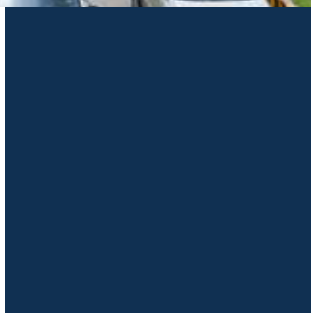




URBAN DEVELOPMENT IN PHNOM PENH



CONTENTS

ACKNOWLEDGEMENTS	4
MEMORANDUM TO POLICY MAKERS IN CAMBODIA	5
EXECUTIVE SUMMARY.....	7
Section 1. Introduction and Context	14
1.1 Introduction.....	14
1.2 Early Stages of Urbanization with Much Growth To Come	14
1.2.1 Cambodia (National Level)	14
1.2.2 Spatial Form of Phnom Penh	17
1.2.3 Population of Phnom Penh.....	18
1.3 Rapid Economic Growth	20
1.4 Institutional and Financial Arrangements	21
1.4.1 Functional Responsibilities.....	21
1.4.2 Financial Arrangements	23
1.5 State of Urban Planning in Cambodia.....	25
1.5.1 Laws, Regulations, and Decrees.....	26
1.6 State of Urban Service Delivery and Key Urban Challenges	29
1.6.1 Urban Transport in Phnom Penh.....	29
1.6.2 Drainage and Flood Protection in Phnom Penh.....	34
1.6.3 Sewerage and Wastewater Treatment in Phnom Penh	35
1.6.4 Water Supply in Phnom Penh.....	36
1.6.5 Solid Waste Management in Phnom Penh.....	37
1.6.6 Housing Supply and Real Estate Development	38
1.7 Sustainability and Inequality	40
1.7.1 Key Issues of Sustainability	40
1.7.2 Urban Poor and Vulnerable Areas	41
Section 2: Underlying Constraints to Efficient Urbanization.....	45
2.1 Introduction	45
2.2 Lack of Clarity of Roles and Responsibilities.....	45
2.3 Poor Implementation of Plans and Limited Institutional Capacity	49
2.4 Unsustainable Financing.....	53
Section 3: Priorities for Improving City Competitiveness, Sustainability, and Inclusion	54
3.1 Introduction.....	54
3.2 Improving Institutions and Governance	55
3.3 Improving Urban Planning and Implementation	58
3.4 Investing in Sustainable Urban Infrastructure	62
3.5 Ensuring an Inclusive Approach	72
ANNEX	79

LIST OF TABLES

Table 1:	Summary of Priority Recommendations for Phnom Penh.....	12
Table 1.1:	South East Asia Population Urban, Rural, and Percentage Urban (2014)	15
Table 1.2:	Cambodia Population Projections and Percent Urban, 1995-2050	15
Table 1.3:	Breakdown of Primary Employment in Phnom Penh	21
Table 1.4:	Description of Urban, Spatial, and Land Use Planning Systems Across Administrative Levels	27
Table 1.5:	Occupation or Main Sources of Income for People Living in UPCs	44
Table 3.1:	Summary of Priority Recommendations for Phnom Penh.....	54

LIST OF FIGURES

Figure 1.1:	Urban Population Share (%) vs GDP per Capita, Global Benchmarks 2014.....	16
Figure 1.2:	GMS Southern Economic Corridor and Urban Settlements in Cambodia.....	16
Figure 1.3:	Urban Extent of Phnom Penh in 1990	17
Figure 1.4:	Urban Extent of Phnom Penh in 2015	17
Figure 1.5:	Municipal Boundary of Phnom Penh	18
Figure 1.6:	Population Distribution of Phnom Penh by District (Khan)	18
Figure 1.7:	Population Projection of Phnom Penh	19
Figure 1.8:	Organizational Chart of PPCH	22
Figure 1.9:	Phnom Penh Municipality Revenue, 2012-2017 (in Riels)	23
Figure 1.10:	Breakdown of Estimated Tax Revenue for 2017	24
Figure 1.11:	Phnom Penh Revenue Versus All 24 Other Provinces (Million Riels)	24
Figure 1.12:	Urban Planning and Management in Cambodia	26
Figure 1.13:	Phnom Penh Master Plan 2035 (Land Use Plan)	28
Figure 1.14:	Increase in Vehicles in Phnom Penh Between 1990 and 2012	29
Figure 1.15:	Change in Travel Speed Between 2001 and 2012	29
Figure 1.16:	Existing 3 Public Bus Routes	32

Figure 1.17:	Proposed 10 Public Bus Routes	32
Figure 1.18:	Water Treatment Plants in Phnom Penh	36
Figure 1.19:	Families Accessing Clean Water in Phnom Penh (%)	37
Figure 1.20:	Families Using Waste Collection Services (%)	37
Figure 1.21:	Large Scale Developments in Phnom Penh	39
Figure 1.22:	Breakdown of ID Poor Households by Sangkat	42
Figure 1.23:	Map of Urban Poor Households in Phnom Penh, 2015.....	43
Figure 3.1:	Comprehensive and Integrated Approach to Urban Planning ...	59

LIST OF BOXES

Box 1:	Variable Urban Infrastructure Services in Phnom Penh	9
Box 1.1:	JICA Phnom Penh Urban Transport Master Plan (PPUTMP) ...	30
Box 1.2:	Current Condition of Sidewalks in Phnom Penh	33
Box 1.3:	Urban Poor and Slums in Phnom Penh	41
Box 2.1	Coordination Challenges in Provision of Public Transport	48
Box 2.2	Phnom Penh Master Plan 2035	50
Box 2.3:	Uncoordinated Real Estate Development.....	51
Box 2.4	Urban Planning Capacity.....	51
Box 3.1:	Case Study – Using ICT to Enhance Local Government Revenue in Tanzania	56
Box 3.2:	Examples of Metropolitan Planning Authorities	57
Box 3.3:	Case Study – Urban Planning in Singapore	60
Box 3.4:	Case Study – Urban Planning for Greater Tokyo, Japan	64
Box 3.5:	Case Study – Neighborhood Revitalization in Seoul, Korea..	69
	<i>Downtown Regeneration through Restoration of the Cheonggyecheon Stream</i>	69
Box 3.6:	Ningbo Sustainable Urbanization Project: Transforming Urban Public Space and Mobility and Reducing Flood Risk	71
Box 3.7:	Improving Mobility and Density: The case of Hong Kong ...	71
Box 3.8:	Case Study – BRT vs. Bus Reform and Employment Accessibility in Bogota, Colombia.....	73
Box 3.9:	Urban Infrastructure for Low Income Communities	77

ACKNOWLEDGEMENTS

This report was prepared by a World Bank team including Judy L. Baker (Team Leader and Lead Economist), Natsuko Kikutake (Urban Specialist), Sarah Xinyuan Lin (Urban Analyst), Erik Caldwell Johnson (Senior Social Development Specialist), Soriya Yin (Consultant) and Narya Ou (Program Assistant), Global Practice for Social, Urban, Rural and Resilience. Comments were provided by peer reviewers Jon Kher Kaw (Senior Urban Development Specialist, GSURR), Barjor Mehta (Lead Urban Specialist, GSURR) and Madhu Raghunath (Program Leader, EACVF) and by Rawong Rojanvit (Operations Officer) and Louise Scura (Program Leader).

This work program was carried out under the overall guidance of Abhas Jha, Practice Manager, (GSURR), East Asia and the Pacific Region, Inguna Dobraja (Country Manager, Cambodia), Sameh Wahba, Director, GSURR, Ulrich Zachau (Country Director) and Ede Jorge Ijjasz-Vasquez, Senior Director, GSURR.



MEMORANDUM TO POLICY MAKERS IN CAMBODIA

This memo serves as an introduction to *Urban Development in Phnom Penh*, a report on current challenges and priority recommendations for the city to achieve sustainable and inclusive urban growth. No country has achieved high levels of economic growth without urbanization, and global evidence points to the immense opportunities for growth, poverty reduction and improvements in quality of life that urbanization can bring. However, in absence of well-planned urban development, cities face a host of challenges, including pollution, congestion, poverty, inequality and crime.

