an issue regarding the development of new business areas in Chengdu:

"The CDRTG has not done well in the existing station development, how to do it well in a suburban area? TAD, TJD, TOD – have the CDRTG figured out the difference between these designs? […] Only the commercial area around Chunxi Road Station achieves economic agglomeration in Chengdu, but it did not develop as a VC project.[…] The fact is that these so-called new business circles have not brought economic momentum at most of the time" (Expert 3, Chengdu, interview, 2019)

Therefore, it can be found that although the partnership between the CDRTG and the district-level government has smoothly implemented real estate development, the benefits of the VC projects are uncertain. From the information of the interviewees, it can be seen that the CDRTG and the district-level government have not solved many problems of VC real estate development, such as how to create an attractive business district, the problem of the restrictive purchase policy, and changing the lifestyle of the residents. They have not shown enough knowledge and capacity to indicate that the benefits of VC will be seen.

7.4.3 Social Partnership

This section reveals the current state of social partnership in Chengdu. It shows that limited communication, professional consultation, and weak public participation exists in Chengdu's

VC project. It also sheds light on how local people have basic trust in local government, but they are essentially indifferent to decision-making regarding the VC project. Finally, the section discusses the role of traditional culture in the VC project.

7.4.3.1 Limited Communication and Professional Consultation

The media played a significant role in disseminating information to enhance local people's understanding of the Luxiao project and other VC projects in Chengdu. The CDMG usually uses mass media such as newspapers, TV news, and online news to spread VC knowledge and information. The mass media covered VC and TOD through special features. This shows the attention and commitment of the CDMG to VC development in Chengdu. The mass media were also an important platform for the government and the city to boost their image (Media 2, Chengdu, interview, 2019). At the same time, the CDMG also employed social media to show VC information and stories to the public. However, there was one phenomenon described by a participant:

> *"We are now using social media to strengthen our ties with the local community, but we find that the effect is not obvious. For example, in the WeChat public account subscription, the page views of articles published by the government on VC and TOD are not very high." (Governmental official 4, Chengdu, interview, 2019)*

In fact, local people have paid more attention to the information posted by organisations in unofficial roles, such as research organisations and the media. A possible reason could be that the government articles are seen as too serious, whereas unofficial public accounts are more interesting and humorous (Resident 2, Chengdu, interview, 2019). However, in general, the media gave information to the local people. Without the media's continual broadcasts, reports, and comments, Chengdu's VC development would not have been widely known locally or nationally (Media 1, Chengdu, interview, 2019).

However, the media are seen as a communication tool and platform controlled by the local government and the local transport agency. As some participants stated:

> *"We [CDRTG] have our own media company that is responsible for reporting news related to the CDRTG. However, we disclosed little information about the Luxiao project before going to the stage of implementation to our own media company." (Manager 1, Chengdu, interview, 2019)*

> *"[…] However, the issue is that media did not become the channel to connect local people and local government. It is more like one-way communication, only*

information output, but we do not know public opinion." (Media 2, Chengdu, interview, 2019)

In this case, the media played a limited role in building relationships between the CDMG and the local people. The media tried to disseminate helpful information to the public, but the information was mainly used to establish a positive image of the local government and to increase the public' trust, rather than for listening to the voice of the public.

Apart from using media, the CDMG also used the e-government service to communicate with the local people. The local people can use the official government website to leave messages, and the CDMG provides contact details (email and phone numbers) to the public. It appears that the local government made an effort to communicate with the public, but the responses from some residents were not very optimistic. Some participants mentioned:

"I feel that it is not very efficient because your messages probably will not be answered, or be answered too general, or transferred to another department or directly let you contact another department." (Resident 1, Chengdu, interview, 2019)

"Previously, I provided an email inquiry about TOD construction via e-government portal, and there has been no response for 20 days. […] Although there are some public responses on the government website, these responses are screened. Many people's comments have not been responded to in a timely manner." (Expert 3, Chengdu, interview, 2019)

It is evident that although the CDMG used the e-government service, the CDMG did not show a proactive attitude to handle the inquiries of the public. The main problems with the response to the Chengdu e-government include irregular response process, incomplete content coverage, low satisfaction with the response effect, poor timeliness, and low transparency (Wang, 2020). Responsiveness and interactivity are very important for e-government service quality (Li and Shang, 2020). Because of the lack of effective interaction and feedback, the communication via the e-government service was inefficient in Chengdu's VC project.

In addition, both international and domestic consultancies were invited to the Luxiao project. The consulting companies communicated effectively with the CDMG and the CDRTG through rich information sharing. In this situation, the consultancies obtained detailed data. They were mainly responsible for analysing the best practice cases, forecasting passenger and traffic flows at the site, estimating economic and social benefits, and offering recommendations to the CDMG and the CDRTG building capacity (Consultant 2, Chengdu, interview, 2019). The CDMG and the CDRTG had a high demand for consulting companies in the VC project. One participant noted that:

> *"The local politicians offer great support to the VC development, but this situation also brings tremendous pressure to the CDMG and CDRTG. They are afraid of facing problems. Therefore, partnering with consultants not only can solve problems, but also if something goes wrong, they can put some of the blame on the consulting firm." (Consultant 1, Chengdu, interview, 2019)*

In this case, the involvement of consulting companies was to improve their technical and institutional capabilities and was also seen as a means to share the political pressure. In case of a problem with the Luxiao project, the CDMG and the CDRTG can present evidence to local politicians to prove that professional consulting companies evaluated their decisions.

Moreover, the consultant was selected through a public bidding process that determined who could be included in the planning and design of the Luxiao project. However, participants revealed that international consulting firms had more opportunities to participate in the Chengdu project . A participant note:

> *"Domestic consulting companies have a lot of local project experience and a better understanding of local social and cultural factors. However, it seems that they [the CDRTG] are very concerned about international fame and reputation and are more willing to partner with internationally renowned consulting companies." (Expert 2, Chengdu, interview, 2019)*

In fact, most domestic consulting companies' personnel have a background of architectural design and they pay more attention to technical consultation. However, they lacked experience in providing consultations on organisational structure and institutional reform. Thus, partnering with the international consultants was seen as a means to enhance the institutional capacities of the CDMG and the CDRTG in the Luxiao project (Governmental official 7 and Consultant 1, Chengdu, interview, 2019).

Finally, the CDRTG hired experts in the planning and design fields to form an expert review team. The leader of the expert review team was from Japan. With the help of the expert review team, the CDMG and the CDRTG organised the international and domestic consultants into one group. The consultant team of the Luxiao project consisted of Deloitte, Savills, and China Academy of Urban Planning & Design. They worked together with the CDRTG and jointly designed the proposal of the Luxiao project. An interviewee described their work:

> *"After in-depth research and discussion, we jointly completed more than 30 drafts and presented more than 20 times. After continuous revision, improvement, and perfection, it took six months to finish it finally." (Consultant 1, Chengdu, interview, 2019)*

Overall, the feasibility and credibility of the Luxiao project can be greatly improved through expert consultation. In terms of capability, it can be found that they paid attention to the local cultural and historical characteristics and integrated advanced international concepts through the complementarity of domestic and foreign consulting companies. Therefore, partnering with consultancies plays a significant role in enabling the Luxiao project.

7.4.3.2 Weak Public Participation

As discussed in Chapter 5, public participation is very limited in the existing planning framework in Chengdu. In general construction projects in Chengdu, public participation takes the form of online publicity and then seeing if there is feedback. In this way, the majority of the public may not notice the information before the publicity period is over. A similar situation occurred in the Luxiao project. In fact, only a few experts and professional consulting firms had access to the decision-making process, so public acceptance of the VC project was in doubt. For example, some participants expressed the following worries:

> *"The CDMG or the CDRTG should do some questionnaires to collect the public opinions. In other words, there should be at least a channel where they can hear the public voices. However, they didn't. In this situation, public acceptance of VC's output is full of uncertainty." (NGO, Chengdu, interview, 2019)*

> *"[…] The issue is whether residents can perceive the public value of VC to them. Simply put, what social benefits does VC bring? This will determine their consumption behaviour, bringing the opportunity to realise the VC mechanism." (Expert 2, Chengdu, interview, 2019)*

This suggests that public perceptions of VC are important to its development. Although during the fieldwork process, the CDMG and the CDRTG indicated that they would do public participation surveys, however, there was no information on public consultation in the Luxiao project, either in the published information or in the interview results. Therefore, it is uncertain whether the outputs of VC projects will meet the needs of the public. If the public's needs are not met, the expected benefits, either economic or social, cannot be realised. This means that the development of VC may fail because it may not even recover its costs (Expert 3, Chengdu, interview, 2019).

To further explore Chengdu's planning culture for public participation, information on the public consultation for Metro Line 6, which passes through Luxiao project was discussed. As mentioned in Chapter 5, the Environmental Impact Assessment Law and the Urban and Rural

Planning Law proposed that public opinion should be adequately consulted and effective public consultation should be implemented (National People's Congress, 2019a; National People's Congress, 2019b). In this situation, the CDRTG commissioned a third-party company to undertake an environmental impact assessment on Metro Line 6. The report showed the environmental impacts (e.g., landscape impacts, noise, vibration, dust, and wastewater) during the construction and operation periods of Metro Line 6. It also proposed countermeasures to address these environmental impacts (Chengdu Rail Transport Group, 2017a). A participant revealed the situation of public participation:

> *"Through two public announcements, we received less than 30 public feedbacks, and most of the public are satisfied with our environmental protection work. A small number of people complained about noise and the impact on mobile phones and TV signals. We carried out timely rectification, and the residents recognised the effect of the rectification." (Planner 4, Chengdu, interview, 2019)*

It can be seen that the means of public participation was passive, involving only public information and waiting for residents to make suggestions. The CDMG and CDRTG did not proactively distribute questionnaires or participate in local community events to understand residents' voices. Moreover, only a few residents provided their opinions, which indicates that they did not have a positive attitude towards participating in urban rail transport construction. A reason for this phenomenon was that the CDMG does not solve public problems in a timely manner and does not communicate effectively with the public via the e-government services. In this case, the public may not feel the need to participate in the decision-making process (Expert 1 and NGO, Chengdu, interview, 2019). In other words, local people in Chengdu may be more dependent on the public sector to make decisions.

In addition, the NGOs were rarely included in Chengdu's VC process. In the Chengdu case, the public sector did not trust the NGOs and limited their participation. As an interviewee from the CDMG noted:

> *"Chengdu does not have NGOs specialising in developing VC project. We do not think they will provide a useful suggestion. Moreover, behind the NGOs, it may be the private sector, so to guarantee the provision of effective public service and public value to the residents, government leadership is the most useful and important." (Governmental official 2, Chengdu, interview, 2019)*

Moreover, some respondents admitted that sometimes, the public sector had to neglect local community participation because involving local community participation may create risks such as increased costs and time delays in achieving the desired goals of the VC project. In this

case, involving NGOs in the VC process in Chengdu was perceived as ineffective and time-consuming, affecting progress and potentially being harmful to the public interest (Planner 3 and Governmental official 4, Chengdu, interview, 2019).

However, NGOs could play a significant role in Chengdu's VC process. For example, a participant suggested the following:

> *"The local community play the role of users and examiners of the VC project. So, it is necessary to consider the community participation issue. In this case, the NGOs could do some jobs for collecting the opinions of communities." (NGO, Chengdu, interview, 2019)*

In fact, the issue was that the public sector did not build an effective communication channel with the NGOs, whereas the NGOs did not show their strengths to the public sector. Moreover, the VC project was government led, leading to top-down decision-making. An expert criticised it:

> *"I have to say the top-down manner is not suitable for the VC's decision-making. VC has become a tool for officials and governments to earn performance but without achieving public value. The bottom-top approach will be better because it can generate the public's motivation." (Expert 3, Chengdu, interview, 2019)*

In summary, public participation and public consultation in Chengdu's VC project was weak, although it had no significant impact on the promotion of VC because of the project's government-led nature. However, it should be recognised that the sustainability of the VC project depends on the depth of public participation to avoid public opposition in the future and to guarantee the benefits of VC.

7.4.3.3 Building Trust

The previous sections analysed the issues of communication and public participation in the Chengdu case. These issues were important for establishing a quality relationship of trust with the public. However, the CDMG and the CDRTG have not made much effort to establish a trust relationship with the local people. They did not effectively reply to the inquiries of the public sent through the e-government service. They did not actively encourage the public to participate in the VC process. In this case, the local people lacked awareness of VC matters, gave little attention to VC development, and may lose interest in participating in the VC decision-making process in Chengdu (Media 2 and Expert 1, Chengdu, interview, 2019). Some participants attributed the root cause of this situation to the CDMG and CDRTG's lack of

understanding of the concepts and principles of the VC mechanism, which led them to possibly overlook the important role of the public in the VC process. As a participant noted:

> *"The government and local transport agency should figure out that VC development is for whom. It should build for its residents. The government always says that the state-owned land has brought convenience to the Luxiao project and other VC projects. However, the fact is that the state owns lands on behalf of all the people. The public is a significant stakeholder in the VC process." (NGO, interview, 2019)*

The implies that if the CDMG and the CDRTG has an in-depth understanding of VC, they should know the importance of building a trust relationship with local communities. This is one of the main incentives for the local people to invest in properties, resulting in increased land value. However, the public's attitude towards the Chengdu's VC development was more a lack of interest.

Moreover, some participants questioned the capabilities of CDRTG, which created a sense of mistrust. As mentioned earlier, the management and operation of these properties became a serious problem for the Luxiao project because of the lack of experience in real estate development and the lack of a partnership with professional developers. This led to various concerns about the Luxiao project. As some participants noted:

> *"I work around here, and I want to know the change of housing purchase price. I need to buy an apartment to get married. If the price is too high, I have to reconsider my plan." (Resident 1, Chengdu, interview, 2019)*

> *"Luxiao project's property craftsmanship is very rough, and the difference with the rendering is very huge. The quality of properties is close to resettlement housing created at an average price of 5 million yuan per set." (Expert 2, Chengdu, interview, 2019)*

> *"Once again, this shows that the quality of partnership between CDRTG and the district-level government is somewhat questionable. Effective TOD is closely tied to local real estate market conditions, and it should provide mixed-income housing in transport-served neighbourhoods" (Developer, Chengdu, interview, 2019)*

> *"When selling, buyers are told that the community has artificial lakes, commercial districts, and high quality of schools, but in fact there is none. Our living environment, ecological environment, and housing value are all greatly reduced, which seriously harms the interests of all our owners." (Anonymous netizen, 2022)*

The above information shows the negative impact of the lack of real estate experience on the development process, leading to concerns about housing prices, housing quality, and living

quality in the neighbourhood. In addition, the CDRTG did not explain the housing guarantees for different classes in the Luxiao project's planning and implementation process. Although the CDMG has begun to focus on supplying land for affordable housing and has promulgated the Implementation Opinions on Accelerating the Development of Affordable Rental Housing policy in 2021, the making land available for affordable housing in the VC project is still not high on the government's agenda (Chengdu Municipal Government, 2021).

Nevertheless, the public concerns do not mean that the public does not trust the local government at all. Specifically, through mass media campaigns and image building, local people are still looking forward to the Luxiao project. Moreover, the rapid development of Chengdu's urban and urban rail transport systems in recent years has made residents trust the public sector's decisions. Some interviewees highlighted Chengdu's rapid development:

> *"[…] Chengdu opens five metro lines within one year. Also, the GDP, living quality, ecosystem development, and other indicators are very good. It means that the government is indeed doing things." (Consultant 2, Chengdu, interview, 2019)*

The participant from the NGO mentioned:

> *"We are not involved in the process. We do not know how the CDMG and CDRTG run these things. So, it is hard to say whether to trust or not to trust in the decision-making for VC. However, from the recent rapid development in Chengdu, we have confidence in their decision." (NGO, Chengdu, interview, 2019)*

As can be seen, the establishment of trust between the government and local people regarding the development of VC is complicated. It is related to project itself, the capacities of the public sector, the macro-environment, and what kind of information the public receives. In fact, it is not easy to assess the level of public trust in the local government because the public was not included in the decision-making process in the VC project in Chengdu.