Phnom Penh has witnessed significant urban growth over the last ten years, and now has close to 2 million residents in an increasingly sprawling urban landscape. Access to basic services remains variable, with mounting challenges in the drainage, wastewater treatment, public transport and solid waste sectors. The city's ambitious Master Plan 2035 lays out a strategic vision for growth, but lacks a corresponding detailed land use plan and accompanying regulatory framework to support implementation. At the same time, an influx of foreign investment has contributed to fragmented urban growth, which puts additional strain on the city's infrastructure.

Cambodia's rate of urbanization is lower than what can be expected for its GDP, suggesting that the pace and scale of urbanization is likely to rise. As such, it is critical that systems and institutions to enable well-planned, well-managed urban growth be introduced early to avoid locking Phnom Penh and other cities, into a pattern of unsustainable growth. To this end, the report makes the following broad recommendations that are relevant for Phnom Penh:

- ❖ **Improving institutions and governance.** Effective institutions are essential for the development and management of cities. Without strengthened institutional capacity, Phnom Penh and other cities will develop in an uncoordinated and fragmented manner, with infrastructure coming under increasing strain, increases in sprawl and congestion, worsening vulnerability to climate change, and a less livable urban environment. While Cambodia's initiatives aimed at decentralization are an important step, there is still scope for strengthening capacity particularly at the local level, providing more clarity in roles and responsibilities between various line ministries and PPCH, and improving metropolitan coordination for specific aspects of urban planning and management. While it is essential that the enabling regulatory frameworks are set in place, it is also important to ensure that the line ministries and local governments are capacitated and technically equipped to execute the roles and responsibilities in their mandates.

- ❖ **Improving urban planning and implementation:** To realize the long-term vision of the Master Plan 2035, enabling regulations and codes, existing urban planning processes, and technical capacity for implementation need strengthening. Building on existing sectoral and thematic master plans (such as the Urban Transport Master Plan 2035, Drainage and Sewerage Master Plan 2035, and Green City Strategic Plan 2016-2025), an integrated and comprehensive master planning process with a detailed land use plan is essential to ensure that spatial planning, land use, infrastructure development, and service delivery keep up with the population growth. It is also essential to ensure that incentives for densification are created to avoid an inefficient pattern of urban growth. Through an evidence-based and participatory approach, clear identification of land use rules, investment priorities, safeguard measures, and technical standards could be applied to enhance the transparency, predictability, and accountability of the planning and development process. Adopting a long-term view in local spatial plans, with both vertical and horizontal integration with infrastructure development plans, will help to ensure that demand for basic services is met.
- ❖ **Investing in sustainable urban infrastructure:** To best address the city's needs and create an environment that enhances livability and competitiveness, sectoral investments in basic urban infrastructure could be better guided by an integrated master plan. A place-based approach that considers not only infrastructure but also local economic development and job creation offers much potential for the city. Leveraging private sector participation and investments to accelerate and sustain urban development is critical to achieving the diversity, dynamism and socio-economic balance, unattainable by public action alone.
- ❖ **Ensuring inclusive urbanization:** Urban inequality threatens sustainability and can lead to social divisions and conflict. Policies to promote economic, spatial and social inclusion can enable full participation of low-income populations in labor markets and improve accessibility to jobs, services and amenities. To ensure that local needs (especially of the urban poor) are appropriately addressed and accounted for, early and continuous engagement with stakeholders including the line ministries, local governments (PPCH, Khans and Sangkats), private sector, civil society, and NGOs is critical. Furthermore, it is important that information is appropriately disseminated to the relevant stakeholders, and that local governments have adequate capacity to implement the necessary safeguard measures.

Well-planned cities allow the socio-economic benefits of urbanization to be fully harnessed, and can create vibrant, livable urban spaces. Ensuring an enabling environment for sustainable urban growth in Phnom Penh will be a long-term process, but one that is fully possible with strong commitment from you and your counterparts, as well as citizens and the private sector.

EXECUTIVE SUMMARY

Cambodia is at a critical juncture in its urbanization process with many opportunities for creating competitive, sustainable and inclusive cities. The development of Phnom Penh is particularly important as it is the largest and fastest growing city in the country and serves as the gateway to the global economy. Its transformation from a city ravaged by conflict and instability to a center of rapid urbanization and economic development has been remarkable. Yet the growth has also shown some strain as much of it has been unplanned, with insufficient financing for the infrastructure needs that come with such rapid growth. By substantially increasing attention to urban planning, capacity for better enforcement, and investments in urban infrastructure, the city can generate opportunities for job creation, mobility, livability and social cohesion that will affect residents for decades to come.

This report provides a summary of key issues related to urbanization in Phnom Penh given its role as the country's largest and most prosperous city. Section one provides context on urbanization, institutional and financial arrangements, urban planning, urban service delivery and sustainability and inequality. Section 2 focuses in on three underlying constraints to efficient urbanization and Section 3 includes priorities for Phnom Penh as a competitive, sustainable and inclusive city.

PHNOM PENH: A RAPIDLY GROWING CITY

Urbanization in Phnom Penh has grown substantially and in 2010, twenty communes from another province were integrated into the city, which meant it almost doubled in land area. The population is estimated to have also increased considerably with estimates of close to 2 million (though the most recent census was in 2008). This rapid growth, however, has been largely unplanned resulting in an expansion of the city, as well as growing traffic and congestion.

Though there are a number of national and sub-national level plans, laws, and frameworks related to urban development and land management, problems of institutional fragmentation and weak regulatory and technical capacity have prevented implementation. The Phnom Penh Master Plan 2035 provides broad strategic directions, but it does not have detailed land use or phasing plans for implementation. Various sectoral master plans and feasibility studies have been developed with support of donors, though there is no entity to oversee their implementation.

Decentralization efforts in the country have been progressively shifting responsibilities from national to subnational levels, which, if well managed can have many benefits particularly in ensuring that decisions are well aligned with local needs. Urban service delivery in Phnom Penh currently faces a number of challenges with deficiencies in each major sector, namely transport, drainage, sewerage and wastewater treatment. Water supply is handled by an autonomous authority, the Phnom Penh Water Supply (PPWSA) and has been relatively successful, providing interesting lessons for other sectors. While the specific issues vary somewhat by sector, overall infrastructure delivery is extremely limited, and regulations and capacity for enforcement are very weak. This results in congested roads, vulnerability to flooding, pollution and overall lack of urban services. Many of these issues impact low income communities most acutely.

Limited financing for basic urban services is an issue though data were not fully available for this study. Phnom Penh generates revenues from a number of sources and accounts for approximately 70 percent of the national revenue coming from the subnational level. This amount is then shared across the country, which creates some tension between the city and national government.

At the same time, a flood of foreign direct investments has led to large-scale private housing and commercial real estate developments in Phnom Penh, much of it aimed at the growing middle and upper class. These developments, however, have not focused on how they link to the broader urban fabric or the resulting impact on existing infrastructure or provide basic services to the poor. Developments are not required to provide their own septic tanks or drainage infrastructure, and no technical standards or requirements are imposed. This puts further strain on the already limited services in Phnom Penh. These settlements have also not addressed the substantial demand for affordable housing.

Sustainable development has increasingly recognized as an important issue for the city with a recent Green City strategic plan having been developed for Phnom Penh including a proposed long list of potential green projects for the city. As with several of the other donor-funded plans, financing for implementation remains a challenge.

Many of the investments in infrastructure will have the biggest impact on low income communities where living conditions are worst, particularly in the urban poor communities have been identified as having the greatest need (many in the outer khans). Residents have the most limited access to basic infrastructure, live far from jobs and services, and are at highest risk to flooding.

BOX 1: VARIABLE URBAN INFRASTRUCTURE SERVICES IN PHNOM PENH

Transport. The number of registered vehicles has increased exponentially though the road network has limited capacity, with substantial need for rehabilitation and improvement. Public transport has only been introduced as a pilot though ridership has been low due to poor traffic conditions, unreliable schedules and the poor quality of the buses used. The lack of the first-last mile connectivity is also a deterrent to the use of public transport, especially given the convenience of door-to-door transport though motorcycles and tuk tuks. An expansion is planned to be completed by 180 buses with efforts to address some of the issues identified during the pilot. Alternatives such as a tram, water taxi system and sky train are also being explored to ease some of the traffic congestion.

Drainage. Phnom Penh is highly vulnerable to flooding though its drainage and wastewater collection network are not sufficient to meet the needs across the city with the exception of the four central khans (district) which have benefitted from donor assistance. In contrast, the rest of the city lacks a comprehensive drainage and flood protection system putting it at great risk to more frequently occurring flooding. A drainage master plan has been prepared by JICA, but leadership in implementation remains uncertain.

Sewerage and wastewater treatment. Currently there is no formal wastewater treatment system in Phnom Penh. Sewage and other wastewater combines with rainwater in a series of covered and open canals which then flow into the city's rivers, lakes and wetlands. In addition to the absence of infrastructure, a lack of appropriate regulation and enforcement has resulted in the buildup of raw sewage in water bodies posing a threat to the urban environment particularly for residents in low-income areas around canals and lakes. While various donor-assisted studies have addressed the need of wastewater and sewage treatment in Phnom Penh, limited progress has been made in financing such investments.

Solid Waste Collection. A private company holds a 49-year single provider contract for solid waste collection though there are efforts to revise this. The service is very uneven due to traffic congestion, labor problems and the rapid growth of the city, resulting in a staggering 100-200 tons of solid waste that remains uncollected in Phnom Penh every day, ending up burned or buried, or on open roads. The disposal of water into waterways further exacerbates the issues faced in drainage and flood protection.

Water Supply. The provision of water in Phnom Penh has had relative success in large part through leadership of the Phnom Penh Water Supply Authority, which is an autonomous agency that had received funding through donors. Changes in accessibility to sub-sovereign financing has meant that financing goes through the Ministry. Subsequently there have been delays in project implementation.

CONSTRAINTS TO EFFICIENT URBANIZATION

A vision for more efficient urbanization in Phnom Penh includes elements of competitiveness, sustainability and inclusion. To achieve these goals, three key issues have been identified as constraints to efficient urbanization as discussed below.

Lack of clarity in roles and responsibilities. Under decentralization reforms in recent years Phnom Penh has taken on greater levels of political and financial autonomy, but relationships between ministries, institutions, and departments at the local level remain unclear. As Phnom Penh has been an area of opposition voting in recent years, the extent to which the city can plan and implement on its own is also influenced by political and administrative relationships across the national and municipal governments. While responsibility and financing is shifting downward from the municipality to the khan and sangkat levels, limited capacity at the local level is becoming a more important issue as agencies are understaffed and underequipped. This has implications for developing plans and the implementation of such plans. As an example, it is common for medium and high rise buildings to directly front two-lane 10 meter wide roads which are not wide enough to accommodate increased traffic flow. Without coordinated improvement or upgrading of infrastructure, many of the city's basic service networks cannot cope with the increase in people.

Poor implementation of plans and limited institutional capacity. Though an abundance of plans related to urban development exist, the implementation of these plans and enforcement of regulations is weak leaving much scope for informality and haphazard development. In Phnom Penh, one of the striking gaps is a detailed land use plan to guide spatial development. While a 2035 Phnom Penh Master Plan exists, it remains a broad-level document with no details on spatial growth and land use within the city. In the absence of this, development takes place without alignment to a vision for land use, and without supporting infrastructure improvements. In the cases where solid plans or regulatory codes exist, enforcement is also difficult.

Unsustainable financing. Resources for urban management, services, and infrastructure is very limited, which constrains what is feasible. Much of the public infrastructure in Phnom Penh has been funded by foreign aid and private investment, but much of the investments in private housing and commercial real estate developments is aimed at the growing middle and upper class.

PRIORITIES FOR IMPROVING CITY COMPETITIVENESS, SUSTAINABILITY AND INCLUSION

Several policy priorities related to Phnom Penh's future urbanization have emerged from this review. Experience from good practice shows that certain investments can have substantial impact and help to shape the city's opportunities for growth and poverty

reduction. In the case of Phnom Penh, four areas have been identified as top priorities. Within each area, specific recommendations are outlined in broad order of priority and sequencing, and with estimation of the time horizon needed for implementation (Table 1). While implementation of some actions will require substantial time and may be more difficult to implement, others could be implemented relatively quickly for substantial impact. Suggested sequencing and prioritization are listed within each area for ensuring results.

Improving institutions and governance. Effective institutions are essential for the development and management of cities. While Cambodia's initiatives aimed at decentralization are an important step, there is still scope for strengthening capacity particularly at the local level, providing more clarity in roles and responsibilities between various line ministries and PPCH, and in metropolitan coordination for specific aspects of urban planning and management such as flood control, urban transport and solid waste services. In addition, Phnom Penh could explore innovative methods to increase its own-source revenues using, for example, ICT as was done in Tanzania.

Improving urban planning and implementation. To achieve the vision set out in the Phnom Penh Master Plan 2035, urban planning processes, regulations and implementation require strengthening and a detailed land use plan is urgently needed. Ensuring that spatial planning, land use, infrastructure development, and service delivery keep up with the population growth and that incentives for densification are created can help to avoid inefficient patterns of urban growth. Singapore provides a strong example of how urban planning has been carried out to meet the city's need over the longer term. Such an approach is feasible for Phnom Penh, but will require major reforms and modernization of current planning approaches.

Investing in sustainable urban infrastructure. There are many urban infrastructure needs, which, if not prioritized, will continue to hamper urban growth and competitiveness. Sprawl, flooding and congestion will only continue to worsen if new investments are not made. While sectoral investments in urban transport, drainage, sewage, and wastewater treatment are needed, they would benefit from implementation in a coordinated way to maximize synergies. If drainage is not properly addressed in certain parts of the cities, any investments in roads will not be sustainable. For some areas of the city, particularly those with much potential for economic development, an integrated, place-based approach is recommended. This would involve urban or neighborhood revitalization which would not only improve living conditions and infrastructure access, but also spur local economic development and job creation, particularly when rooted in transit-oriented development as public transport investments increase in Phnom Penh. With demonstration of success through such an approach, it may be more easily replicable in other strategic parts of the city. Examples from Tokyo and Singapore are illustrative of what is possible.

Ensuring inclusive urbanization. The lack of planning for physical infrastructure and housing, lagging service delivery, and inadequate transportation and connectivity within cities invariably result in widening inequalities between urban dwellers. Inequality not only threatens the sustainability of the growth process, but can also lead to social divisions and conflict, particularly in dense urban areas where there can be extreme differences in living conditions between the rich and the poor. Policies to assist low-income populations fully participate in labor markets, find affordable housing, access basic services, and have a voice in decision-making help ensure that the benefits of urbanization are enjoyed widely. These include policies to promote economic, spatial and social inclusion. For Phnom Penh, priorities involve: linking the poor to job markets through better, affordable public transport infrastructure and services; building up resilience to shocks, particularly for those at risk to flooding in the city; investing in clean water, sanitation, and solid waste collection in low-income neighborhoods; and to enhance social inclusion empowering urban dwellers to actively engage and contribute through upgrading programs such as those in Indonesia, Thailand and Vietnam. Poverty data is available for most of the city (and soon, the whole city) and this can be used to target areas with greatest need, ultimately reducing the gaps between rich and poor.