7.4.3.4 Cultural Factors

Cultural factors play a role in shaping the relationship between the local government and the local community in the VC process. As an ancient city, the influence of traditional cultural thoughts in Chengdu is relatively apparent. Due to the impact of Confucian culture, trust in the government was natural in the VC project because of the respect for the authorities. This may also be a reason for hiring many international and domestic experts and consulting firms, as they are authorities with knowledge. In this case, an expert explained how one can destroy this sense of trust from the perspective of Confucianism and its view of human nature:

> *"[…]the lack of credibility and the crisis of trust are the result of using 'interests' to harm the 'morality' under pursuing 'selfish' desire. Thus, people can check the VC project under this."(Expert 2, Chengdu, interview, 2019)*

Mengzi and Xunzi were famous Chinese Confucian philosophers in the Warring States Period, and they proposed two types of human nature. Mengzi believed that human nature is inherently good, so honesty and trust are natural. When internal honesty and trust grow, selfish desires will naturally decrease. On the contrary, Xunzi believed that pursuing selfish desires is human nature, and both trust and morality are achieved through human actions (Van Norden, 1992). However, no matter which view of human nature is correct, trust is related to whether the pursuit of profit undermines morality and justice.

In this sense, the CDMG did not do anything to harm the public during the VC development, at least according to the public perception. Pursuing the VC mechanism was not for selfish ends, and the primary goal was to deliver better living communities and improved public services to the local people in Chengdu (Governmental official 3 and 6, Chengdu, interview, 2019). Furthermore, based on Confucianism, beyond basic trust in authority, a deeper level of trust requires some effort to build, e.g., through good communication, serious commitment, and being sincere (Shen, 2013). As revealed by the previous sections, the CDMG did not make much effort and had relatively ineffective communication. In this case, it is difficult to identify a high level of trust between the CDMG and locals, even within the traditional cultural perspective.

Furthermore, the *guanxi* between the local government and the local people relies on the local residents' perception, which is a type of socio-affective *guanxi.* This means that the local government should have effective communication and interaction with the public, thus making the public emotionally dependent on and confident in the local government. In Chengdu's case, the participants demonstrated that the CDMG was the VC initiator, while the local people were only followers (Expert 3, Chengdu, interview, 2019). This means that there was weak interaction and communication between them. However, a governmental official noted that:

> *"[…]All contact channels were already provided to the public, but they expressed the passive attitude of connection." (Governmental official 5, Chengdu, interview, 2019).*

Two reasons may cause this phenomenon. First, based on Confucian culture, the local government was trusted by the local people to fight for their public interests. Second, the emotional aspects showed that the *guanxi* between the CDMG and local people may not be of high quality. As previously stated, the CDMG did not take much action to build trust and interact with the public. In this regard, some interviewees suggested that the CDMG should

consider strengthening their *guanxi* further to help gain the support of the local people and develop positive attitudes towards VC (Expert 2 and Planner 4, Chengdu, interview, 2019).

Moreover, *guanxi* plays a significant role in the Luxiao project. In the Luxiao project, mixed *guanxi* existed in the political–institutional and financial partnerships, and advanced the Luxiao project. As identified in Section 3.5.2, mixed *guanxi* means that familiar people can exchange feelings and benefits (Hwang, 1987). Some interviewees noted:

> *"The CDRTG is only one enterprise authorised by the CDMG to do urban rail transport matters in Chengdu. They have always been on the same side. The CDMG is the brain, and the CDRTG is the hand." (Planner 1, Chengdu, interview, 2019)*

> *"Some top managers in the CDRTG worked in the local governmental sectors before. The managers can use their guanxi to contact existing governmental officials directly, and they save time in building trust and communicating with the government. […] they know everything in the land transaction and how the government work. Due to the personal guanxi, the land resources can be easier obtained from the CDMLRB" (Planner 5, Chengdu, interview, 2019)*

This implies that the CDMG and the CDRTG have a long-term collaborative relationship in Chengdu's urban rail transport system. Its essence is the relationship between local government and local state-owned enterprises. More importantly, the managers' personal *guanxi* can be converted to organisational networking with the CDMG and obtained privileges to receive land resources and advance the Luxiao project. Similarly, regarding the *guanxi* between the CDRTG and the district-level government, they took time to communicate and negotiate with each other to cultivate *guanxi* through informal and formal meetings. Their *guanxi* was based on the expectation of the acquisition of resources, and they aimed to obtain benefits and resources from each other (Governmental official 2 and Expert 3 , Chengdu, interview, 2019).

7.5 Conclusion

This chapter first investigates the roles of stakeholders in Chengdu's VC process. The chapter then explores the three types of partnerships among the stakeholders in Chengdu's VC project. In the political–institutional partnership, the higher-level government creates a policy environment to develop the VC mechanism. However, since the location of the Luxiao project is not enough to attract the attention of the higher-level governments, so they do not make more substantial contributions. The VC initiative is attributed to a change in the local politicians because the political will changes from the crazy development of urban rail transport to

exploration of the VC mechanism. With political support, the CDMG develops a partnership with the CDRTG to share planning power and grant land resource privileges. The CDMG also builds a Leading Group to coordinate and integrate the intergovernmental sectors and the CDRTG. These factors play vital roles in advancing VC in Chengdu's immature planning environment. However, limited institutional capacities still bring uncertainties to the development of VC in Chengdu.

In the financial partnership, this research shows that the CDRTG partners with the district-level government to develop properties rather than choosing professional developers as partners. The perceived potential financial and social benefits and the support of the CDMG are motivations for building this financial partnership. Their partnership has a precise sharing mechanism and funding arrangement for distributing the revenues of VC. However, their partnership is criticised for lacking experience in and knowledge of real estate development.

The chapter also reveals several issues of social partnership in Chengdu's case. Although the CDMG uses various communication methods, they are not effective. The CDMG does not develop a mechanism for interacting with the public. The CDMG and the CDRTG focus on working with professional networks but exclude NGOs. Moreover, there is weak public participation in the VC process, leading to the CDMG not understanding the real needs of the public and possibly causing uncertainties about managing the real estate. Furthermore, because the CDMG does not make the effort to establish trust, the level of trust between them is low and relies heavily on the fundamental trust that comes from traditional culture. Traditional *guanxi* is shown to play a role in helping to obtain resources and promoting the VC project in Chengdu.

Chapter 8: Discussion

8.1 Introduction

The purpose of this chapter is to summarise and discuss the evidence presented in the previous chapters and reflect on theoretical framework presented in Chapter 3 to answer the research question: “How do different stakeholders work together to plan and implement VC in China?” Firstly, the chapter sheds light on the existing policy and planning environment advancing or affecting use of the VC mechanism. Importantly, it discusses how governments and local transport agencies can develop an enabling environment to take initiatives and plan for VC projects at the local level. Secondly, the chapter explains how local transport agencies can build financial partnerships to deal with sharing the risks and benefits, and investing in property development in VC projects. Thirdly, the chapter examines the roles of communication and trust play in improving the public understanding of VC projects. The cultural factors impacting VC planning and implementation in Shenzhen and Chengdu are also discussed. Finally, this chapter refines the theoretical framework and explains its validity for investigating the importance of creating public value through political–institutional, financial, and social partnerships for VC process in China.

8.2 Political–Institutional Partnership in Value Capture Process

This section determines how the political–institutional partnership can establish a supportive enabling environment to initiate and plan VC projects. Chapter 2 presented the key characteristics of a successful VC mechanism. According to knowledge and international experience of VC, the VC mechanism needs certain macro-conditions, a favourable institutional and regulatory environment, and the stakeholders’ collaboration and coordination.

In China, rapid urbanisation has caused strong demand for public transportation systems to tackle the environmental and traffic congestion issues (De Jong et al., 2010). VC has been proposed and regarded as a good source of funding for developing public transport in China. This is because the VC projects built based on TOD contribute to accessibility, amenity, and agglomeration, thus benefiting urban development. At the same time, the VC capitalises these advantages into increased land prices, thus relieving the government’s investment pressure. In this case, the planning and implementation of VC projects can deliver economic value, social and cultural value, political value, and environmental value to local communities.

The central and provincial governments have created a viable environment for local VC initiatives. This is a result of decentralisation, in which local governments are responsible for decision-making and administration (Gar-on Yeh and Wu, 1999; Zhang, 2000; Wu et al., 2006). However, the central government has not explored an appropriate property tax framework for supporting a taxation-based VC approach, and China has very limited VC instruments at this stage.

Locally, Shenzhen's macro-environment provided the necessary conditions for VC projects. Moreover, Shenzhen's VC initiative and planning had strong institutional foundations. Shenzhen experienced transformation in urban planning, urban rail transport planning, and land use planning. Although not all planning reforms were prepared explicitly for the VC initiative, these planning measures (e.g., public participation, institutional restructuring, and the establishment of collaborative planning platforms) were helpful for VC. The SZMPNRB incorporated the VC concept into the legislative planning documents. Shenzhen's experience indicated that a rational planning framework is a prerequisite for successful VC development (a helpful addition).

Unlike Shenzhen, Chengdu's planning framework has limited support for the VC initiative. Judging from the spatial development and the urban rail transport system's development, the different versions of the urban Master Plans were inconsistent. Until the 2011–2020 version of the urban master plan, the CDMPB did not incorporate VC and TOD into the legal system of urban planning in Chengdu. Moreover, the planning and land use sectors were relatively fragmented, meaning that the issue of coordination could not be addressed quickly in Chengdu. In this case, the inevitable concern is whether the special plan and policy for VC introduced in this fragmented planning system would be reliable in the long term. The existing literature also emphasises the importance of a supportive planning framework to initiate and implement a successful VC project (Tang et al., 2004; Zhao et al., 2012b; Suzuki et al., 2015; Van der Krabben et al., 2019).

In Shenzhen's case (Qianhai), the political support from the higher-level governments gave a political incentive to the SZMG and created robust real estate conditions to attract investment and developers. The local political support showed that local politicians and the SZMG emphasised VC projects, and the enthusiasm for pursuing VC developments did not change when the local politicians changed. Thus, the different levels of government reached a political consensus to support the development of the Qianhai area and its VC projects. In this case, the consistent and continuous political support promoted a partnership between the SZMG and the

SZMC, smoothing the planning and implementation of the VC project. As a result of this partnership, the SZMG shared power regarding land use and spatial planning with the SZMC.

Moreover, through the new institutional arrangement, the RTO, all urban rail transport development matters could be coordinated and negotiated, including VC issues. In this situation, different stakeholders can reconcile their different interests and align their goals by exchanging information and adjusting their demands. However, this research showed that not all issues could be solved through negotiation, and sometimes, the solutions depended on the role of local political leadership. Furthermore, the institutional capacity of the SZMG and the SZMC improved through their partnership. These findings confirm Cervero (2009) and Mathur (2014)'s arguments that the VC mechanism requires support from a political will and institutional capacity.

Unlike Shenzhen's smooth progress, the Luxiao project in Chengdu was not formally planned and implemented until 2017. This was because (1) plans and policies to support the VC initiative were lacking until 2017; and (2) VC in Chengdu lacked political support before the change in local political leaders in 2017. Formulating a unique plan for the VC project became one of the crucial drivers of VC initiatives under the limited supportive planning framework. After the mayor and secretary of Chengdu Municipal Committee changed, Chengdu's development focus changed, from crazy expansion of urban rail transport to planning VC projects. The new mayor and secretary of the Chengdu Municipal Committee were energetic and quickly promoted VC. In short, the change in the local politicians improved political will and support for VC project.

Moreover, the Leading Group was established, explicitly dedicated to VC planning and implementation in Chengdu. It built a partnership between intergovernmental sectors and the CDRTG to tackle the institutional fragmentation issue and share resources and interests. The purpose of establishing the Leading Group was to increase the capacity of CDMG to create and endorse collaborative actions. However, it was found that the partnership between the CDMG and the CDRTG did not greatly improve the institutional capacity to deal with challenges, as shown by the lack of real estate development ability and negotiation with the central government.

There were some similarities and differences between Shenzhen and Chengdu in terms of political–institutional partnerships, as shown in Table 8-1.

Table 8-1: Similarities and Differences in Political–Institutional Partnerships in Shenzhen's and Chengdu's VC projects

Political–institutional partnership		**Shenzhen**	**Chengdu**
	Similarities	Differences	
Political support	• The central government's policy and intention influenced local VC projects. • The provincial governments did not play a significant role in the local VC projects. • The role of local politicians was the most significant for the VC initiative.	• Direct and indirect support was obtained from all levels of government. • Stable and continued support from local politicians.	• Less attention given by higher-level governments. • Lack of ongoing local political support.
Sharing planning power and deal with land transactions	• The local transport agency obtained planning power to formulate the detailed plan for the VC project. • Special conditions were for land transactions.	• VC localisation (land value as investment capital) was developed under supportive policies.	• To enhance the financial ability of the local transport agency, the district-level government offered funding support to acquire the land.
Institutional arrangements	• Institutional organisations were established for coordination and collaboration. • The director of the institutional organisation was a local politician.	• The planning and land use bureau was restructured.	• No efforts were made to restrict the fragmented planning structure.
Institutional capacity	• Institutional capacities were important to the VC projects.	• Capacity and knowledge to negotiate with the central government were present. • The selected site was attractive. • Diverse VC mechanisms were developed to address the change in the central government's policy. • The differences from Hong Kong model were understood.	• The ability to negotiate with central the government was lacking. • No experience and knowledge of VC and real estate development (e.g., site selection, contextual factors, 700 land parcels for VC development). • Over-reliance on political support, and the planning problems were not solved.

Source: author

In terms of similarities, this research found that political support by different levels of government is significant for Shenzhen and Chengdu's use of VC. Regarding VC as a tool for urban development and funding sustainability, all levels of government should develop a consensus for VC initiatives through supportive political attitudes and targeted policies. Specifically, the role of the central government is significant to VC initiatives. For example, in Chengdu, the CDMG began exploring the VC mechanism after the central government's VC policy announcement. In Shenzhen, the innovative LVIC instrument needed a policy guarantee from the central government. However, the provincial governments in Shenzhen and Chengdu did not play an important role in VC planning and implementation. In the case of Shenzhen, the contribution of the GPG was to incorporate VC into the regional development agenda and prepare supportive VC and TOD policies. However, the GPG did not intervene in Shenzhen's VC projects. This is for two reasons: (1) because of decentralisation and Shenzhen's close relationship with the central government, the SZMG has strong local autonomy; (2) the GPG emphasises VC development at the regional level. In the case of Chengdu, the SPG provided informal support for Chengdu's VC development. This is because Chengdu is the only city in Sichuan Province with an urban rail transport system. However, the SPG did not provide substantial policy and regulatory help to Chengdu's VC developments. This situation is in contrast to some North and South American cities, where the provincial or state governments establish agencies and prepare a legal framework under which municipalities or local government can operate in VC projects (Smolka and Amborski, 2000; Suzuki et al., 2015).

Both the Shenzhen and Chengdu case studies showed that the partnerships between local governments and local transport agencies play a vital role in VC planning and implementation. To a large extent, the smooth progress of VC projects depends on the institutional capacity of local governments and local transport agencies (Cervero, 2009; Salon and Shewmake, 2011). The SZMG and CDMG established umbrella organisations to support urban rail transport and VC development. Through such institutional arrangement, local governments can share planning power with local transport agencies regarding land use development over, in, and around transport stations. Thus, local governments and local transport agencies mobilises resources, coordinates VC planning and design issues, flexibly changes land use plans, and ensures land acquisition and implementation of decisions.