Table 1: Summary of Priority Recommendations for Phnom Penh

POLICY AREA	RECOMMENDATIONS (SEQUENCED WITHIN SUBAREA)	TIME FRAME (S, M, L)
Improving Institutions and Governance	❖ Clarify roles and responsibilities between line ministries and PPCH to ensure urban planning and service delivery are integrated and sustainable	S
	❖ Clarify responsibilities across municipal, khan and sangkats regarding integration and financing of plans and the delivery and contracting of services and local investments	S
	❖ Provide capacity building as needed for local level institutions, includes technical and implementation capacity	S/M
	❖ Improve coordination within and across municipalities at the Phnom Penh metropolitan level for key urban infrastructure and services	M
	❖ Align legal, regulatory and enforcement framework for urban development with urban planning (see below)	M
	❖ Explore and implement new approaches to increase own source revenue	M/L

Improving Urban Planning and Implementation	❖ Introduce resiliency in urban planning to reduce risk	S
	❖ Build technical capacity to develop a detailed land use plan with phasing plans for investments and implementation	M
	❖ Introduce the required laws and codes to facilitate implementation of a detailed land use plan.	M/L
Investing in Sustainable Infrastructure	❖ Increase investments in priority infrastructure sectors: urban transport; drainage and flood protection; sewage and wastewater treatment; solid waste management; affordable housing and community improvements	M/L
	❖ Initiate an integrated, neighborhood revitalization approach in strategic areas of Phnom Penh	S
	❖ Ensure stakeholder engagement in prioritization and design of infrastructure investments	S
	❖ Assess opportunities for public-private partnerships (PPPs), for the development and operation of municipal services such as solid waste disposal/recycling; mass transport; water supply; etc.	S
Ensuring an Inclusive Approach	❖ Ensure sustainable infrastructure investments reach the poor	S
	❖ Facilitate mobility through better urban transport for low income areas to enable job market access	M
	❖ Scale up job training, micro enterprise and other programs for the urban poor	S
	❖ Improve targeting of existing programs to those in greatest need through the ID Poor identification system	S
	❖ Enhance community participation through increased	S
	❖ community involvement in the Commune Sangkat Fund decision making process.	S

Source: World Bank Team. S-Short term (18 months), M-Medium Term (2-5 years), L-Long term (5 years +)

SECTION 1

INTRODUCTION AND CONTEXT

1.1 INTRODUCTION

1. Urbanization presents an enormous opportunity for Cambodia. As has been demonstrated in countries around the world, urbanization is a driving force for growth and poverty reduction. Globally, over 80 percent of economic activity is concentrated in cities, and cities are instrumental in lifting millions of people out of poverty. The density and agglomeration in cities can bring jobs, services, and innovation. Yet if not carefully planned for and well managed, urbanization can also result in congestion, slums, pollution, inequality and crime.
2. Given Cambodia's relatively early stage of urbanization, there is still an important opportunity to shape the future direction of urbanization. Investments made now, will be locked in for decades to come. To positively shape the future of Cambodian cities, strong institutions for urban planning and management, collaboration across agencies, and a sustained commitment to the importance of principles of sustainability and inclusion will be needed.
3. This report provides a summary of key issues related to urbanization in Cambodia, with a particular focus on Phnom Penh given its role as the country's largest and most prosperous city. Section one provides context on urbanization, institutional and financial arrangements, urban planning, urban service delivery and sustainability and inequality. Section 2 focuses in on three underlying constraints to efficient urbanization and Section 3 includes priorities for Phnom Penh as a competitive, sustainable and inclusive city.

1.2 EARLY STAGES OF URBANIZATION WITH MUCH GROWTH TO COME

1.2.1 Cambodia (National Level)

4. Cambodia is at an early stage of urbanization with 21 percent of people living in cities (2014). This is considerably lower than other countries in the region such as Indonesia (53 percent), Thailand (49 percent) and Vietnam (33 percent) (Table 1.1). The low urbanization is in part due to the massive reallocation of people from urban to rural areas under the Khmer Rouge regime.

Table 1.1: South East Asia Population Urban, Rural, and Percentage Urban (2014)

MAJOR AREA, REGION, AND COUNTRY	POPULATION (THOUSANDS)			PERCENTAGE URBAN
	Population in Urban Areas	Population in Rural Areas	Total	
South-Eastern Asia	294,409	331,573	625,982	47
Brunei Darussalam	325	98	423	77
Cambodia	3,161	12,247	15,408	21
Indonesia	133,999	118,813	252,812	53
Lao People's Democratic Republic	2,589	4,305	6,894	38
Malaysia	22,342	7,846	30,188	74
Myanmar	18,023	35,696	53,719	34
Philippines	44,531	55,566	100,096	44
Singapore	5,517	-	5,517	100
Thailand	33,056	34,167	67,223	49
Timor-Leste	370	782	1,152	32
Viet Nam	30,495	62,053	92,548	33

Source: United Nations, World Urbanization Prospects, 2014 Revision

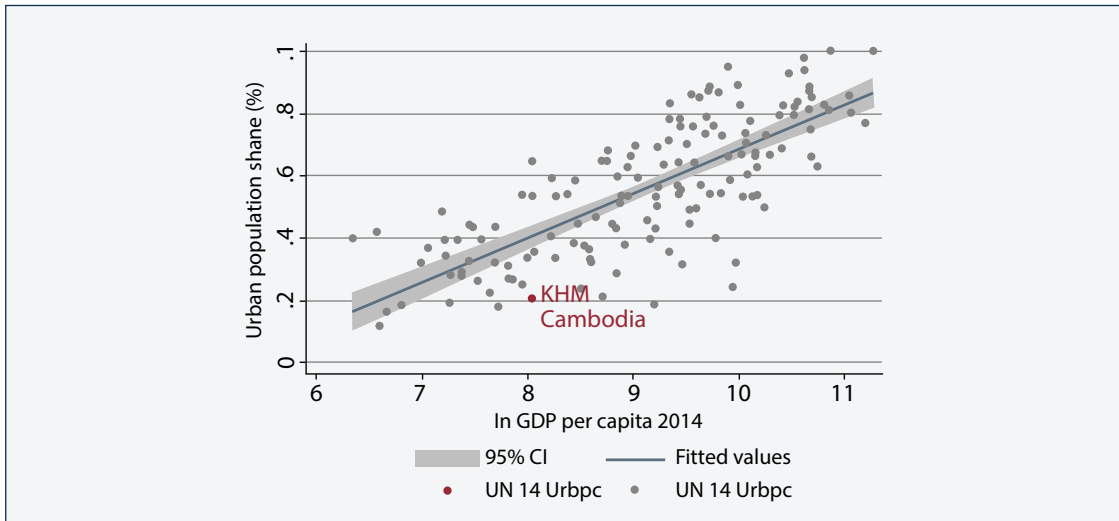
5. Cambodia is expected to continue to urbanize at an average annual rate of approximately 2.5 in the next 35 years. By 2050 it is expected that 36 percent of residents will live in urban areas (Table 1.2). There is a strong positive correlation between a country's urbanization rate and level of GDP per capita. As shown in Figure 1.1, Cambodia's level of urbanization (at 21%) is far below what would be predicted based on its level of GDP per capita. Countries with similar levels of GDP per capita, such as Bangladesh or Kyrgyzstan have an urbanization rate closer to 35%. Cambodia remains "under-urbanized" despite the increases in its urban population share that have occurred in recent years, suggesting that rapid urbanization may be expected in the years to come.