Moreover, this collaborative arrangement provides a platform for stakeholders to jointly clarify and negotiate their demands through face-to-face meetings. The RTO and Leading Group can both enforce the rules of the partnership between government sectors and local transport agencies. The leaders of these organisations are local politicians. These findings confirm Suzuki et al. (2015) and Mathur's (2019), which recommended to assign a coordinator

role to a local government entity, including local transport agencies, and granting them the power to negotiate interests and maintain collaborative relationships with other actors. In both case studies, local politicians and local governments played the role of a champion to advocate the partnership for the transformation of land uses and resource mobilisation.

In addition to these similarities, there are some differences between Shenzhen and Chengdu. Firstly, this research demonstrated the important role of local politicians in VC developments. In Shenzhen, the political support to explore VC mechanisms was not affected by changes in local politicians. In contrast, the lack of such sustained local political support was an important reason for the slow start of the VC projects in Chengdu. It was not until new local politicians were appointed that the political direction shifted from expanding the urban rail system to a VC initiative and encouraged local governments to develop targeted policies and plans to facilitate VC projects. Dimitriou et al. (2013) and Dotson (2011) emphasised that strong and consistent political support is a critical contextual factor for urban transport planning and implementation. Both case studies clearly showed that a stable political environment is vital for ensuring continued implementation of VC projects. It is a basis for developing and maintaining partnerships between local governments and local transport agencies.

Secondly, the findings indicated that the extent to which partnerships can enhance institutional capacity is important for the successful planning and implementation of the VC mechanism. Under similar new partnership arrangements (the RTO and the Leading Group), Shenzhen explored diverse methods to bypass the regulatory barriers to VC projects and develop the localisation of VC, whereas Chengdu adopted only the VC tool of land transaction with special conditions and relied on the district-level government to offer funding support to obtain lands. In the face of policy changes introduced by the central government, the SZMG demonstrated better negotiation and problem-solving skills than the CDMG. For example, in Shenzhen, the central government changed its support for the utilisation of the LVIC mechanism. It could be speculated that the central government considered the potential for corruption in the partnership between local governments and local transport agencies. This change also intensified the competition between private developers and the SZMC, which reduced the enthusiasm of the SZMC for partnering with the SZMG. As Suzuki et al. (2015) pointed out, political and institutional barriers can make cooperation and coordination difficult between local governments and local transport agencies. Fortunately, the SZMG has taken active measures (e.g., negotiations with the central government, partnerships with private developers) to cope with the threats to VC. By contrast, in the case of Chengdu, the central government's new policy led to a reduction in the metro line routes in Chengdu, and the CDMG chose to align its goals submissively. Also, the CDMG and CDRTG did not use partnerships

to improve their capacity for real estate development, bringing uncertainties into VC project in the earning stage.

In addition, the SZMG and the SZMC understood the different issues of VC projects by reflecting on Hong Kong's experience. This understanding is based on the experience gained through trial and error in the experiment of Hong Kong's MTR. Local governments and local transportation agencies must recognise that VC mechanisms cannot be directly imitated in another jurisdiction without an appropriate institutional framework (Alexander, 2012; Van der Krabben et al., 2019). This is a self-correcting dynamic process through which the SZMG and the SZMC can either evaluate what went wrong or restructure its interest groups to find the best possible partnership. In contrast, the CDMG used version 1.0 of the VC mechanism. It was unreasonable for the CDMG and the CDRTG to suddenly throw out 700 land parcels for VC development. These findings clearly showed that VC is a gradual process that does not happen overnight, including internal cooperation and dealing with external environmental factors. Therefore, the research suggests that active partnerships through ongoing reflection and learning from experimentation could increase institutional capacity and benefit the development of the VC mechanism.

Thirdly, contextual factors can enhance and/or limit rail-based public transport investments. These contextual factors may include a rapid population increase, strong or weak economic growth, a booming or dying real estate market, and specific policies and institutional frameworks (Cervero, 1992). Siemiatycki (2011) also pointed out that geography is important when using the partnership lens to look at the transportation infrastructure. This consideration should be understood as a spatial expression of the market, institutional capacity, and political priorities. The selection of the location in Shenzhen's case fully supports this opinion, so the Qianhai project received more support from the central government. Chengdu's case showed that the Luxiao project is located in a place with a relatively low population density and insufficient economic agglomeration. Without the interest of higher levels of government, some stakeholders may have many questions about the project's validity and the effectiveness of the partnership.

The cases of Shenzhen and Chengdu indicate that the political–institutional partnership can create an enabling political and institutional environment for VC development. Specifically, this research suggests that when considering VC, the role of local politicians should not be ignored in partnerships because they play a vital role in the initiation and maintenance of partnerships in the VC process. As Girth (2014) and Van Ham and Koppenjan (2001) argued, maintaining political support during and after changes in particular leadership is crucial in

partnership projects. Meanwhile, the dynamics caused by the political and institutional factors should be emphasised, and proper institutional designs based on the specific context are critical for effective VC, instead of simply thinking that one size fits all (Alexander, 2012).

This research argues that through a partnership between local government sectors and local transport agencies, the scale and types of available resources may increase, and stakeholders can generate innovative solutions in the VC process. In other words, building a partnership to solve problems together is a rational approach and may reduce stakeholders' opposition to VC. In fact, as the VC is a relatively new concept in urban development and transport planning, the planning and policy contexts may create regulatory and capacity barriers when planning and implementing VC. This phenomenon exists in China's cities and happens in other developing countries' cities, such as Delhi (Mathur, 2019) and Ho Chi Minh (Nguyen et al., 2017). In this case, building a partnership can bring some tangible changes, including releasing resource synergy and policy synergy or transforming partner organisations (McQuaid, 2000; Hodge and Greve, 2017). Therefore, the lesson for other cities is that taking a partnership approach can reduce the shortcomings of the policy and institutional environment for the VC mechanism, and generate new perspectives and innovative solutions.

Furthermore, this research illustrates that it is important for the local government to share planning power with the local transport agencies to smooth VC planning based on the partnership. Similar results can be found in Hong Kong (Tang et al., 2004), India (Mathur, 2019), Latin America (Smolka and Amborski, 2000), and the US (Cervero et al., 2004). It is worth noting that a partnership does not mean equal power relations (McQuaid, 2000). Active use of power asymmetries will result in project delays and high transaction costs (Li et al., 2019b). The partnership should try to help weaker partners have greater equality in decision-making (Brinkerhoff, 2002a). Therefore, local transport agencies can improve their capacities and powers in the decision-making process. Interestingly, although local transport agencies appear to play a weak partner on the surface, they have a unique capacity to provide technical resources for urban rail development and occupying the lands around the station during construction of the metro. This is an irreplaceable resource and provides an opportunity to maintain the important role of local transport agencies in the VC process. Overall, understanding the complexity of power relations between local governments and local transport agencies can facilitate the smooth planning of VC.

However, building a partnership between local government sectors and local transport agencies is not a panacea for tackling all issues. Although Shenzhen and Chengdu both used a partnership approach in the VC planning process, the institutional capacity of the SZMG and

the SZMC was a significant improvement over that of the CDMG and the CDRTG. In Chengdu, even though the CDMG and the CDRTG established a partnership, the problems of the fragmented planning framework, over-reliance on politicians, and a lack of experience in real estate development were not well addressed. As Teisman and Klijn (2002) argued, partnerships are often introduced without much reflection on the necessity of reorganising the decision-making processes and adapting existing institutional structures. This suggests that the formation of a partnership should be carefully designed in terms of what resources are needed and what capacity should be acquired, so that it will be possible to provide a flexible and multifaceted approach to problem-solving (Forsyth, 2010).

Overall, the concept of a political–institutional partnership provides a helpful lens for analysing how government sectors and local transport agencies work together to create an enabling environment to take the initiative and plan for VC projects. It mainly demonstrates the political value of VC planning. Political support are crucial for a VC initiative (Mathur, 2014). Although forming a congruent political commitment is not difficult in terms of political incentives, maintaining it is problematic because of political dynamics and the relationship's dynamics. The concept of political–institutional partnerships can be used to examine local politicians' roles and the current institutional environment for conducting VC. Moreover, the concept of political–institutional partnership highlights the partnership between local governments and local transport agencies. It can show how they can achieve resource and policy synergy, and create new institutional arrangements to improve their institutional capacity and problem-solving capabilities. At the same time, a political–institutional partnership can help reinforce the need to consider contextual factors in making decisions about the VC process, leading to a constructive and beneficial impact on VC practices.

8.3 Financial Partnership in Value Capture Process

This section explains how financial partnerships can develop operational capacities to implement VC projects. The concept of financial partnership focuses on local transport agencies developing partnerships with other public or private organisations to share the risks, responsibilities, and benefits of developing VC properties. Chapter 5 illustrated the enormous amounts of funding needed to achieve the goal of developing public transport in China. In this case, China has experienced a shift from government funding to PPP to VC for providing public transportation. The central government has regulated this market transformation by formulating a series of policies and regulations, thereby liberalising the boundaries of the

private sector entering the public domain and encouraging private capital for actively providing public facilities and services.

Shenzhen's case showed that choosing a developer consortium as a partner through a competitive selection process is helpful for VC property developments. The SZMC set a series of selection criteria for the bidders, such as qualifications, finance, performance, and managerial capabilities. Eventually, the SZMC created a developer consortium with a combination of private and state-owned enterprises in the Qianhai project. Moreover, choosing a partner who has good reputation and social responsibilities was important for the SZMC. On the one hand, the SZMC boosted its urban rail real estate brand in Shenzhen. On the other hand, cultural conflicts between public and private interests decreased at the early stages to a certain extent. In addition to the strength of potential partners, a historical relationship can also be used as a reference criterion. Obviously, selecting the right partners is a critical component of success in a partnership (Gray, 2008).

By partnering with developers, the SZMC developed an entrepreneurial spirit via the property development cooperation model. The importance of being entrepreneurial for the local transport agency was highlighted in the existing literature (Landis et al., 1991; Cervero, 2009; Suzuki et al., 2013; Salon et al., 2019). The SZMC used different partnership organisational structures (the project department and the project company) for Qianhai's depot and transportation hub, leading to different arrangements for sharing risks, profits, and responsibilities. However, the land use rights still belong to the SZMC, which ensures that the SZMC has greater power in the property development process. As Suzuki et al. (2015) pointed out, an entrepreneurial local transport agency should have the right to retain long-term ownership and management rights over the property to generate and obtain recurring income from development.

Unlike Shenzhen's case, the CDRTG choses the district-level government as its partner without a competitive process in Chengdu. They established a joint venture (51% of shares were owned by the CDRTG and 49% were owned by the district-level government). The CDRTG transferred the investment responsibilities to the district-level government, while the CDRTG, like a planner and developer, handled the planning, design, construction, and operation of the Luxiao project. However, the district-level government was concerned about the high level of financial risk and the feasibility of implementing a large number of VC projects in Chengdu. As Koppenjan and Enserink (2009) pointed out, if financial risks are shifted to local governments, taxpayers, or users, the attractiveness of investment can

deteriorate. In turn, transferring financial risks to the private consortium can generate strong incentives to deliver and sustain projects within time, budget, and scope (Klijn, 2022).

Furthermore, neither the CDRTG nor the district-level government did not have real estate development experience, and thus their partnership could not generate efficiently available resources with technology and managerial abilities for property development. This partnership may seem strange on the surface, as it does not make any substantial contribution to the VC project other than addressing construction funding issues. However, this partnership is necessary for the district-level government, because it has the opportunity to change the planning index of the jurisdiction and making social and financial benefits to the local community. There was an innovation result for VC profit allocation was created by the partnership between the CDRTG and the district-level government. To ensure that the revenues from the VC project and government subsidies are dedicated to rail transport construction and not for other purposes, the CDMG built a special funding arrangement to ensure that the CDRTG can enjoy the revenue instead of the district-level government. In this way, the funds were used exclusively, and an institutional guarantee was provided for revenue distribution in Chengdu case.

There were some similarities and differences in the findings for the cases of Shenzhen and Chengdu (see Table 8-2). Local transport agencies in two sampled cities adopted different models of partnerships for developing real estate. Firstly, from the perspective of partner selection, the SZMC promoted a competitive and transparent bidding process and selected a consortium of developers as partners. This means that SZMC can optimise resources by working with a consortium of developers, taking less time and having more notable real estate development and financing capacity. Furthermore, in pursuit of a relatively open market, the SZMC adopted a “private enterprise + state-owned enterprise” model, which provides more opportunities for private participation. State-owned enterprises can borrow from banks at lower interest rates based on government credit, and they can bypass bankruptcy or financial risks (De Jong et al., 2010). Choosing partners with substantial intangible assets, such as a strong reputation and social image, is also crucial for enhancing the capacity for VC development. In this situation, reputations and trust can be established by involving professional property developers in projects (Henneberry and Parris, 2013).

Table 8-2: Similarities and Differences in the Financial Partnerships in Shenzhen's and Chengdu's VC projects

Financial partnership		**Shenzhen**	**Chengdu**
	Similarities	Differences	
Partner selection/property development	• Incentive planning bonus (e.g., FAR incentives, building height limits, adding roads) • A robust real estate market was needed	• Open bidding • Careful selection was based on technological conditions, financial ability, managerial ability, qualification, and reputation.	• Partnering with the district-level government without selection. • The financial partnership was developed on the basis of the hierarchy and social benefits of VC project. • The partnership was full of uncertainties and was fragile. • A series of property development issues occurred (e.g., restrictions on house purchasing policies, the difficulty om changing local habits, and planning issues).
Financial partnership structure	• The leadership of local transport agencies.	• The project department was built in the Qianhai depot • The project company had a cooperative ratio of 51:49 in the Qianhai transportation hub • The SZMC bought the development company's shares and became the largest shareholders of Vanke	• The project company was established so that the local transport agency owned 51% and the district-level government held 49%.
Sharing risk and revenues	• The developers' obligations (e.g., funding and delivering parking, roads, public toilets, and affordable housing) were regulated in the bidding documents. • Negotiation was limited.	• Different benefit-sharing and risk allocation mechanisms were adopted by the local transport agency and developers depending on the different financial partnership structures.	• The local transport agency undertook the risks of constructing and operating the properties, whereas the district-level government was responsible for the financial risk. • Did not show much thought about the response to the market risk. • A special funding arrangement was established to manage the revenue.

Source: author.

In comparison to Shenzhen, Chengdu lacked a competitive process, and the project design details and partner selection seemed to be in secret. Chengdu's approach can also be explained but is not considered rational, although this approach saved time and costs for the CDRTG. Access to adequate capital is a significant constraint to development activities (Healey et al., 1995). The help in investment provided by the district-level government can be interpreted as the CDRTG obtaining stronger financial security from the government. However, developers should have financial support and other operational capabilities such as management and development capabilities, and in-depth knowledge of the situation (Healey, 1998; Henneberry and Parris, 2013). Cervero (2009) pointed out the importance of local transit agencies' real estate development capabilities in VC projects, whether this is through establishing partnerships with real estate companies or through creating real estate departments within local transport agencies and recruiting real estate experts. It is worth noting that this study is not a critique of public–public partnerships. De Jong et al. (2010) mentioned that public–public partnerships in China have performed at least better than PPPs elsewhere in the world in the field of metro construction and operation. Thus, in the case of Chengdu, this study is concerned about the lack of experience and capacity in public–public partnerships.