Table 1.2: Cambodia Population Projections and Percent Urban, 1995-2050

Year	1995	2000	2005	2010	2015	2020	2025	2030	2040	2050
Urban Population	1,864	2,272	2,561	2,846	3,249	3,723	4,274	4,900	6,433	8,167
Rural Population	8,905	9,951	10,795	11,519	12,428	13,223	13,846	14,244	14,590	4,402
Total Population	10,769	12,223	13,356	14,365	15,677	16,946	18,120	19,144	21,023	22,569
Percentage Urban (%)	17.3	18.6	19.2	19.8	20.7	22.0	23.6	25.6	30.6	36.2
Phnom Penh Population	836	1,149	1,317	1,510	1,731	1,979	2,262	2,584	-	-

Source: United Nations, World Urbanization Prospects, 2014 Revision

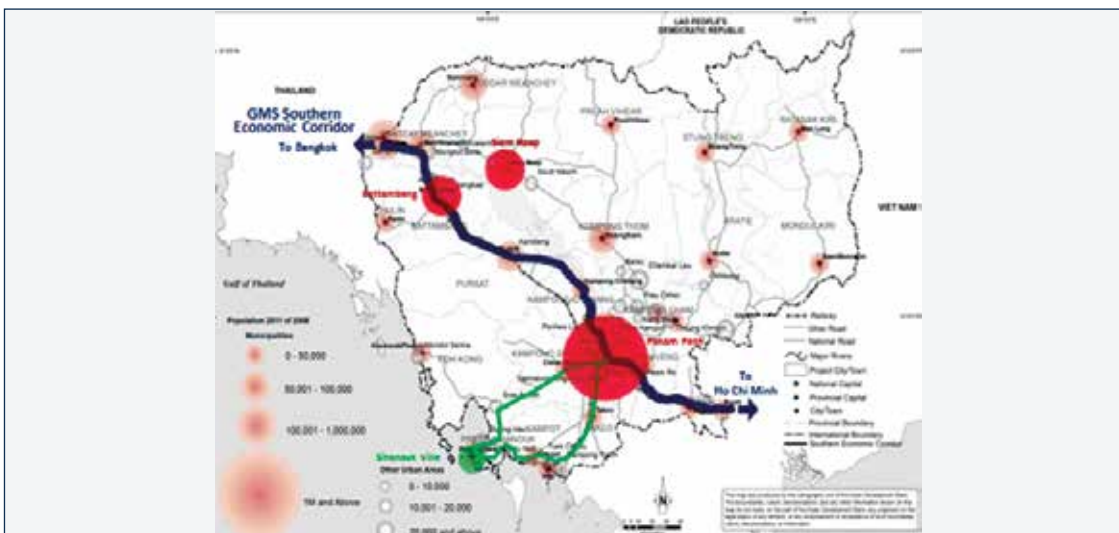
Figure 1.1: Urban Population Share (%) vs GDP per Capita, Global Benchmarks 2014



Source: World Development Indicators 2014

6. The bulk of urbanization in Cambodia is taking place in Phnom Penh, followed by Battambang and Siem Reap (Figure 1.2,). Phnom Penh serves as a regional economic center, strategically located along the Greater Mekong Sub-region (GMS) Southern Economic Development Corridor and regional industrial developments including Sihanouk Ville Port, New Phnom Penh Port, Kampong Cham New Airport, and the Agro-industrial Zone in the Mekong River East Bank.

Figure 1.2: GMS Southern Economic Corridor and Urban Settlements in Cambodia

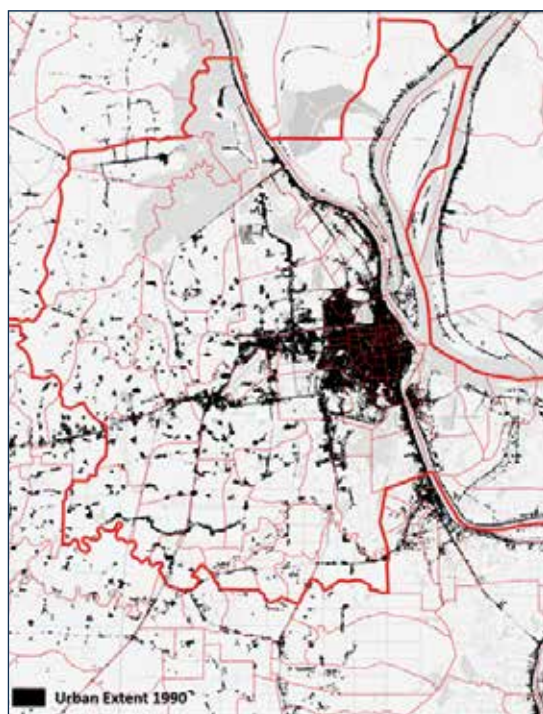


Source: Base Map from Asian Development Bank (ADB), Cambodia Urbanization Study, 2014

1.2.2 Spatial Form of Phnom Penh

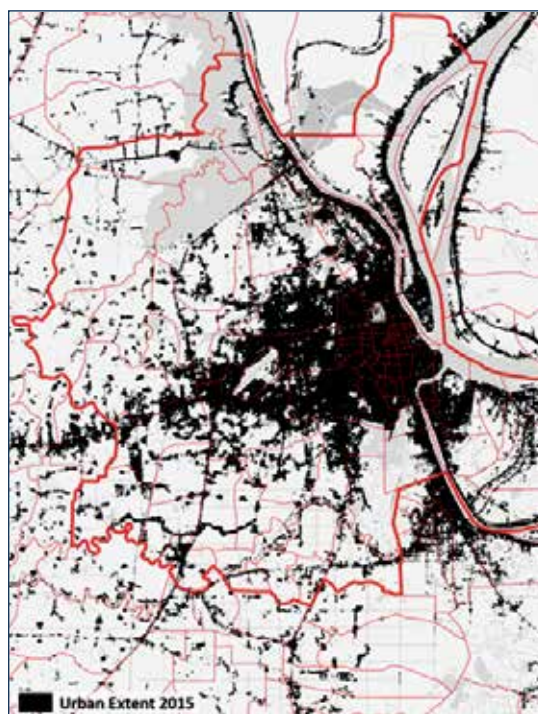
7. As the Capital City of the Kingdom of Cambodia, Phnom Penh plays a critical role as the country's center of political, economic, and cultural activity. Phnom Penh's rapid urbanization and development has forced the city to spatially expand to encompass surrounding suburban areas as shown in Figure 1.3 and Figure 1.4.

Figure 1.3: Urban Extent of Phnom Penh in 1990



Source: Earth Observation for Sustainable Development (EO4SD), 2017.

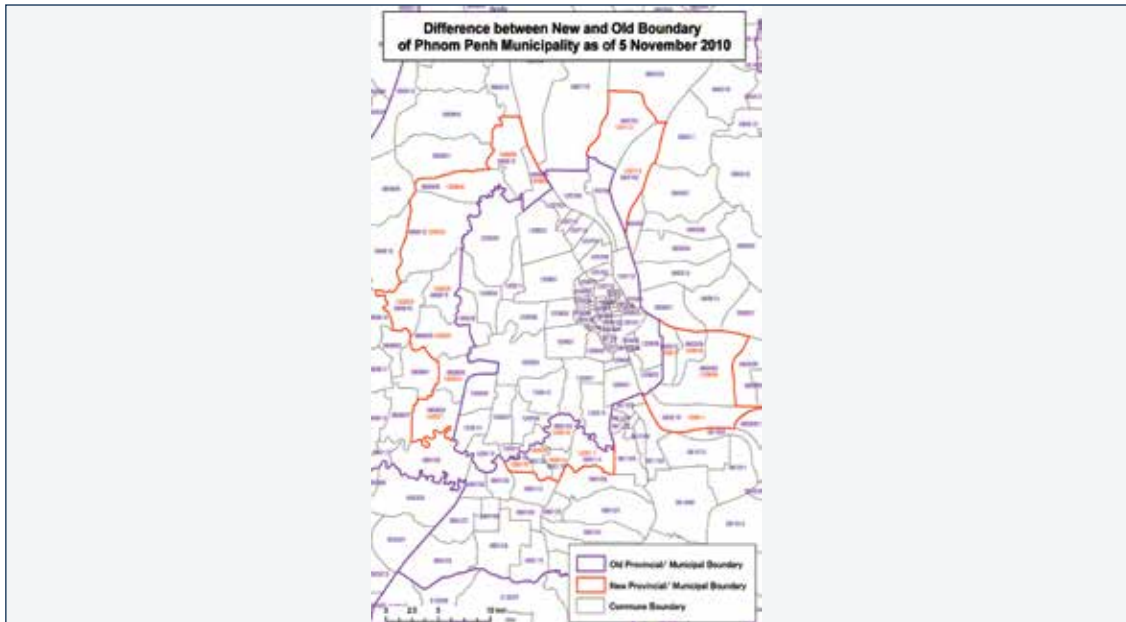
Figure 1.4: Urban Extent of Phnom Penh in 2015



Source: Earth Observation for Sustainable Development (EO4SD), 2017.