Secondly, the process of sharing risks, profits and responsibilities, and perceptions of the VC concept differed because of the choice of different partners. For the Qianhai depot, there were not many risk/profit sharing issues in this kind of partnership. On the downside, it was considered to have a high risk in terms of cooperation because the developer's benefits are limited, weakening their motivation. In this case, the SZMC and its partners clearly delineated their responsibilities and defined their targets in the contract, with incentives and penalties. For the Qianhai transportation hub, the developer in the consortium acquired the development interests of the VC project and shared the operational risks and revenues of the property in an agreed ratio; the SZMC transferred the financial and construction risks to the constructor. The management risk of the partnership was also of concern, as there are specific differences in the management mechanism and human resources between the SZMC and the developer partners, especially the dual identity of the staff.

Moreover, the developers perceived VC projects as the future of the real estate industry in Shenzhen. The SZMC believed that building partnerships with developers can generate increases in land value, deliver high-quality properties, and cultivate its brand and capabilities. This cultivation is vital for increasing the SZMC's capacity. In a recent study on Hong Kong's MTRC, the changing balance of power within Hong Kong's growth coalition has led to a shift in the MTRC's business model, prompting the local transport agency to shift from developing new real estate projects to managing the existing real estate assets (Aveline-Dubach and

Blandeau, 2019). This may be the future direction of transformation for the SZMC. Shenzhen's case is evidence that the SZMC has begun to develop a broader understanding of VC and to consciously cultivate its capacities.

In Chengdu, the CDRTG played the role of the developer and transferred the responsibility of investment to the district-level government. The critical risk in Chengdu's case came from political risk, as the CDRTG was overly dependent on the support of local politicians. There is also a risk of collaboration between the CDRTG and the district-level government. The CDRTG prefers to build residential properties to earn a return on capital in the short term. This is because the CDRTG may take pressure to evaluate state-owned enterprises in Chengdu, so it still pursues its short-term interests to some extent. In this case, the CDRTG sees VC as a performance and funding tool. The district-level government attached more importance to community construction and ongoing sales tax collection, so it is keener to build service facilities such as shopping malls, restaurants, and entertainment facilities. This is one of the reasons why district-level governments are enthusiastic about VC projects, believing that VC can bring social benefits to the community. Eventually, a balance between commercial and residential development was eventually resolved through a coordination meeting organised by the CDMG, and the CDRTG and district-level government reached a compromise.

Thirdly, the form of organisational partnership for property development differed between Shenzhen and Chengdu. Shenzhen's case involved the equity cooperative joint venture between the SZMC and the developers, and the profit, control, and risk are divided in proportion to the equity shares invested by the parties (Chen and Doloi, 2008). Compared with Shenzhen, Chengdu's case built the non-equity joint venture, which allowed greater flexibility in the organisational structure and management, and the profits are not divided according to the investment share (Chen and Hubbard, 2012). Notably, Shenzhen has also used the non-equity joint venture model for other VC projects. Thus, this research cannot determine which form of organisational partnership is best, but local transport agency should obtain operational capacity through partnerships that ensure the smooth development of VC, including funding capacity, managerial capacity, and technical capacity.

Despite the differences, some similarities can be noted between Chengdu and Shenzhen. Both cases demonstrated that VC projects in China are inseparable from government domination. The findings show that because the political–institutional partnership supports the leadership of local transport agencies in developing VC projects, their partners have relatively few opportunities to negotiate with them. Valtonen et al. (2017) stated that public authorities have an incentive to avoid negotiation-related issues when developing public land. This is

because the results of cost recovery and negotiating VC are highly uncertain. It can be seen that professional developers provided capacities and resources for the VC development but lacked decision-making power in Shenzhen's case. In Chengdu's case, the findings revealed more information related to negotiation, as the partner was also a government entity.

Moreover, the developers' obligations are crucial for developing VC projects (Gielen and van der Krabben, 2019). Recent research has used the simulation gaming approach to demonstrate the potential application of negotiated developer contributions to VC in China but with limitations (Wang et al., 2020). Similarly, both Shenzhen and Chengdu cases illustrated that the developers' obligations (e.g., funding and delivering parking, roads, public toilets, and affordable housing) can be regulated in the bidding documents. However, public authorities require these obligations, and the developers' needs may be overlooked because of the lack of transparent negotiations.

In addition, both cases illustrated that the attractiveness of VC projects to partners is significant to the financial partnership. This research argues that soft incentives and a robust real estate market are needed to accompany investments and make them attractive to developers for achieving hard infrastructure, as Cervero (2009) stated. In the case of Shenzhen, the real estate market conditions in the Qianhai area were shaped by a combination of increased ridership, mixed land use, and a differentiated housing system. In this case, increases in land value and affordable housing can be provided together. At the same time, the developers are mindful of the pragmatic question of what the public sector can offer them. A common way to attract developers is to offer FAR incentives. In this case, developers can develop more intensively at a higher FAR to increase profits. Similarly, in Chengdu's case, planning indicators such as FAR, building height limits, and the amount of roads can be changed through partnering with the CDRTG. Both cases indicate that the ability to change the planning indicators is an incentive that can attract partners. However, Chengdu's case shows a range of issues that affect VC property developments. This again indicates that the partnership between the CDRTG and the district-level government can only solve funding issues, but other challenges have not been addressed (e.g., restrictions on house purchasing policies, the difficulty of changing local habits, and planning issues).

The discussion of Shenzhen and Chengdu demonstrates that meaningful financial partnerships can help create proactive measures to supply valuable resources (e.g., funding, experience, technology, management) to local transport agency. Firstly, this research emphasises that developing a meaningful partnership between the local transit agencies and their partners for developing properties can generate better outcomes than the individual parties

could deliver alone. The essence of partnership may be summed up as a collaborative advantage (Huxham and Vangen, 2000; Klijn and Teisman, 2000; McQuaid, 2000; Steijn et al., 2011). This is why the SZMC has standardised a series of indicators in terms of financial capability, technological capability, social responsibility, and reputation for selecting its partners. Osborne and Murray (2000) and McCarthy (2007) encouraged the introduction of competition when building financial partnerships, since this may improve the quality of the results. In turn, eliminating competitive bidding procedures for selecting partners means there is no guarantee of value for money (Grimsey and Lewis, 2007). The partnership between the CDRTG and the district-level government in Chengdu's case only showed the obvious advantage of funding. Because both partner organisations lacked resources and capabilities regarding real estate development, it is hard to see that this is a meaningful partnership. In this case, Chengdu's financial partnership is more likely to be a dependent partnership motivated by access to funding resources rather than an active partnership. The lesson for local transit agencies, therefore, is to promote a carefully integrated approach to selecting an appropriate partner, as this helps to build active and meaningful partnerships to gain operational capacities for VC property development. It is worth noting that the competitive process itself does not necessarily guarantee value for money, but at least it allows local transport agencies to choose between possible private partners during the bidding process.

Secondly, the cases of Shenzhen and Chengdu illustrate that developing a financial partnership is an approach to tackling issues of sharing risk, profit, and responsibilities. Notably, the sharing arrangement should be established between local transport agencies and their partners on a case-by-case basis. In this case, the consideration of different risk solutions is significant to smoothing the implementation of VC. For example, risks can be managed through contracts, reward and punishment measures, agreed proportions, or government interventions in different situations. Moreover, profit-sharing is not only about the revenue but also the social/public benefits (Klijn and Teisman, 2000; Brinkerhoff and Brinkerhoff, 2011; Wang and Ma, 2019). On the one hand, revenue sharing is a positive incentive for partners, which can be implemented as a contractually agreed proportion (Shenzhen case) or an institutional arrangement (Chengdu case). On the other hand, social benefit is the main motivation for developing public land (Valtonen et al., 2017).

It can be seen that creating a rational risk and revenue sharing mechanism between local transport agency and its partner is crucial in the development of VC in the context (Cervero et al., 2004; Cervero and Murakami, 2008; Li and Love, 2020). Therefore, the lesson for local transport agencies is that a sharing agreement should be established through careful consideration of the specific setting, which would be helpful for building a meaningful

financial partnership. The organisational form is not a very critical factor affecting the financial partnership between the local transport agency and its partners in developing property in VC projects. This research argues that finding an appropriate measure to accompany the specific organisational form is more important, enhancing the partners' connection and coordination to overcome conflicts and implement VC developments.

Thirdly, there are two pointes about the attractiveness of VC projects. Both Shenzhen and Chengdu cases showed that the ability to change the planning indicators can be regarded as a bonus for increasing the attractiveness of a VC project. Moreover, the government-led character of VC projects in China cannot be ignored. Sometimes, government intervention can provide a way to support land and real estate markets (Healey and Barrett, 1990). This research argues that local governments can play an active role in shaping the attractiveness of VC projects and developers' attitudes towards partnerships. As Cervero (2009) suggested, the government can play a role in shaping VC in developing countries.

The concept of financial partnerships provides a useful perspective for analysing local transport agencies and their partners in the VC process for property development. It can be used to examine how local transport agencies can develop a meaningful partnership to implement VC projects. It reflects the economic value and political value of implementing VC projects. Financial partnerships can be used to explore the different forms of organisational collaboration and managerial capacities in VC projects. It indicates that the organisational form is not the most important thing; what matters is how the risks, profits and revenues, and responsibilities are shared within the organisational form. In other words, managerial capacity has a significant impact on the outcomes (Kort and Klijn, 2011; Steijn et al., 2011). The risk and benefit sharing arrangement is a vital component in such partnerships to generate funding, technology, and managerial capacity (Brinkerhoff, 2002a; Klijn and Teisman, 2003; Hodge and Greve, 2007). Financial partnership also sheds light on how the supporting soft incentives and real estate market support need to be considered in the VC process. Overall, financial partnership provides a comprehensive angle for analysing how useful operational capacities for property development could be obtained by the financial partnerships between local transport agencies and their partners.

8.4 Social Partnership in Value Capture Process

Social partnership refers to the roles of communication and trust in improving the local community's understanding of and support for VC projects and the local community's response

to VC projects. It focuses on developing a trust relationship among local governments, local transport agencies, and local communities to enhance the legitimacy of VC projects at the local level. The central and local governments have introduced a means of participating in the planning process through laws and regulations in China. However, the reality is that the government's dominant role is still firmly embedded in the planning and decision-making processes (Shan and Yai, 2011).

In the case of Shenzhen, various communication methods (e.g., mass media, social media, e-government services) were utilised by the SZMG in VC projects to enhance the public's understanding and acceptance of VC projects. These communication methods helped create favourable images of VC projects and public sectors, and strengthened interactive communication. Despite residents posting negative comments via social media (e.g., exaggerating the advantages and slogans of VC), there were no adverse media reports involving corruption and environmental issues, so decision-making was not influenced.

Moreover, Shenzhen has a good tradition of taking a participatory approach in the planning field. In the VC project, extensive expert consultation and a certain degree of public participation were involved in the VC process to strengthen communication with local communities. In turn, the legitimacy of Shenzhen's VC projects is inseparable from the contributions of the enthusiastic and active public. They provided clues to improve the VC development so that the SZMG knew their needs and made further adjustments in the implementation process. However, the lack of communication channels and the fact that the local government does not trust NGOs still make it difficult for NGOs to participate in the process.

Because of the relatively good communication practices and consultation process, the trust relationship between the local government and the local community was established in Shenzhen. From this case, it is clear that establishment of a trust relationship was a complex issue because many conditions needed to be met to build the trust of local people in the SZMG and the SZMC. These conditions include (1) positive government responses to public opinion; (2) media coverage; (3) good real-life experience; (4) political–institutional factors; (5) the capacity of the SZMG and the SZMC (e.g., good government services, partnership with developers); and (6) the availability of affordable housing. Local culture also shaped stakeholders' actions and trust relationships in Shenzhen's VC process.

In Chengdu, the CDMG used social media and e-government services to disseminate VC information and for communication. However, the results of the study showed that the social media did not play an influential role because of unattractive content and excessive control in

the media. In addition, the quality of e-government services was unsatisfactory because of a lack of adequate response. The VC process in Chengdu was almost wholly separated from public participation. The lack of public participation has led to doubts about the public's acceptance of VC projects in Chengdu. The VC decisions in Chengdu relied heavily on expert consultation and took a top-down approach that excluded the participation of locals and NGOs.

Poor communication and weak public participation have led to a lack of public awareness of VC projects and has affected the trust between local public institutions and the public in Chengdu. The public sentiment here is not strong opposition because of distrust, but ignorance and disinterest. This is because the public believes that VC projects are the responsibility of the CDMG and the CDRTG, and is not enthusiastic about the decision-making process. In addition, the lack of real estate development experience and developers are also important factors that prevented local communities from trusting local governments and local transport agencies. However, based on Chengdu's rapid development and traditional cultural influences, the public still trusts the public agencies to undertake the VC projects well in Chengdu, even though they are not involved in the process. Furthermore, cultural relations can be used to mobilise the necessary resources for VC developments.

Similarities and differences between the two case studies are presented in Table 8-3. Firstly, in terms of similarities, the mass media played an important role in building a good image of local government, local transport agencies, and VC projects in local community. Media coverage can enhance government advocacy and lobbying, and create public awareness that VC projects have public value and contribute to social benefits. Flyvbjerg (2012) demonstrated the importance of working actively and strategically with the mass media in megaprojects. Media information is disclosed to local communities after strict control and regulation in China through effective media censorship (Tang and Sampson, 2012). In both cases, local governments and local transport agencies agreed that controlling media information related to VC projects was necessary to protect social stability.

Table 8-3: Similarities and Differences in the Social Partnerships in Shenzhen's and Chengdu's VC projects

Social partnership		Shenzhen	Chengdu
	Similarities	Differences	
Communication and professional consultation	• Mass media played a vital role in terms of building a good image and enhancing government advocacy and lobbying. • Controlling the media information was necessary to protect social stability. • The use of e-government services and social media. • Working with professional networks but excluding NGOs	• Through the use of e-government services and social media, a responsive mechanism of communication was built to address public concerns.	• Ineffectiveness in communication (e.g., the quality of e-government services was unsatisfactory, the content of social media was unattractive).
Public participation	• In line with the Environmental Impact Assessment Law and the Urban and Rural Planning Law, effective public consultation should be implemented.	• Both top-down and bottom-up approaches were used for public involvement. • A public survey for the VC project was conducted, and public concerns were actively dealt with. • The public actively communicated with the government, and their voice impacted some decisions.	• Weak public participation • A public survey for the specific VC project was not conducted. • The residents of Chengdu did not show a proactive attitude to participating in the process.
Building trust	• Satisfaction with GDP and urban development	• Efforts were made in multiple dimensions to build trust. • Good capacity to develop VC projects, providing affordable housing, effective communication and participation.	• The project relied on the basic trust arising from the traditional culture. • Stakeholders' inabilities, lack of a guarantee of affordable housing, and poor communication and participation.
Cultural factors	• Shaping the stakeholders' trust, perceptions, and behaviours.	• Participants avoided the word *guanxi*	• The managers' personal *guanxi* could be converted to organisational networking and used to obtain privileges

Source: author

Both cases showed that local governments have adopted e-government services and social media for information disclosure and transparency. Theoretically, the use of e-government and social media can promote public participation, improve problem-solving, enhance government services and responsiveness, and provide several opportunities for good interaction and collaboration between the government and the public (Bertot et al., 2012; Mergel, 2012; Zheng and Zheng, 2014), as shown in the Shenzhen case. However, in Chengdu, e-government and media only served the purpose of information dissemination and self-promotion, rather than allowing for real interaction and participation, and for delivering services.

Secondly, local governments and local transport agencies in Shenzhen and Chengdu established good cooperative consulting relationships with international and domestic consultants and experts in the VC process through open bidding. Effective consulting has not only provided helpful advice on the formation of VC projects, but has also served as a lobbyist when local governments have questions about VC projects and the actions of local transport agencies. However, expert participation has been criticised for serving the local government and transport agencies rather than representing public opinion. As Wu (2007) pointed out, contemporary Chinese planning tends to reflect the vision of political elites and professionals, with advice from consultants and urban design firms. The vision has been met with scepticism because it was not developed through public participation and did not involve broader public debate at the planning stage.