8. In 2010, 20 communes from Kandal Province were integrated into the city, increasing the number of Khans from 7 to 8, and expanding the city area from 376.17km² to 678.47km² as shown in Figure 1.5. Furthermore, in and after 2011, several Khans (for example, Dangkor Khan was split into Dangkor Khan and Por Sen Chey Khan) were split to establish new Khans. Today, there are a total of 12 Khans constituting the total 678.47km² of Phnom Penh.

Figure 1.5: Municipal Boundary of Phnom Penh

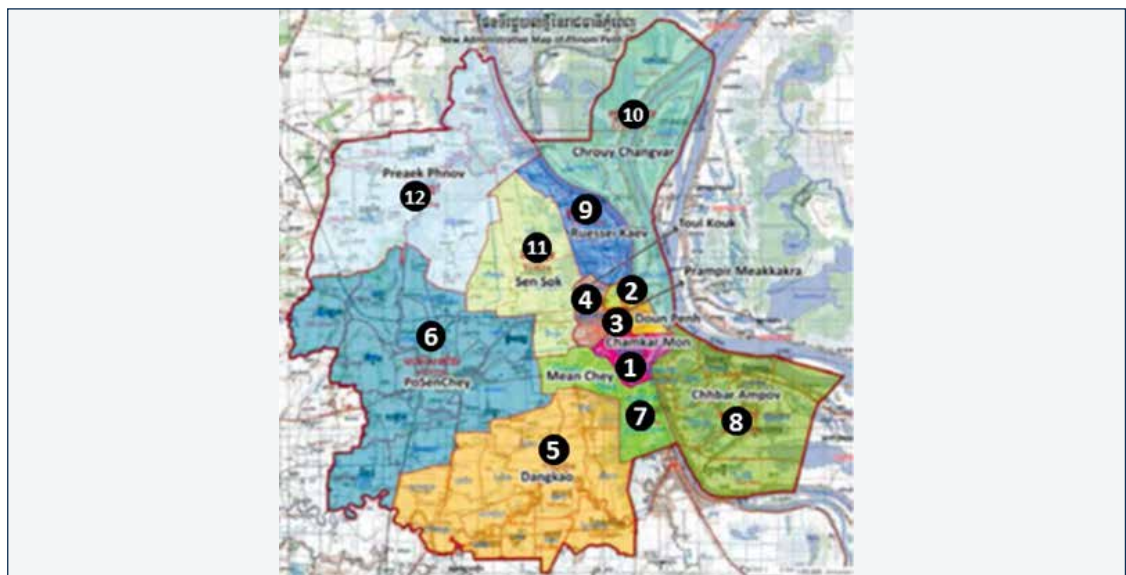


Source: Base Map from National Institute of Statistics, Ministry of Planning, 2011. Economic Census of Cambodia 2011 – National Report on Final Census Results

1.2.3 Population of Phnom Penh

9. The Phnom Penh Administrative Boundary today encompasses 12 Khans, 96 Sangkats, and 909 Villages. The population 2012 of Phnom Penh was estimated at 1.85 million¹ (2012) with a breakdown by Khans as shown in Figure 1.6 (2012 National Census).

Figure 1.6: Population Distribution of Phnom Penh by District (Khan)



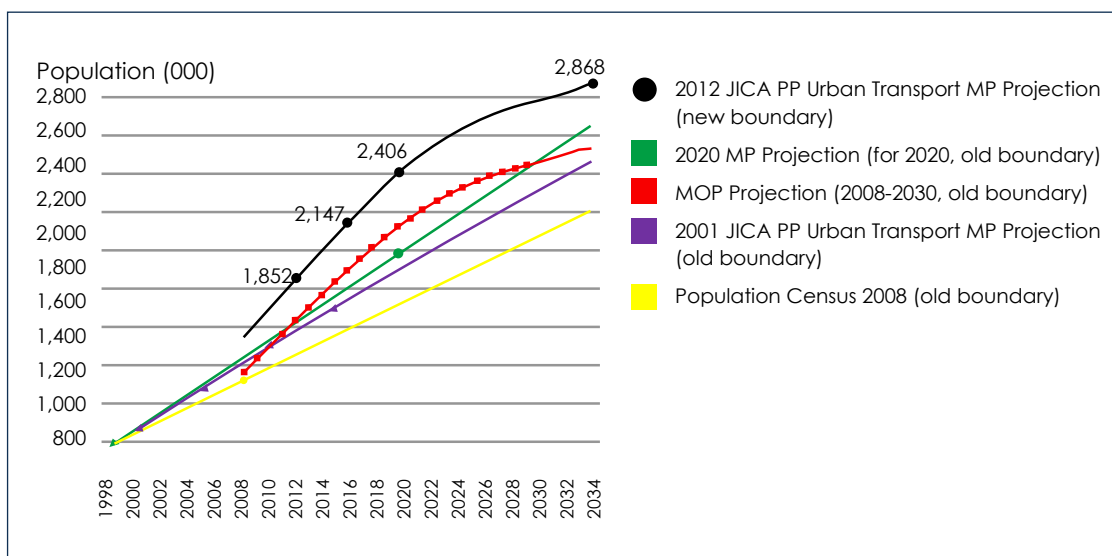
Source: JICA The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City (PPUTMP), 2014

¹ Note that the Census population and the population released by Phnom Penh City Hall differ due to different counting methodology.

#	Name of Khan	1998	2008	2012
Central 4 Khans	1	Chamkar Mon	187,082	182,004
	2	DounPenh	131,913	119,500
	3	Prampir Meakkakra	96,192	91,895
	4	Tuol Kouk	154,968	186,100 P
Peri-Urban 8 Khans	5	Dangkao	48,921	73,287
	6	PoSenChey	73,414	159,455
	7	Mean Chey	97,190	194,636
	8	Chhbar Ampov	108,796	133,165
	9	Ruessei Kaev	76,473	115,740
	10	Chrouy Changvar	53,231	68,708
	11	Sen Sok	70,676	137,772
	12	Preaek Phnov	34,574	47,313
Total Population		1,133,430	1,501,725	1,852,200
Total Area (KM ²)		678		

10. Various plans have provided different population projections and forecasts as shown in Figure 1.7. The most recent population projection conducted for the JICA Urban Transport Master Plan for Phnom Penh forecasts the population to reach 2.86 million by 2035.

Figure 1.7: Population Projection of Phnom Penh



Source: JICA The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City (PPUTMP), 2014

1.3 RAPID ECONOMIC GROWTH

11. Cambodia's growth in recent years has been impressive, ranking sixth among the most rapidly growing economies in the world in 1994-2015, ahead of Vietnam and almost all other countries in the region. Gross national income (GNI) per capita more than tripled from USD 300 in 1994 to an estimated USD 1,070 in 2015, making Cambodia a lower middle-income economy². The growth has been driven by garment exports, agriculture, tourism, and, more recently, construction and real estate.
12. As a result of the strong economic growth and high agricultural commodity prices, poverty incidence in Cambodia declined from 47.8 percent in 2007 to 13.5 percent in 2014. At the same time, the average growth of mean consumption per capita for the poorest 40 percent of the population was around 7.9 percent, putting Cambodia among the top ten countries in the world in helping to reduce income inequality. The employment-to-population ratio (82 percent in 2014) and female labor force participation ratio (79 percent in 2014) are also among the highest in the world, partly owing to the emergence of the garment industry³.
13. Though data at the Phnom Penh city level is limited, Cambodia's strong economic growth has triggered an economic boom in Phnom Penh, with major investments in the construction sector, including in hotels, restaurants, bars, and high rise residential and commercial buildings. In 2011, Phnom Penh had 95,848 establishments (19% of the national total) out of which only 6,511 (6.8%)⁴ were registered with the Ministry of Commerce⁵. Within Phnom Penh, 11,118 (11.6%) were street businesses and 50,029 (52%) were home based businesses, while 93,612 (97.6%) were individual or sole proprietor establishments. Although statistical data on the informal sector is limited, it can be assumed that small informal enterprises constitute a large bulk of the economy of Phnom Penh.
14. In terms of employment in Phnom Penh, approximately 63% of the total population in the working age group (age 18 to 60) had a primary occupation in 2015. The female labor force participation is strong and 48% of women over the age of 18 had a primary occupation. In terms of the sectors of employment, approximately 87% of the total primary occupation were in the service sector, while 10% were in agriculture, and remaining 2.6% in handicraft. The breakdown of primary employment in Phnom Penh is shown in Table 1.3.