Interestingly, in the case of Chengdu, Chinese domestic consultants were unhappy about the involvement of international consultants because of the threat of competition. In fact, both local and international consultants have their advantages. On the one hand, international consulting firms are perceived as being independent from local and inter-governmental complex politics, and offer state-of-the-art techniques and strategies (Wu, 2015). On the other hand, domestic consulting firms can better adapt to local conditions and systems and avoids the problem of international consulting firms making recommendations that are out of touch with reality (Wu, 2007). Ultimately, the cases of both Shenzhen and Chengdu involved a group of international and domestic consulting firms and experts, which is a logical way to mobilise and combine resources and knowledge. However, these consulting firms and experts may work for local governments and prefer to pursue and follow the requirements of their “clients”, which are local governments. This limited participation model, which is being implemented in many Chinese cities, involves a wide range of professional and technical knowledge but lacks general public opinion (Enserink and Koppenjan, 2007; Tang et al., 2008). This research asserts that although such expert consultation cannot be considered as direct and adequate public

participation, it opens the door to the public participation and is a step in the right direction, as Zhang (2002a) suggested.

Thirdly, both cases showed that local governments and local transport agencies opposed the inclusion of NGOs in the VC process. The exception is that if NGOs are government-approved knowledge-based organisations, they may enter the process as experts. The findings suggested two main reasons for the unpopularity of NGOs in China. One was that NGOs were not perceived as representing the public interest and highlighting the selfishness of some entrepreneurs. Another reason was that governments do not trust NGOs to have the required expertise and knowledge. Ideally, NGOs play an important intermediary and social mobilisation role for local communities, and are generally considered to be more flexible, responsive, and innovative than the government in providing public services (Brinkerhoff, 2002b). However, in some cases, governments in developing and transition countries remain sceptical of NGOs, especially when they are perceived as challenging the government's authority or posing a potential threat to political power (Brinkerhoff and Brinkerhoff, 2002). Brinkerhoff and Brinkerhoff (2002) and Young (2000) pointed out that the rationale for government–NGO relationships, whether through partnerships or otherwise, is to tap into valuable advantages. This research argues that both local governments and NGOs need to consider what advantages NGOs can provide if they participate in the VC process.

Fourthly, both cases showed that the cultural factor plays a vital role in building social partnerships by subtly influencing the behaviour and decisions of everyone in the VC process. Culture can shape people's thoughts and feelings, helps reflect and arrange relationships, and provides the mindset behind actions (Healey, 1997). Because of the influence of Confucianism, local people automatically respect authority and the hierarchy, and rely on the government. In this case, trust in the government may be pre-emptive. Moreover, the lack of such community structures in traditional Chinese culture could explain the awkward position of NGOs and public participation in China (Tang et al., 2008).

Further, *guanxi* in the traditional culture promotes local VC projects. Close *guanxi*, such as the relationship between the central government and the SZMG, and the relationship between local governments and local transport agencies, can bring certain advantages. However, in the case of Shenzhen, the attitudes of the SZMC and the developers suggested that they created their partnerships through competence rather than based on personal *guanxi*. As Guthrie (1998) argued, *guanxi* is often used as a substitute for formal bureaucratic processes, reflecting the unreliability and immaturity of institutions. This implies that a more competitive, transformative, and fair market environment was present in Shenzhen. Moreover, regarding

the *guanxi* between local governments and local residents, they naturally have a close relationship in Confucian culture, as local governments are referred to as parental governors. However, in Shenzhen, local government and local people formed relatively high-quality *guanxi* by negotiating some decisions together and sharing the benefits of the VC project. In contrast, the top-down approach and the lack of public participation in the VC project in Chengdu led to loose *guanxi* between local government and local people. These findings also show that these informal constraints can lead to different outcomes and stakeholder behaviours under similar formal rules, therefore, ignoring the path-dependent nature of informal institutions in the process of planning and implementation is problematic (Li et al., 2021).

Regarding the differences between the two case studies, firstly, there was a difference between Shenzhen and Chengdu regarding public participation. In Shenzhen, the SZMC was entrusted with the process of public participation in the Qianhai project, and there was a certain degree of public participation in the VC process. However, the VC project's approach to public participation was partial compared with the overall public participation process in Shenzhen's urban planning. One positive outcome is that this public participation fitted the context and purpose, and was based on a clear understanding of the problem and the solutions that can be offered (Bryson et al., 2013). Thus, through timely communication and trustworthy solutions, Shenzhen's government authorities could confidently say that they are aware of the public's concerns about environmental issues and that the VC project was supported and accepted by the public. Similarly, Mathur and Smith (2012) argued that public participation and public support play a key role in VC, and these have helped to gain support in the US context.

In the case of Chengdu, the main objective of the CDMG and the CDRTG was not to involve the public in the planning and implementation of the VC project but to promote the VC project quickly. This is because the government authorities were overly concerned with improving its performance in terms of revenue, reputations, and politics. Therefore, it was difficult to determine the public's needs, concerns, and acceptance. Public participation in Chengdu was considered as a potential obstacle affecting the progress of VC projects. This is because public participation involves risk and uncertainty (Innes and Booher, 2000; Yang, 2006). Another potential reason for this phenomenon is that the CDMG and CDRTG did not carefully consider for whom the VC project was conducted, and did not clearly define who the stakeholders were. This is not a unique situation, as explained by Ferm and Raco (2020) in the UK. They argued that the role of local communities in shaping planning outcomes was diminished by financial logic and quantitative abstraction, and removed the more qualitative aspects (e.g., public interest and local needs) of VC planning, similar to the situation in Chengdu.

Secondly, the findings suggested that public attitudes are an important factor in shaping VC projects and enhancing interactions between the local government and the local people. In Shenzhen, active and enthusiastic residents expanded the scope of public concern and changed the decisions of planners and governmental officials. Shenzhen, as a city of immigrants, has attracted many talented people. Those people believe that VC projects and urban development are relevant to them, and that they need to be involved in stakeholder relationships. Also, local people's negotiation ability is an important signal for building partnerships (Arnstein, 1969), which can be a way to consult or seek public perspectives on issues (Lowndes and Sullivan, 2004). Surely, effective communication response mechanisms (e.g., e-government, email, surveys, phone calls, public hearings) was an important factor in motivating local people to participate in VC projects because they suppose that their opinions will be considered in the process.

As discussed earlier, Chengdu's local people showed apathy and disinterest in VC issues because they believed that the planning and implementation of VC projects was the responsibility of local government. Residents were concerned about what changes the VC project would bring to their lives, such as significantly increasing housing prices and the cost of living. This suggests the need for a responsive mechanism of communication to address public concerns. However, the CDMG has demonstrated ineffectiveness in communication, so it is not surprising that the residents have reacted negatively. In fact, the public's attitudes are related to the public administrators' attitudes and actions regarding the value of participation (Yang and Callahan, 2007). This should be a virtuous circle, meaning that the more local government respects the public, the more actively the public will participate.

Thirdly, there are gaps in public trust in public institutions in Shenzhen and Chengdu. As mentioned earlier, the coexistence of many conditions has led to relatively high levels of public trust and satisfaction in Shenzhen. In Chengdu, the lack of effective communication channels and the absence of professional developer involvement led the public to express concerns about the results. Here, it cannot conclude that the public of Chengdu completely distrusted local government and local transport agency. This is because trust does not always depend on the quality of services and outcomes, but is determined by the general level of social trust (Kelly et al., 2002). However, it is clear that Shenzhen has a higher level of trust than Chengdu because the public sector in Shenzhen builds and maintains trust-based relationships with local people in multiple dimensions. The key to building trust between local people and public institutions, as Benington (2011) pointed out, is the ability of the government and public service providers to reflect and represent the real issues that people care about in their lives.

The discussion of the cases of Shenzhen and Chengdu in this section has revealed vital lessons learned from VC projects about encompassing a broader range of stakeholders. Neither case achieved full social partnership, but the degree of social partnership was higher in Shenzhen than in Chengdu. The findings suggest that partnering with a wide range of stakeholders is helpful for VC projects because it integrates and balances a broader range of interests, and improves equity. Shenzhen does a better job of communicating than Chengdu, and the importance of this has been demonstrated in terms of public acceptance and legitimacy. Similarly, Jillella et al. (2015) examined the need for participatory VC stakeholder engagement in India, arguing that participatory approaches can shape and reshape incremental value creation and redistribution through community aspirations. Mathur and Smith (2012) demonstrated that the promise of providing partnerships with the wider local community, and gaining public support and acceptance is critical for VC projects.

The most significant advantage of Shenzhen over Chengdu in terms of social partnerships is that local government and local transport agency built relationships of trust and credibility by focusing on and addressing the needs and expectations of local people through clear communication. VC can successfully address local development issues rather than just mimicking so-called best practices (Smolka, 2012). Therefore, understanding and responding to local needs and concerns, and reaching out and forming partnerships with government agencies to address community needs and concerns are critical in VC projects.

The findings also illustrate that building trust between local governments and communities is complex and is driven by political and institutional factors, culture, integrated capacity, and social effectiveness. In this case, public trust in the government is based on the public's judgment of the ability and motivation of government personnel to serve the public. However, perhaps unlike in Western countries, under the influence of traditional Confucian culture, in China, citizens generally and naturally trust the government to some extent (Chang et al., 2014). Two cases illustrate a common phenomenon: the public sector's lack of trust in NGOs. Chengdu's case illustrated local government's distrust of local people and avoidance of public participation. However, trust originating from the public sector towards other stakeholders is crucial for the rationalisation of VC. Yang (2005), Yang (2006) examined the role of public managers who trust their citizens and found that they are more likely to be actively involved in public activities and promote participation. In this case, collaborative participation and partnership can be enhanced by promoting transparency, mutual respect, and learning, and by generating satisfactory solutions and implementing them.

The actions of Shenzhen's local government followed good practice because managing trust is vital for building and sustaining a higher degree of trust, and broader trust-building activities is needed (Huxham, 2003; Huxham and Vangen, 2005). Therefore, it is appropriate to focus on developing and maintaining trust between local government and local community, which is the basis for a partnership working well (Ross and Osborne, 1999; Osborne and Murray, 2000; Hudson and Hardy, 2002). Additionally, cultural context is vital in shaping and understanding VC planning and implementation. The existing literature has focused exclusively on formal VC planning and implementation structures, and has neglected the role of cultural traditions (e.g., Mathur, 2019; Salon et al., 2019; Li and Love, 2020). Culture can identify how actions and behaviours are influenced and shaped by shared values, meanings, and intentions in people's social interactions (Othengrafen and Reimer, 2013). In this case, in planning and implementing VC projects, if the cultural factors' impact on the perceptions and actions of stakeholders is considered, whether it is psychological or behavioural, it will help public authorities and local people to understand each other's behaviour better and enhance the legitimacy of VC.

The concept of social partnership provides a valuable theoretical perspective that illuminates the relationship between the wider community and local governments/local transport agencies. It mainly reveals the social and cultural value, environmental value, and political value of the VC projects. Social partnership helps to identify a broader range of stakeholders in the VC process. It has the potential to develop a communication mechanism and trust relationships that bring diverse community groups together with local government or local transport agency to address local VC issues. In this context, social partnership involves effective communication, interaction and negotiation skills, problem-solving, and participatory and consultative mechanisms (Forrester, 2009). It avoids having one or two partners always setting the agenda or defining the language of the partnership (Hudson and Hardy, 2002).

Social partnership emphasises that trust is a prerequisite for cooperation, solving collective problems, and effective democratic governance (Laurian, 2009). As Shenzhen and Chengdu cases showed that trust is built on two foundations. One is that trust in the government is already present in the Chinese culture. The other is that building and maintaining trust still requires effort to shape the attitude of the public sector, which is the main reason for the public's different levels of trust and attitudes in the cases of Shenzhen and Chengdu. A persistent and challenging issue in partnerships is effective community participation (Lowndes and Sullivan, 2004; McCarthy, 2007). Therefore, a good social partnership requires public administrators and planners to design and develop participatory trust relationships and value the influence of local culture to provide greater legitimacy for VC planning and implementation. In summary,

the social partnership perspective puts social legitimacy and public support on the agenda of VC projects.

8.5 The Importance of the Theoretical Framework: Public Value Creation Through Partnerships

The cases of Shenzhen and Chengdu show that VC planning and implementation is a complex process, full of different relationships and actions among multiple actors involving public and private organisations and local communities. In this multi-actor setting, different stakeholders have their own reasons and behaviours for conducting VC projects. Consequently, according to the situation and context, a partnership approach is needed to rationally accommodate and coordinate the different purposes and the capacity for effective collective action in facilitating VC projects. These two case studies illustrate that all three domains of partnerships are crucial for VC projects (see Figure 8-1). In the theoretical framework of this thesis, the three domains of partnership are built on a strategic triangle of public value. This strategic triangle highlights the importance of aligning the enabling environment, operational capabilities, and goals and missions to create public value (Moore, 1995).

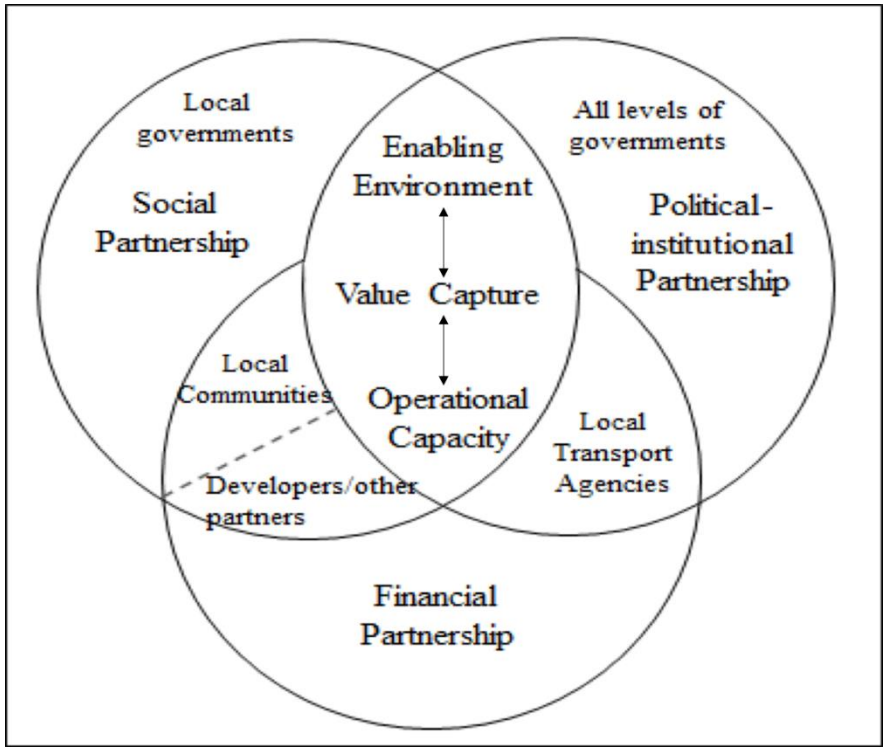

Figure 8-1: Importance of Theoretical Framework

Source: drawn by author.

Value Capture as a Public Value Goal

According to the strategic triangle, the actors should first agree on the public value to be co-produced (Moore, 1995; Bryson et al., 2017). The cases of Shenzhen and Chengdu show that governments, local transport agencies, developers, and other stakeholders had different objectives and understandings of undertaking VC projects. However, the consensus is that VC projects can create substantial value for various stakeholders, such as improved political and organisational performance, urban development, public transport development, land transactions, sustainable funding, a favourable community environment, affordable housing, and public participation. As Benington (2011) indicated, public value enables people to emphasise the outcomes in terms of economic value, social and cultural value, political value, or ecological value added to the public sphere. Thus, the public value lens considers missions and goals when planning and implementing VC projects.

There is one significant difference between Shenzhen's and Chengdu's VC projects. As some participants in Chengdu pointed out, in theory, local communities should legitimately enjoy the value added by VC projects. However, the CDMG and CDRTG does not deeply understand this concept. In other words, the significance of VC projects for local people seems to be determined by the public sector's decision-makers rather than local residents. In contrast, in Shenzhen, the SZMG and SZMC demonstrate that they address public concerns and expect positive feedback from local people when planning and implementing VC projects. Thus, although there is no direct reference to the concept of public value in Shenzhen, efforts are made to make local governments more trustworthy when designing and deploying VC projects, and to provide the public with relatively critical, relevant, and reliable information.

Indeed, public value can be generated not only by governments but also by public and private enterprises, non-profit or voluntary organisations, and local communities (Alford and Hughes, 2008). This research shows that the smooth implementation of a VC project is not dependent on the government actors alone. What it needs is a wide range of stakeholders to establish partnerships and thus form a collaborative and consultative approach. This is consistent with the Alford and Hughes (2008)'s argument. Stoker (2006, p. 51) argued that "the bonds of partnership enable things to get done that no amount of rule-setting or incentive providing can deliver." This research confirms the Stoker's finding that it can be more suitable to aim to create public value through partnerships. In this case, creating public value does not ignore the processes, which need legitimacy and support, and operational capabilities (Moore, 1995). Therefore, this research argues that obtaining authorisation and legitimacy and developing the necessary capacities through partnerships are conditions required for

conducting VC projects. Partnerships also need to reflexively feedback into the process of obtaining authorisation, legitimacy, and capacity.

Create an Enabling Environment through Political-Institutional and Social Partnerships

According to the public value framework, creating an enabling environment is crucial for achieving the desired public value outcomes. It requires policy and management strategies to be legitimate and politically sustainable (Moore, 1995). Specifically, political–institutional partnership shows that government sectors and local transport agencies can provide resources and support for collaboration and innovation. Although the central and provincial governments does not play a major role in the VC process because of decentralisation, all levels of government have reached political consensus on VC development and have expressed this consensus through policy documents or commitments in China.

VC planning requires a strong focus on local governments' political leadership and efforts at the local level. The cases of Shenzhen and Chengdu both demonstrate the vital role of local politicians and local governments in VC projects. The sustained political will and support of local politicians are crucial to VC initiatives. This research provides a more detailed explanation for the findings of Crosby et al. (2017). They argued that local politicians and local governments play a significant role in preventing and removing barriers to collaboration and coordination to support innovative solutions. Both cases illustrate that partnerships between local intergovernmental sectors and local transport agencies are created through the efforts of local politicians and local governments. Such partnerships allow for flexibility in bridging gaps in the planning frameworks of different cities and improving institutional capacity. For example, it can be seen that despite the deficiencies in the planning framework in Chengdu compared with Shenzhen, the VC project could still be implemented smoothly because of the institutional arrangement. This institutional arrangement facilitates negotiation and coordination, the development of new policies and plans, and the sharing of planning authority and land resources in the VC planning process. It proves that partnerships can help facilitate better or more innovative solutions that one organisation could not provide alone (Benington, 2009). Therefore, political–institutional partnership creates some tangible changes in VC projects, including resource and policy synergy, and transformation.

Furthermore, it cannot be overlooked that political will and support is dynamic in establishing an enabling environment for public value creation, whether by central or local governments. As Moore and Benington (2011) argued that political enabling environments are

highly complex, heterogeneous, and dynamic. This research contributes to this argument by further presenting how different local governments find a way to adapt to uncertainty and change. Clearly, Shenzhen's approach is more reasonable in the face of uncertainties and challenges. Local government constantly examines and reflects on the VC mechanism and negotiates with the central government rather than merely following the rules, as in Chengdu's case. Thus, as a project that can achieve public value, VC must be closely tied to and supported by the political and institutional environment. As Alford and O'Flynn (2009) stated that it is important to note that public value creation is relative to the specific environment. Therefore, this research asserts that it is necessary to adapt to the specific context when identifying problems and determine more appropriate solutions in VC planning and implementation.

Social partnership built on public value that can help create a legitimate process by developing participation and consultation between local governments or local transport agencies and local communities. Effective communication channels are crucial for VC projects. As Shenzhen and Chengdu cases showed, the mass media play an important role in disseminating information and spreading knowledge to residents. In addition, new communication technologies are needed for creating public value (Benington, 2011), such as social media and e-government services. Public participation is also a crucial communication method. Alford and Hughes (2008) and Benington (2009) argued that developing more interactive communication, responding to the public, and seeking public acceptance of the relevant policies and practices are significant to creating public value. In this research, by discussing the Shenzhen and Chengdu cases, the conclusions confirm that effective communication plays an important role in shaping the relationship between local governments and local residents in VC projects. Moreover, this research adds an important point that the quality of communication ultimately leads to different attitudes of residents towards local VC projects and different outcomes of VC projects. Clearly, good communication makes Shenzhen's VC projects more legitimate and trustworthy.

Social partnership also advocates for the involvement of experts and professionals in creating public value. Both Shenzhen and Chengdu have invited international and domestic consultants, including private consulting firms, experts, design firms, and research institutions, to participate in local VC projects. This consulting process provides a broader range of knowledge and experience for VC planning and implementation. As argued by Moore (1994) and Moore (1995), an extensive consulting process is an essential strategy for increasing legitimacy because it reflects substantive knowledge and expertise. Although in this research, there were doubts about the effectiveness of consultation for political reasons, at least the views of a broader range of stakeholders were included in the consultation process.

However, NGOs were not involved in the decision-making process in Shenzhen and Chengdu. From a public value perspective, there are two aspects to this. One relates to local government. Moore (1995) described public managers as being entrusted by society to find public value, and therefore they should be imaginative in identifying relevant stakeholders. The other is on the NGO's side. What is the value mission of NGOs in VC projects? What valuable contribution can they make? As Moore (2000) stated, the main value goal of NGOs is to achieve value for society, not to gain benefits for themselves. This research confirms Moore's views, and finds that the biggest challenge for NGOs is that they are not perceived by local governments as organisations that can make a real contribution to VC projects in China. In other words, this research argues that the problem is the lack of a narrative that describes the social values they pursue and the contribution of their efforts, as Alford and O'Flynn (2009) found.

Building trust is also a critical component of an enabling environment for VC. Kelly et al. (2002) noted that even if formal service and outcome goals are achieved, a failure of trust will effectively undermine public value. This research further explains the trust relationships in different contexts. In Shenzhen, it can be seen that building trust between local governments and local people is complex and involves much effort by local governments, including effective communication, good service delivery, economic performance, and the ability to foster a trust-based relationship. The case of Chengdu highlights that trust in government is determined by the general level of social trust and the propensity to trust institutions. However, lacking trust management efforts, trust between Chengdu residents and the local government is loose in the VC project. This research agrees with Stoker (2006), who argued that effective communication and high levels of trust between the public and authorities are required to achieve many social and economic outcomes. On this basis, this research also argues that the way local governments make decisions and foster trust relationships should take into account local culture and social factors to increase legitimacy, as these factors are deeply rooted in real-life events and experiences.

Overall, political–institutional and social partnerships create political support and legitimacy for conducting VC projects. They explain how various stakeholders work together to build legitimacy and support for specific goals. This research concludes that developing an enabling environment is key to VC planning and implementation, including emphasising the roles of political support and leadership, preparing supportive policies, producing innovation in institutional capacity and arrangements, engaging wider stakeholders in the process, conducting thorough consultation, developing interactive and responsive communication with

local people, building trust relationships, and paying attention to the dynamics and differences in the politics, context, and culture at different locations.

Developing Operational Capacity through Financial Partnership

It is vital to develop the necessary operational capacities, such as funding, technology and skills, managerial capacity, new alliances, and human resources, to co-produce public value (Moore and Khagram, 2004; Benington and Moore, 2011; Benington, 2015; Bryson et al., 2017). Financial partnership underlines the importance of actions taken by local transport agencies and their partners who can help to generate and mobilise the available operational capacities in VC projects. Using financial partnership to build operational capabilities can better integrate resources outside the leading organisation (local transport agencies). For example, local transport agencies may not have sufficient funds and knowledge of real estate development, and thus they need to seek these resources from their partners. The question here is how we can know if appropriate partners and resources have been chosen for developing properties around urban rail transport stations. From the public value perspective, Page et al. (2015) proposed that it is crucial to make choices based on information collecting and to develop a fair and transparent process for creating partnerships to deliver public value. Benington (2011) argued that to generate a high level of public value, trade-offs between competing priories are needed. In this research, Shenzhen offers a good example of this argument, as it used a fair, open, and competitive bidding process to assess the partners' qualifications, finance, performance, management capacity, and reputation. Obtaining information about the partners optimises the operational capabilities of VC projects and also helps increase public satisfaction and trust. In contrast, the Chengdu case presents another situation, where financial partnership is seen as transactions between public enterprise organisations and the government. As discussed earlier, this set-up provides sufficient funding sources to support VC projects but lacks other operational capabilities and impacts trust in social partnerships.

In addition, financial partnership requires local transport agencies to have good managerial capacity. From the cases of Shenzhen and Chengdu, it is clear that managing how responsibilities, risks, and benefits are shared between local transport agencies and their partners is important in the pursuit of public value creation. As mentioned earlier, there is no uniformity in the roles and contributions of developers, and the forms of financial partnerships may be diverse. In such cases, different VC projects may lead to different sharing arrangements and produce different outcomes. Thus, this research argues that the focus is on whether there

is sufficient knowledge and capacity to achieve the desired outcomes through building a partnership, as Moore (2000) suggested. In other words, the capacity needed by local transport agencies is to develop different management strategies for different modes of partnerships, as the Shenzhen case has demonstrated. Additionally, attracting partners and then gaining access to their resources and capabilities is a crucial issue in financial partnerships. It is clear from both Shenzhen and Chengdu cases that enhancing VC's attractiveness is, to some extent, closely related to the local conditions created by political–institutional partnerships. For example, the political–institutional partnership can influence the local real estate market through supportive policies and planning bonuses. Overall, the operational capacity highlights the importance of financial partnership and co-production, which can build and deploy the necessary resources to deliver VC projects.

Therefore, from a public value perspective, it is vital that the three domains of partnerships work together to do VC planning and implementation. As Moore (1995) argued, if the main goals and missions, enabling environment, or operational capability do not meet all three of these conditions, public value will not be created. The framework of this research provides a theoretical lens for better understanding and structuring the relationships among public organisations, private enterprises, and the community needed to achieve the goals of VC projects. It can be used to examine the existing VC planning and implementation and the relationships among multiple stakeholders, and can help structure thoughts of VC planning and implementation about what should be. The application of this framework to VC projects suggests that the partnership approach offers the opportunity to organise democratic activities to increase legitimacy, enhance institutional capacities, emphasise openness, and obtain collaborative advantages in the VC process.

The theoretical framework established in this research can potentially be applied to examine and understand how multiple stakeholders work together in local VC projects in other contexts, particularly in the less developed regulatory contexts of many other developing countries. For example, in the case of Delhi, India, Mathur (2019) found that the challenges of VC planning and implementation included local transport agencies without land use power, the absence of a vision for inclusive value, and the lack of a clear governmental collaboration framework with sufficient capacity to capture incremental value. Also, Nguyen et al. (2017), using Ho Chi Minh City, Vietnam, as an example, found that developing countries generally support VC as an innovative method of financing. However, the problem is that how planners and real estate developers collaborate to negotiate and align interests to achieve very complex VC projects that support urbanisation in rapidly growing areas. These VC-related studies did not provide an integrated perspective for exploring collaboration and coordination issues encountered in

the planning and implementation of the VC process, although they pointed out some of the problems that exist. The theoretical framework of this thesis can provide a perspective for understanding VC projects through partnerships among diverse stakeholders in the planning and implementation process, which can identify the challenges and advantages of partnerships in VC projects. This perspective examines how different stakeholders partner with each other, what their partnerships brings to VC planning and implementation, and what the problems are.

Chapter 9: Conclusion

This research investigates how different stakeholders work together in VC process for public transportation developments in China, using the cases of Shenzhen and Chengdu. It reduces the complexity of the VC mechanism to manageable proportions, and understand the nature of stakeholders' partnerships and their impact on VC planning and implementation. To address a range of urban development challenges, TOD is seen as one of the most effective strategic initiatives that requires further integration between transportation and land use to create a sustainable public transportation and an attractive physical environment nearby. However, city governments in many countries cannot provide sufficient funds to implement such projects, and have begun using VC mechanisms to build and maintain public transport and the surrounding stations. This is because successful transport infrastructure can improve accessibility and amenities, and can provide the opportunity for agglomeration in the surrounding land or properties. This phenomenon can increase the values of land and property, and VC provides the tools to capture this value to build more transportation infrastructure and maintain that infrastructure.

Through an examination of the existing literature and international best practice, this research finds that the planning and implementation of VC projects is a complex process influenced by internal and external factors. National and local macro-factors, real estate market conditions, regulatory and institutional constraints, and multi-stakeholder involvement may affect the VC process. In particular, a multi-stakeholder setting may create barriers to stakeholder communication and collaboration and become a significant issue that affects the smooth implementation of VC projects. Therefore, the research introduces the lens of public value and partnership through which to examine this complexity and bring clarity to the key issues around stakeholder interactions that are important for VC success in the context.

This research finds that public value is an important concept in planning that focusses on the enabling environment and the necessary operational capacities. Based on the complexity of the VC process, the theories of partnership are used in this research to explore the collaborative and coordinated relationships among multiple public and private sectors, other organisations, and the public. Thus, by establishing a theoretical framework based on public value theory and theories of partnership, this qualitative research identifies political–institutional partnership, financial partnership, and social partnership, which aim to examine how multiple stakeholders work together for the VC planning and implementation.

This research examines how existing central and local-level institutional environments encourage or impede VC initiatives and planning in China. Since the reform and opening up, several institutional changes in China, including decentralisation, planning transformation, commercialisation of lands, and encouragement of the private sector's participation in urban development, have provided a favourable environment for VC initiatives. However, the effectiveness of VC mechanisms is also limited by the current institutional context. In the case studies in this research, these constraints includes: not much substantial help from higher levels of governments because of decentralisation; limited VC tools caused by the lack of an effective property taxation system; regulatory barriers of land transaction; a fragmented planning framework; and the absence of effective public participation. Through the lens of three partnership domains, this research shows how Chinese cities have found ways to bypass the existing institutional barriers to plan and implement VC projects, and what the problems are.

The research finds that local VC projects operate in an enabling environment and political agenda in terms of political–institutional partnership. There is a consensus at all levels of government about VC as a tool for alleviating government funding pressures and sustainable urban development. Local actors play vital roles in decision-making for VC. Local political support and its continuity contribute to VC initiatives and planning. If local politicians and governments lack the political will to explore VC mechanisms, VC is difficult to implement.

Moreover, the political–institutional partnership between local government sectors and local transport agencies are a key factor in smooth VC planning. In particular, this relationship has helped local transport agencies bypass regulatory barriers to land transactions and has established the dominance of local transportation agencies in VC by sharing planning authority. Such partnerships also help achieve synergies in resources and policies, increase institutional capacity, and indicate innovative solutions supporting VC planning. Establishing such institutional arrangements is vital for cities with immature planning frameworks that want to pursue VC mechanisms, as shown in the case of Chengdu. However, it is found that despite the establishment of such partnerships, Shenzhen's institutional capacities have improved more significantly than Chengdu's, such as the capacity for negotiation with the central government, understanding VC more deeply, location selection, and innovation. This research argues that building political–institutional partnership is not a panacea, and local governments and local transport agencies need to be intentional and thoughtful about building such partnership and crafting the institutional capacity needed for the contextual conditions.