2 World Bank, 2017. Cambodia Systematic Country Diagnostic - Sustaining Strong Growth for the Benefit of All.

3 Ibid.

4 Note: while establishments may be registered with Ministries or Agencies other than the Ministry of Commerce, the number is not higher than 14%.

5 National Institute of Statistics, Ministry of Planning, 2011. Economic Census of Cambodia 2011 – National Report on Final Census Results.

Table 1.3: Breakdown of Primary Employment in Phnom Penh

Description	2013	2014	2015
Total Primary Occupation	510,854	533,481	548,094
% of 18 ages up have primary occupation	61.4	63.2	63.4
% of women with 18 ages up have primary occupation	47.3	47.5	48.8
Total Primary Employment in Agriculture	62,170	59,272	54,792
% of Primary Employment in Agriculture	12.2	11.1	10
% of women which have agriculture occupation as primary	5.7	5.1	4.6
People which have handicraft as primary	13,731	13,555	14,044
% of People which have handicraft occupation as primary	2.7	2.5	2.6
% of women which have handicraft occupation as primary	0.5	0.5	0.5
People which have services occupation as primary	434,953	460,654	479,258
% People which have services occupation as primary	85.1	86.3	87.4
% of women which have services occupation as primary	39.8	41.2	41.9

Source: Phnom Penh Profile On Economic and Social in Year 2016

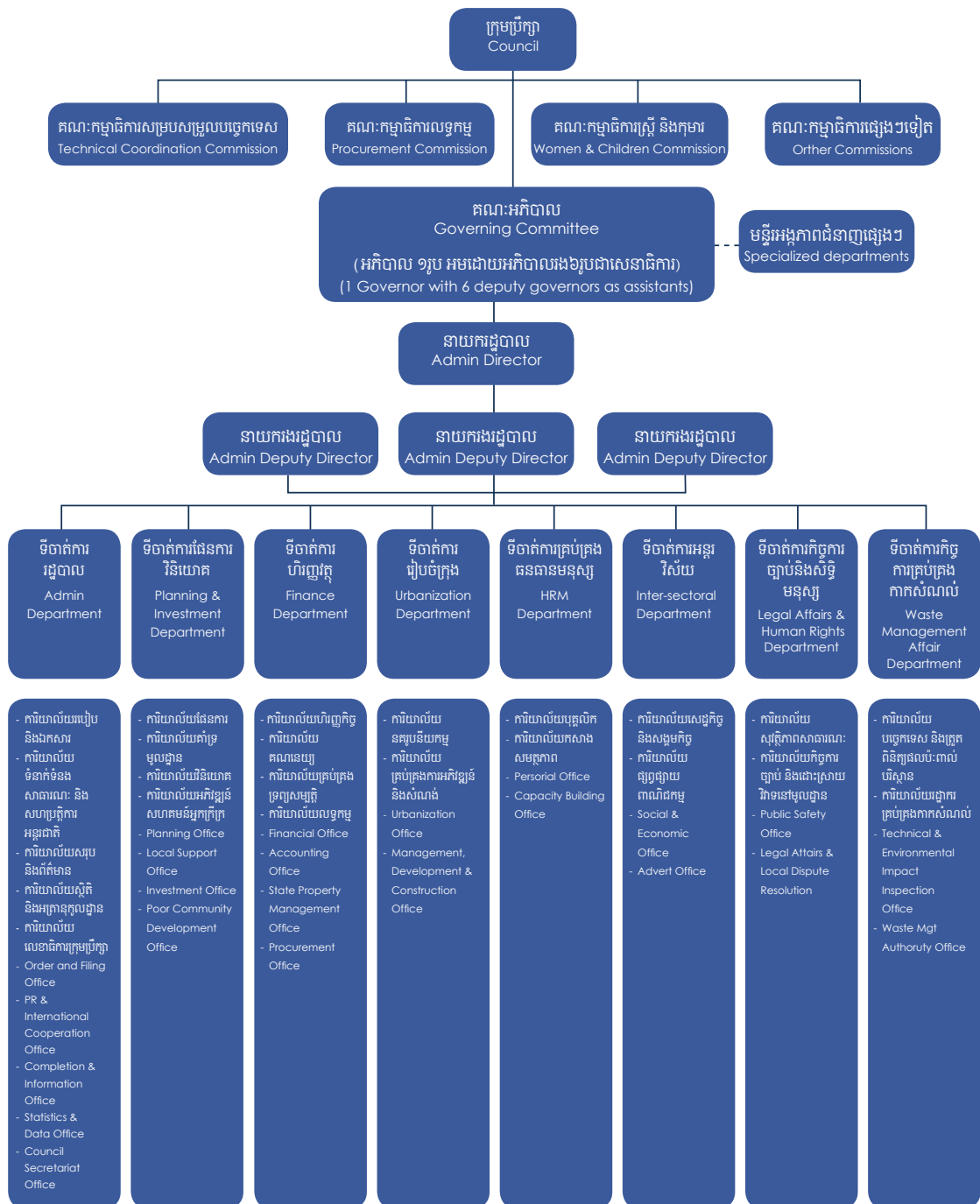
1.4 INSTITUTIONAL AND FINANCIAL ARRANGEMENTS

1.4.1 Functional Responsibilities

15. Through the implementation of the National Program for Sub-National Democratic Development, 2010 – 2019, the Government has been progressively shifting responsibilities from national to sub-national levels. This reform process is ongoing, with the most recent focus being on the transfer of functional responsibilities from the national level of some ministries to the district level, with the aim of more responsive, better quality service delivery. The Ministry of Environment has, for example, transferred responsibility and financial resources for urban solid waste management to the district level. While the Phnom Penh khans have welcomed this change, this has taken time to implement as the city has one citywide contract for solid waste management that now has to be broken into 12 separate contracts, one for each khan.
16. As illustrated in Figure 1.8, below, Phnom Penh Capital Hall's management structure is divided into two layers. The first layer is the municipal Council. The Council is comprised of twenty-one elected members, including three sub-committees/commissions which support aspects of the city's activities, in particular: technical coordination, procurement, and women and children. The Council approves the city's budget, development plan and other important business matters. The second layer is the Governing Committee, which is the executive body. The Governing

Committee is led by the Governor with the support of six Deputy Governors. The Governor and his deputies are appointed by the Ministry of Interior. As the Council members are elected and the Governor is appointed by the Ministry of Interior, decision-making can be complicated if the two bodies are oriented towards different political parties. Such governance challenges are not apparent on the surface, but they do appear to play a role in way in which individuals are empowered within the organization and the ways in which information is shared.