This research suggests that the local transport agencies should develop financial partnerships with professional developers, as this is beneficial for implementing VC. The

financial partnership perspective encourages local governments and local transport agencies to offer soft incentives to attract partners. Moreover, the importance of local transport agencies being entrepreneurial is underscored in this research. Private sector experience helps create a more entrepreneurial approach to VC issues than what is common in most transport agencies. There is no consistent form regarding who plays the developer's role in VC projects, and both private professional developers and local transport agencies can play it. However, the focus is the capabilities that can be obtained from the developer's role; thus, designing an open, transparent, and competitive selection process is preferred. As the case of Shenzhen indicated, such a process can optimise resources and increase operational capacities for implementing VC projects. In Chengdu's case, financial partnership is questioned because a competitive process to choose partners is lacking, and is also criticised for lack of professional real estate knowledge.

The structure of a financial partnership may be diversified, and the way risk and responsibility are shared may differ case by case. In this situation, operational capacities such as managerial capacity (e.g., risk management and coordination based on different organisational forms), stable funding, negotiation, and professional capacities and skills are more crucial. The research argues that the financial partnership's network management strategy was more relevant to the outcomes than the organisational features of the VC projects.

In terms of social partnership, this research identifies that building social partnership can help communities' participation and communication for shaping VC projects, thus developing trust relationships. Specifically, the role of the media is crucial for disseminating knowledge and information on VC, and it has power in influencing the perceptions by local communities of the VC project. Good e-government services can be used to disclose information, interact with the public, and solve public concerns. Although formal expert consultation generally advances the thoughts of the political elite and professionals, communicating with these professional stakeholders can obtain technological and managerial support, and increase the credibility of VC projects. However, the media and expert consultation are sometimes seen as working for the government. This research advocates that the strategy of including a wider range of stakeholders in the VC process is beneficial. However, the role of NGOs in Chinese cities is missing. This is because the history and culture of Chinese cities lack such community structures, and because of their vague positioning.

Moreover, involving the public in the planning process earns more trust in VC projects. Public participation can encourage the local people to be involved in VC projects, thereby creating two-way communication and respect for each other. For example, the Shenzhen's case showd that effective two-way communication enables local government and local transport

agency to better understand the ideas and needs of local people, and provides a greater rationale for VC projects. Because of the lack of adequate public participation in the Chengdu case, the outcomes of VC project could not be achieved. This study advocates the establishment of an effective communication mechanism for interaction, negotiation, and consultation, which is crucial to the trust relationship between the public and the local government.

Additionally, building a higher-level trust with the public, the local government needs to make a good effort. In addition to participation and consultation, building trust between local governments and local people also depends on economic performance, the capacities of local governments and local transit agencies, political and institutional factors, and social benefits. Although there is basic social trust between local governments and local people based on traditional Chinese Confucian culture, it is clear that the Shenzhen case shows a higher level of trust because the local government focuses on trust-building activities. The research contends that Confucian culture, particularly *guanxi*, is helpful for understanding and shaping the stakeholders' behaviours in and perceptions of VC projects. In this case, cultural factors should be explored because successful development must sensitively and carefully reflect local culture, and unsuccessful ones are the product of an imposed "one size fits all" approach. Overall, effective communication and trust relationships can help gain more public support and give legitimacy to VC projects.

Finally, this research concludes that the three domains of partnerships are all important and need to work together to develop a supportive and legitimate environment and operational capacity for VC planning and implementation at the local level. These partnerships should be carefully devised and are context-sensitive. This research sheds light on how governments, local transport agencies, developers, and other stakeholders work together to enable VC work by exploring partnership mechanisms in the political–institutional, financial, and social domains.

9.1 Contributions of the Thesis

This PhD research has made theoretical and empirical contributions. Regarding the theoretical contributions, it develops a new theoretical framework to explore the complexities of VC planning and implementation by using the public value and partnership theories. Firstly, this research contributes to theoretical research on public value creation when multiple stakeholders are involved. Most of the literature on public value theory has focused on theoretical knowledge but has lacked empirical evidence (Hartley et al., 2016). Thus, public

value theory has encouraged researchers to find contributions from other disciplines and fields that can be incorporated into a more general application of public value creation (Bryson et al., 2017). This thesis extends the public value literature to the urban transport planning field.

Secondly, the theories of partnership provide a means of managing and governing the diverse organisations and complex relationships that tackle the challenges to public services and facilities. The theoretical framework developed here enables this research to extend the boundaries of partnership to political–institutional, financial, and social partnerships in VC projects. The three domains of partnership provides a detailed insight into the roles of the key stakeholders, how their relationships are characterised in the specific context, and what factors impact their relationships. The research proves that all three types of partnerships can jointly help obtain an enabling environment and develop the necessary capacities to facilitate VC projects.

Thirdly, the existing literature has examined how VC mechanism is shaped by macro-conditions, institutional and regulatory factors, and collaboration by multiple stakeholders (Suzuki et al., 2015; Mathur, 2019). However, limited attention has been given to providing a comprehensive theoretical framework to integrate these factors. Moreover, previous research on VC has paid more attention to the public and private sectors but has ignored the importance of the social dimension in the VC process. Therefore, this research contributes to providing a holistic picture of VC planning and implementation, which may be a powerful reference to help decision-makers identify the critical problems and potential solutions in the VC process.

Empirically, the research further enriches the picture of Chinese VC story in the literature. The existing literature regarding to Chinese VC stories has focused on property uplift prices (Tian, 2006; Pan and Zhang, 2008; Zhang et al., 2014; Xu et al., 2016; Zhang et al., 2016) and institutional analyses (Wang et al., 2019a; Wang et al., 2019b; Yang et al., 2020a). However, few in-depth studies have aimed to understand the complexities of VC projects in China. This research adds to the empirical knowledge of China by shedding light on a more holistic picture of the wider stakeholders' roles and relationships in the context of the macro-conditions, the political and institutional environment, financial perspectives, and social and cultural factors.

Furthermore, this research adds the roles of public participation and cultural factors into Chinese VC's empirical knowledge. These are vital for the rationality of the VC mechanism. Most VC practices emphasise the fiscal, legislative, and administrative perspectives and have not investigates community groups (Jillella et al., 2015). This research narrates the situation of public participation and cultural influence in Shenzhen and Chengdu. It identifies that these factors are crucial for VC projects to gain public trust and support.

Lastly, most empirical research on VC in China has focused on the prosperous developed cities in the east. This research extends the territory to the west of China and explores a different planning story. On the one hand, as a pilot policy city in China, Shenzhen was the first city to implement VC mechanisms and continues to explore other innovative VC mechanisms. On the other hand, the story of Chengdu provided a more dialectical reflection. How should a VC project be implemented in a city with an immature planning system? Even if implemented, which of its practices are desirable and need improvement? Thus, this research provides an essential reference for Chinese cities and rapidly developing cities in other countries that hope to explore VC mechanisms.

9.2 Implications for China and New Zealand

This research provides recommendations for public, private, and community sectors on how to collaborate and coordinate in the initiation, planning, and implementation of VC projects at the local level. This research shows that when VC projects aim to create public value through partnerships, it is important to understand that designing partnerships within a certain political, institutional, financial, and cultural context is critical. Public managers should strive to build a communication-driven and management-oriented relationship with their partners. Several implications are provided for facilitating the use of VC in China and New Zealand.

Firstly, public value-oriented guidance does not seek to limit politics, but sees it as central to the challenge of management, and politics energise the entire process (Stoker, 2006). The findings of this research indicate the important role of political support and leadership in promoting and hindering the VC process. The thesis recommends that local governments should recognise the reality of operating VC in an enabling environment, and adapt and cope with the evolving policies and political environment. All levels of governments in China can establish policy and planning legislation for VC projects, reducing the political negative influence on VC planning and implementation. This policy suggestion would be also useful for New Zealand cities. In Auckland, Auckland Council has highlighted a funding programme for partnerships and has designed innovations based on the Auckland Plan's ambitions for an integrated transport network. However, it is vulnerable to interference from state-level policy. For example, the National-led government twice rejected plans to build the City Rail Link in the central business district, opting instead for a highway project, and the Labour-led government failed to provide funding for the Light Rail project (Imran and Pearce, 2015;

Mehmood and Imran, 2021). Overall, VC needs a stable and ongoing political agenda to secure its deployment.

Secondly, local politicians and local governments should play significant roles in channelling policy resources and giving legitimacy to the collaborative and innovative efforts of VC. Both case studies showed that strong support from the local politicians, the local government (inter-governmental sector), and the local transport agency facilitated their interaction and communication through building an integrated institutional organisation. As a result, local governments and local transport agencies can work closely together as partners to successfully plan VC projects through sharing planning power and bypassing the regulatory barriers of land transactions. This thesis aimed to understand the partnerships between local governments and local transport agencies in the co-creation of public value. They should improve their institutional capacities (e.g., problem-solving, innovation, and negotiation) for this common goal by adopting institutional innovations.

In China, when local governments implement large-scale infrastructure projects, an institutional arrangement is usually established to tie the relevant public sectors together. Through such institutional changes, high-level decision-making, rapid approval, and risk mitigation are carried out to promote the rapid implementation of the project and ensure the smooth operation of the project (Zhang and Tan, 2018). The suggestion here for Chinese cities is that such institutional innovation should not become formalised but should actually play its role in enhancing institutional capacity. Future reforms should pay more attention to the legislation of institutional organisations to make their operation more standardised and stable.

In New Zealand, through the construction of the City Rail Link, the Auckland Council is paying more and more attention to the feasibility of VC (Auckland Council, 2017). Auckland Transport (n.d.) discussed the potential of using the VC mechanism and stated that “multiple ownership is one of the biggest obstacles to the release of land (p.4)”. Although urban land in China is state-owned and does not have complex ownership issues, we suggest that New Zealand cities should consider the approaches of Shenzhen and Chengdu to deal with land regulation limitations for VC projects through institutional partnerships. A report from the New Zealand Transport Agency stated that because of legislative and regulatory constraints, if a VC mechanism cannot be applied, a mechanism for negotiation and collaboration outside the legislation should be considered (Kemp et al., 2012). Moreover, the governance arrangements for the City Rail Link Project involved the Ministry of Transport, the NZ Transport Agency, the NZ Treasury, Auckland Council, Auckland Transport, City Rail Link Limited, KiwiRail, and multiple private enterprises (The Office of the Auditor-General, 2022). If the Ministry of

Housing and Urban Planning and Development, Land Information New Zealand, the Ministry of Social Development, the Ministry of Environment, and other government departments could be incorporated into its governance structure, it may be more feasible to release land values through the integration of land and transportation, and to design a VC mechanism within the City Rail Link Project.

Thirdly, local governments should further open up the political channel and create a stronger role for more partners and stakeholders, and develop mechanisms for consultation and involvement with local communities throughout the whole VC process. Public value is not just a summary of the individual preferences of users or producers of public services; it should be built collectively through collaborations involving public, private, and community sectors (Stoker, 2006; Benington, 2011). The findings of this thesis show that professional developers played an important role in the project implementation stage in China. Through competitive bidding and financial partnership, they can bring a range of resources, including capital, technology, management, and reputation, to VC projects. However, it must be acknowledged that as a result of historical, cultural, and institutional elements, the capacities of local governments and local transport agencies to cooperate with private developers vary in different regions in China. The recommendations of this study indicate that local transport agencies should at least have a real estate department within the local transport agency and recruit professional developers to be involved in VC projects to avoid undesirable outcomes.

In New Zealand, Laurian et al. (2004) assumed that developers, as key stakeholders in the planning process, will influence the implementation of a plan. However, no significant impact of the developers' capability and commitment on implementation has been observed, but a flexible and partnership-based relationship with developers appeared to improve implementation. In this regard, this thesis suggests that it is necessary to focus on the complexity of the interaction between developers and planning agencies in property development in New Zealand. In particular, the potential VC mechanisms currently being discussed in New Zealand are all about imposing additional fees and taxes on developers and land owners (Kemp et al., 2012). Therefore, incentivising developers and land owners to participate in the VC process and seeking their support are significant for the initiation and planning of VC in New Zealand.

In terms of community involvement, in China, community sectors and NGOs are becoming increasingly aware of their rights and interests in participating in urban development. Effective community participation in policy-making and decision-making processes is becoming more important, as was found in the case of Shenzhen. However, in most Chinese cities, as in

Chengdu, it is difficult for community sectors and NGOs to play an active role in the decision-making process. Similarly, New Zealand faces the challenges of public involvement in participatory planning processes, which seek to rely on quantitative techniques and narrow the scope of citizens' influence on urban governance (Cheyne, 2015; Mehmood and Imran, 2021). In Auckland's planning process, Imran and Pearce (2015) called on Auckland City Council and Auckland Transport to refocus on local communities to identify the transportation issues and solutions. This thesis suggests that the government should delegate more autonomy to local communities and NGOs to stimulate their participation in decision-making, and institutionalise the channels for involvement. This would help build social bonds and facilitate social mobilisation at the local level, thus deepening public awareness of and participation in VC projects. At the same time, community sectors and NGOs need to realise that they also should play the role of public managers to create public value for citizens and society. By working with the public sector, they can complement the actions of the public sector by providing services and resources (Bryson et al., 2015a).

9.3 Limitations and Future Research Agenda

Despite this research's careful planning and design, it is subject to some limitations that provide opportunities for future research exploring the VC mechanism. Firstly, the qualitative nature of the research may affect the data collection and analysis. In qualitative studies, the researcher's background can influence the interpretation of the study, such as the themes presented by the researcher and the meaning given to the data. However, strict adherence to data collection and analysis procedures are used in the qualitative methods applied in this study to minimise this aspect.

A second potential limitation of this research is that accessing and interviewing politicians and the officials in the central government in China is complex, and the research lacks primary data from them, although quality information related to the central government has been collected from published and unpublished policy documents. In the context of decentralisation, this study focuses on obtaining primary data from local stakeholders. In China, fiscal decentralisation and political centralisation have triggered inter-regional competition among governmental officials regarding economic performance, providing incentives for local governments to use land development to mobilise more capital investment for growth. In this case, the power relationships among the central, provincial, and local governments in shaping the Chinese governance system which impacts the VC process deserve further investigation.

Thirdly, this research suggests that a participatory and consultative approach to the VC process can help gain public support and achieve VC legitimacy. This research relies on media information, some residents' responses, and the public survey results provided by public agencies to understand the response and perception of the public in the VC process. Future studies can collect primary data from residents on the public's acceptance of VC projects and their needs.

Fourthly, this research used the strategic triangle of public value management to explore and evaluate stakeholders' partnerships in the VC process. However, the outcomes of VC projects have not been explored in depth, which was beyond the scope of this research. This research has made the case that the additional funds generated in VC projects can be used for developing public transport. Mathur (2014) argued for using VC projects as a means of achieving greater social equity in cities and for providing affordable housing. The VC mechanism remains a key policy tool to help direct investments in the sustainable transport infrastructure needed to improve urban decarbonisation (Dunning and Lord, 2020). Future research can focus on the outcomes of VC in China, balancing social equity, affordability, and environmental concerns involved in VC projects.

Finally, the data for this research were collected before the COVID-19 outbreak, so the thesis does not involve a discussion of the impact of the global pandemic on the selected VC projects. During the COVID-19 period, any countries (such as China) initiated policy measures such as social distancing, community closures, mandatory quarantines, and stay-at-home orders to reduce urban mobility (Yang et al., 2022). This circumstance may negatively impact the high-density housing market, public transport accessibility, the economic agglomeration of commercial or office areas, and housing affordability (Kim et al., 2021; Lee and Locke, 2021; Yang and Zhou, 2022). Nonetheless, a study of Hong Kong MTRC found that VC earnings enabled the MTRC to absorb recurring business losses in 2020 and 2021 caused by the COVID-19 pandemic, particularly in its transport operations in Hong Kong (Jauregui-Fung, 2022). Future research could examine the impact of the COVID-19 pandemic on VC projects' goals and processes.

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Appendices

Appendix 1 Statement of Contribution Form

DRC 16

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

GRADUATE RESEARCH SCHOOL

STATEMENT OF CONTRIBUTION
DOCTORATE WITH PUBLICATIONS/MANUSCRIPTS

We, the candidate and the candidate's Primary Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the candidate's contribution as indicated below in the *Statement of Originality*.

Name of candidate:	Xinning Wang
Name/title of Primary Supervisor:	Associate Professor Imran Muhammad
In which chapter is the manuscript /published work:	Parts of Ch. 2/5/6

Please select one of the following three options:

(●) The manuscript/published work is published or in press

- Please provide the full reference of the Research Output:

Some parts of Chapters 2, 5 and 6 have been published as a journal paper:
Wang, X., Imran, M., Tsui, K. W. H. & Sturup, S. 2019. The use of value capture for transport projects in China: opportunities and challenges. Asian Transport Studies, 5, 784-810.

( ) The manuscript is currently under review for publication – please indicate:

- The name of the journal:
- The percentage of the manuscript/published work that was contributed by the candidate:
- Describe the contribution that the candidate has made to the manuscript/published work:

( ) It is intended that the manuscript will be published, but it has not yet been submitted to a journal

Candidate's Signature:	Xinning Wang
Date:	04-Jul-2022
Primary Supervisor's Signature:	Imran Muhammad
Date:	4-Jul-2022

This form should appear at the end of each thesis chapter/section/appendix submitted as a manuscript/ publication or collected as an appendix at the end of the thesis.

GRS Version 5 – 13 December 2019
DRC 19/09/10

Appendix 2 The Notification of Low Risks from Massey University

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

Date: 11 October 2018

Dear Xinning Wang

Re: Ethics Notification - **4000020223** - **Exploring value capture as an innovative funding model for public transport infrastructure development in China**

Thank you for your notification which you have assessed as Low Risk.

Your project has been recorded in our system which is reported in the Annual Report of the Massey University Human Ethics Committee.

The low risk notification for this project is valid for a maximum of three years.

If situations subsequently occur which cause you to reconsider your ethical analysis, please contact a Research Ethics Administrator.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:
"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director - Ethics, telephone 06 3569099 ext 85271, email humanethics@massey.ac.nz."

Please note, if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to complete the application form again, answering "yes" to the publication question to provide more information for one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

Professor Craig Johnson
Chair. Human Ethics Chairs' Committee and Director (Research Ethics)

Research Ethics Office, Research and Enterprise
Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand **T** 06 350 5573; 06 350 5575 **F** 06 355 7973
E humanethics@massey.ac.nz **W** http://humanethics.massey.ac.nz

Appendix 3 Information Sheet (English and Chinese Versions)

MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KURA PŪKENGA TANGATA

INFORMATION SHEET

My name is Xinning Wang. I am a PhD student in the School of People, Environment and Planning, Massey University, New Zealand. I am conducting my PhD research on **Public Value Creation: Exploring Partnerships in Value Capture Projects in China**.

The research will draw attention to institutional challenges and the prospects in VC model in China through the planning and implementation phases in two projects in Chengdu and Shenzhen. Key stakeholders will be interviewed about their roles and understanding of selected VC projects. This research will shed light on different aspects of the relationships between the public and private sectors and local community that make VC succeed.

Participants' Recruitment and Data Management

Participants of this research are identified from relevant planning and policy documents, official websites, media and academic institutions. Participants' selection is based on their relevant backgrounds and expertise. Participants' identification in the research will be anonymous.

Each semi-structured interview will take around 45–60 minutes. With agreement from the participants, interviews will be recorded (if allowed) and transcribed for analysis. I will transcribe data by myself. Data will be stored on a secure computer for 5 years, after which it will be destroyed.

Participant's Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to decline to answer any particular questions, ask any questions about this research at any time during interview, ask the recording to stop at any time during the interview, or receive a copy of my recorded transcript and a summary of the research findings if requested.

Project Contacts

If you have any question about the research and interviews, please feel free to contact me and my supervisors:

Researcher	Xinning Wang, PhD Candidate in Resource and Environmental Planning, School of People, Environment & Planning, Massey University, Palmerston North, New Zealand, 4442	Phone: +64 (06) 356 9099 ext. 85961 Mobile: +64 021 088 11350 +86 18011312881 (in China) Email: x.wang7@massey.ac.nz WeChat: 264698469
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	Dr Sophie Sturup, Associate Professor in Urban Planning and Design, Xi'an Jiaotong-Liverpool University, Suzhou, China, 215123	Phone: +86 512 8188 4837 Email: sophie.sturup@xjtlu.edu.cn

Low Risk Notification

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director - Ethics, telephone 06 3569099 ext. 85271, email humanethics@massey.ac.nz.

MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KURA PŪKENGA TANGATA

信息单

我的名字叫汪馨宁。我是一名新西兰梅西大学人类，环境和规划学院的博士生。我正在做**公共价值创造：探索在中国溢价回收项目中的合作伙伴关系**的博士课题研究。

通过调研成都和深圳两个案例的规划与实施，该课题将侧重于研究中国规划和实施溢价回收模式的制度挑战与前景。通过对主要利益相关者进行访谈，了解他们的角色和对所选 VC 项目的理解。该研究拟揭示公私部门以及当地社区之间不同方面的合作伙伴关系，从而使得溢价回收成功实施。

被访者招募和数据管理

本研究从相关的规划和政策文件，官方网站，媒体和学术资源中确定被采访者。被访者的选择基于他们的相关背景和专业知识。被访者的身份将是匿名的。

每个半结构化访谈大约 45-60 分钟。如果得到被访者同意，访谈将会被录音，并用于该研究的分析。我将自己抄录数据。 数据将在安全的计算机上存储 5 年，之后将被销毁。

被访者的权力

您没有义务接受此访谈邀请。 如果您决定参加访谈，您有权力拒绝回答任何问题；在访谈过程中，您亦可以随时询问该研究的相关问题；在访谈过程中，您可以随时要求录音停止；另外，如果要求，您可获得该访谈记录和研究结果的摘要。

项目联系方式

如果您对研究和访谈有任何疑问，请随时与我和我的导师联系：

研究员	汪馨宁，博士生 新西兰梅西大学人类，环境和规划学院资源与环境规划专业	电话：+64 (06) 356 9099 转 85961 手机：+64 (0)21 088 11350 +86 18011312881 邮箱：x.wang7@massey.ac.nz 微信：264698469
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	Sophie Sturup 博士，副教授 中国西安交通利物浦大学城市规划和设计专业	Phone：+86 512 8188 4837 邮箱:sophie.sturup@xjtlu.edu.cn

低风险通知

该研究课题已通过梅西大学评审，并被评估为低风险。 本文件中指定的研究员负责该研究的道德行为。

如果您对该研究的道德行为有任何疑虑，请联系负责梅西大学伦理道德的主任 Craig Johnson 教授，电话 +64 (06) 356 9099 转 85271，邮箱 humanethics@massey.ac.nz

Appendix 4 Consent Form (English and Chinese Versions)

MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KURA PŪKENGA TANGATA

PARTICIPANT CONSENT FORM

Public Value Creation: Exploring Partnerships in Value Capture Projects in China

I _____ read the Information Sheet and fully understood all the details of this research.

I have also been given sufficient time to consider whether to participate the interview.

Please circle your response for each of the following statements:

1. I agree / do not agree to participate this interview under the conditions set out in the Information Sheet.
2. I agree / do not agree to the interview to be recorded.
3. I wish / do not wish to receive a copy of my recorded transcript.

Signature: _____ Date: _____

MASSEY UNIVERSITY
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AND SOCIAL SCIENCES
TE KURA PŪKENGA TANGATA

参与访谈同意书

公共价值创造：探索在中国价值获取项目中的合作伙伴关系

我 _____ 阅读了信息单并充分了解该研究的详细情况。我有充足的时间考虑是否参加该访谈。

对于以下陈述，请圈出您的意愿：

1. 我同意 / 不同意在信息单中设定的条件下参加访谈。
2. 我同意 / 不同意访谈被录音。
3. 我希望 / 不希望获得该访谈记录。

签名： _____ **日期：** _____

Appendix 5 Interview Questions (English and Chinese Versions)

Interview Question Design

Start:

1. Can you tell me about the role of your organisation in the VC project?
2. Can you tell me about your role in the VC project?

Interview topic for political-institutional partnership:

1. What were motivations for planning and implementing the VC project in your city?
2. What were the role of political leaders (such as the mayor, the secretary of the municipal party committee) in the VC project?
3. How does policy and planning framework work in your city? How does your city make decisions about planning/development/project matters?
4. What factors constrain the formulation and implementation of related policies and plans for VC?
5. How does government documents (e.g. master plan, transport plan and policy, five-year plan, land use policy, fiscal policy, property law, land administration law) supported or affected the VC project?
6. In the VC project, who was involved in planning process and implementation process? Did the process include local communities such as residents, NGOs or social organisations? What are roles of these actors?
7. How do you think about the meanings of parentship between governments and local transport agencies in the VC project?

Interview Topic for Financial partnership:

1. Can you tell me about how was the partnership developed for property development in VC project? What about the ongoing relationship and future for this partnership?

2. Why was the partnership developed and what conditions for the partnership were developed in the VC project?
3. Can you tell about how you have negotiated and shared the risk, responsibilities, and benefits in the process? Please explain with examples.
4. What types of market conditions influence positively or negatively in the VC project?
5. Did you have any difficulties in communication and negotiation process? How did you overcome the difficulties?
6. How do you think about the meaning of partnership between the local transport agency and its partners to develop properties in the VC project?

Interview Topic for Social partnership:

1. Do you know what types of communication and consultation methods are used in VC projects?
2. How did you participate in communication and consultation process of this project? What factors influenced your participation? To what extent do you think your participation is meaningful?
3. What were challenges for communication in the VC project? How were these dealt with?
4. In this project, how was trust built between public sectors and the local communities/ the public during VC process? What were the challenges of this process? How could these issues be addressed?
5. How do you think this VC project will affect your life?
6. How do you think about the relationship between the local government and the public in the VC project?
7. Traditional Chinese culture is unique, and how do you think of its impact the VC project? How traditional culture shape the stakeholders' relationship?
8. In your opinion, to what extent does this project delivery the public value to the society?

End:

1. Do you think the VC project is successful and why?
2. Do you have any additional points you would like to mention?

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访谈问题设计

开始：

1. 请问您的组织在 VC 项目中扮演的角色么？

2. 请问您在 VC 项目中扮演的角色是什么？

政治-制度伙伴关系访谈主题：

1. 请问在您的城市规划和实施 VC 项目的动机是什么呢？

2. 政治领导（例如市长和市委书记）在 VC 项目中扮演了怎样的角色？

3. 请问贵市政策和规划的框架结构是怎样的呢？贵市如何就规划/发展/项目事项作出决定？

4. 哪些因素制约着 VC 项目的相关政策和计划的制定和实施？

5. 政府文件(例如，城市总体规划、交通规划和交通政策、五年计划、土地使用政策、财政政策、物权法、土地管理法等等)如何支持或影响 VC 项目？

6. 在 VC 项目中，谁参与了规划过程和实施过程？这个过程是否包括当地社区，例如当地居民、非政府组织或其他社会组织？这些参与者扮演什么角色？

7. 您如何看待 VC 项目中政府与当地交通部门（地铁公司）之间的伙伴关系？

财政伙伴关系访谈主题：

1. 请问在 VC 项目中，财政伙伴关系是如何建立的？这种伙伴关系的维持和未来规划是怎么样的呢？

2. 为什么要建立这样的伙伴关系？在这个项目中要建立伙伴关系的条件是什么？

3. 您能谈谈在这个过程中是如何协商和分摊风险，责任和收益吗？ 请举例说明

4. 在 VC 项目中，哪些市场条件会产生积极或消极的影响？

5. 请问在沟通和协商过程中有困难吗？是如何克服这些困难的？

6. 您如何看待当地交通机构（地铁公司）与其合作伙伴之间建立合作关系以开发VC项目的意义？

社会伙伴关系访谈主题：

1. 您知道在 VC 项目中使用的沟通和咨询方法有哪些吗？

2. 您是如何参与这个项目的沟通与咨询过程的？哪些因素影响你的参与？你认为你的参与在多大程度上是有意义的？

3. 在 VC 项目中，沟通面临哪些挑战？这些是怎么处理的？

4. 在这个项目中，公共部门和地方社区/公众在过程中如何建立信任？这个过程的挑战是什么？如何解决这些问题？

5. 你认为这个 VC 项目将会对你有什么影响？

6. 7.您如何看待风投项目中地方政府与公众之间的关系？

7. 中国传统文化是独特的，您如何看待其对 VC 项目的影响？ 传统文化如何塑造利益相关者之间的关系？

8. 在您看来，这个项目在多大程度上为社会带来了公共价值？

结束：

1. 您认为 VC 项目成功吗？为什么？

2. 您还有什么要补充的吗？

Appendix 6 Interviewees' Organisations in Shenzhen

Participants	Organisations
Governmental official 1	Guangdong Provincial Government
Governmental official 2 and 3	Shenzhen Municipal Government
Governmental official 4, Planner 1 and 2	Shenzhen Municipal Planning and Natural Resources Bureau
Governmental official 5	Shenzhen Municipal Transportation Bureau
Governmental official 6	Shenzhen Development and Reform Commission
Governmental official 7	Shenzhen Municipal Housing and Urban Rural Development
Governmental official 8	Shenzhen Municipal Finance Bureau
Governmental official 9	Shenzhen Rail Transport Office
Manager 1 and 2, Planner 3 and 4	Shenzhen Metro Corporation
Developer 1 and 2	China Vanke Co., Ltd
Consultant 1	WSP
Consultant 2	Urban Planning & Design Institute of Shenzhen
Expert 1	Shenzhen Academy of Social Sciences
NGO	Shenzhen Metro Association
Expert 2 and 3	Shenzhen University
Media 1 and 2	Shenzhen News
Resident 1 and 2	Nearby Residents

Appendix 7 Interviewees' Organisations in Chengdu

Participants	Organisations
Governmental official 1	Sichuan Provincial Government
Expert 1	Sichuan Urban Rural Planning and Design Institute
Governmental official 2 and 3	Chengdu Municipal Government
Governmental official 4	Chengdu Development and Reform Commission
Governmental official 5	Chengdu Municipal Finance Bureau
Governmental official 6, Planner 2 and 3	Chengdu Municipal Planning Bureau
Governmental official 7, Planner 1	Chengdu Municipal Land Resource Bureau
Governmental official 8	Chengdu Municipal Transportation Bureau
Governmental official 9	High-tech district-level Government
Governmental official 10	Chengdu Municipal Housing and Urban-Rural Development Bureau
Manager 1 and 2, Planner 4 and 5	Chengdu Rail Transport Corporation
Developer	China Vanke Co., Ltd
Consultant 1	Cushman & Wakefield Real Estate Consulting (Chengdu) Co., Ltd.
Consultant 2	Deloitte (Chengdu)
Expert 2	Southwest Jiaotong University (Chengdu)
Expert 3	Southwest Jiaotong University (Shanghai) TOD Research Centre
NGO	Chengdu Association of Urban Planning
Media 1	Chengdu Daily
Media 2	Chengdu Metro Media Co., Ltd.
Resident 1 and 2	Nearby Residents