Figure 1.8: Organizational Chart of PPCH⁶



6 <http://phnompenh.gov.kh/en/about-us/organization-chart/>

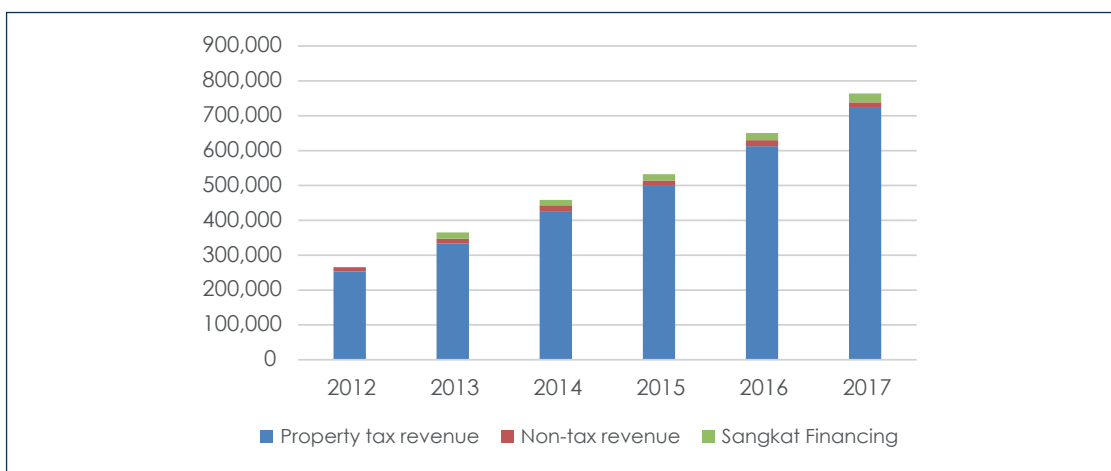
17. To manage population growth and the strains that this places on khan and sangkat governance and resources, PPCH recently proposed to the Ministry of Interior the division of several sangkats into 2 or even 3 separate sangkats. This is a sensible step to take which is keeping with the overall focus of the decentralization reform on responsiveness and will likely improve the efficiency in the use of funds as well.

1.4.2 Financial Arrangements

18. The Law on Financial Regime and Asset Management of Subnational Administrations, passed in 2011, mainly informs the municipality's financial arrangements. The Law enables the municipality to identify financial resources for fulfilling its obligatory functions and providing basic public services in its judicial territory. The Law applies to financial and asset management in the city and Khan/district, and specifies revenues and expenditures for the city.

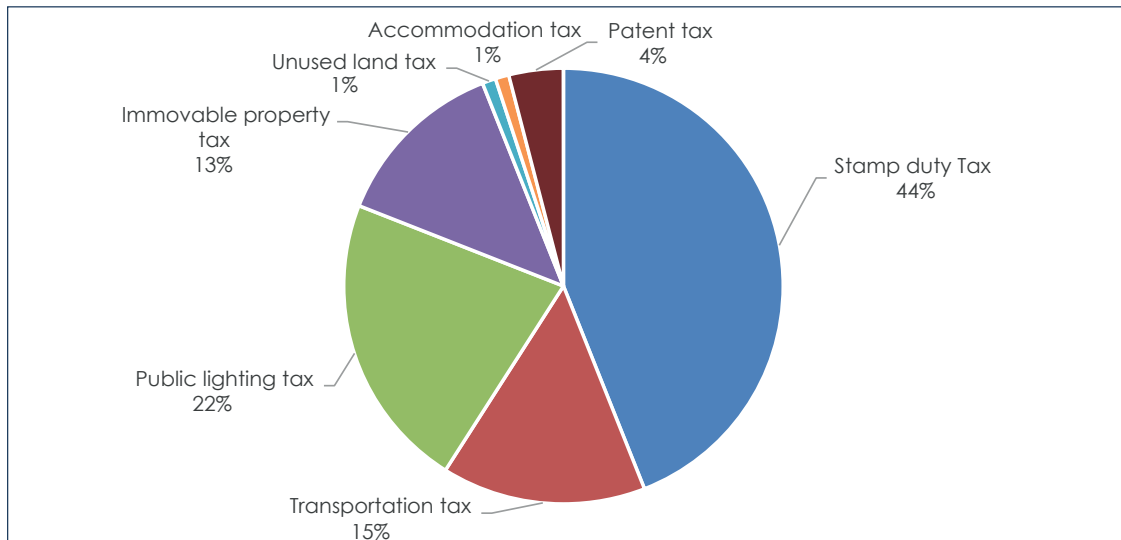
19. As shown in Figure 1.9, Phnom Penh Municipality generates revenues from both local sources and national sources. The local sources include local tax and nontax revenues. Tax revenues constitute 95% of the city's revenue, and in 2017, this revenue is estimated to be 722, 592 million Riels (approx. US\$177.6 million). As illustrated in Figure 1.10, stamp duties constitute about 44% of total tax revenue, followed by public lighting, transport and property taxes. Nontax revenues, estimated at 15,970 million Riels for 2017 (approx. US\$3.9 million), include electricity supply, water supply, fees on state assets, administrative and approval fees and charges of public services. While funding for Sangkats is counted as part of the city's revenue, these funds are allocated per Sangkat and decisions regarding the use of these funds are made by the Sangkat Council, so the Municipality has no say in how the funds are used. While some provinces receive shared revenues from the national budget, Phnom Penh receives no transfers due to the fact that its tax revenues are far greater than any other province. The city may generate other revenues from its public service provision.

Figure 1.9: Phnom Penh Municipality Revenue, 2012-2017 (in Riels)⁷



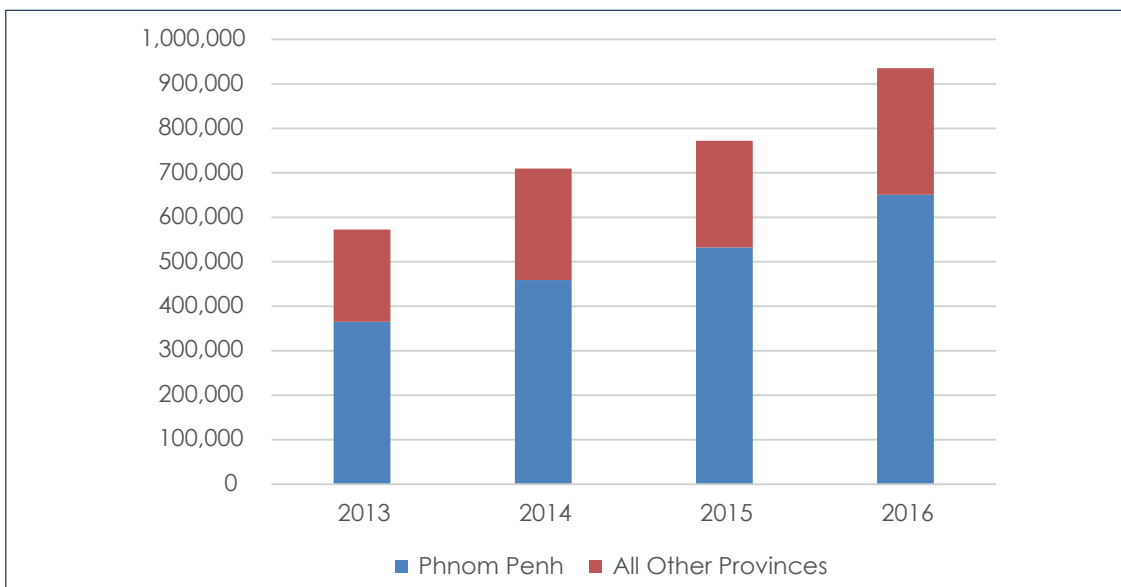
⁷ Data provided by the Ministry of Economy and Finance based on annual budget data submitted by the Phnom Penh Municipality.

Figure 1.10: Breakdown of Estimated Tax Revenue for 2017⁸



20. As illustrated in Figure 1.11, Phnom Penh Municipality generates approximately 70% of the national revenue coming from the sub-national level. This creates a tension between the city and national government as the city's ongoing financial needs are significant, yet the revenue it generates is shared across the country. To achieve its obligatory functions, the city incurs costs to pay for its activities. The city's expenditures include administration costs, obligatory functions, permissive functions and expenditures for performance of other roles and responsibilities.

Figure 1.11: Phnom Penh Revenue Versus All 24 Other Provinces (Million Riels)



⁸ Data also provided by Ministry of Economy and Finance based on annual budget data submitted by the Phnom Penh Municipality

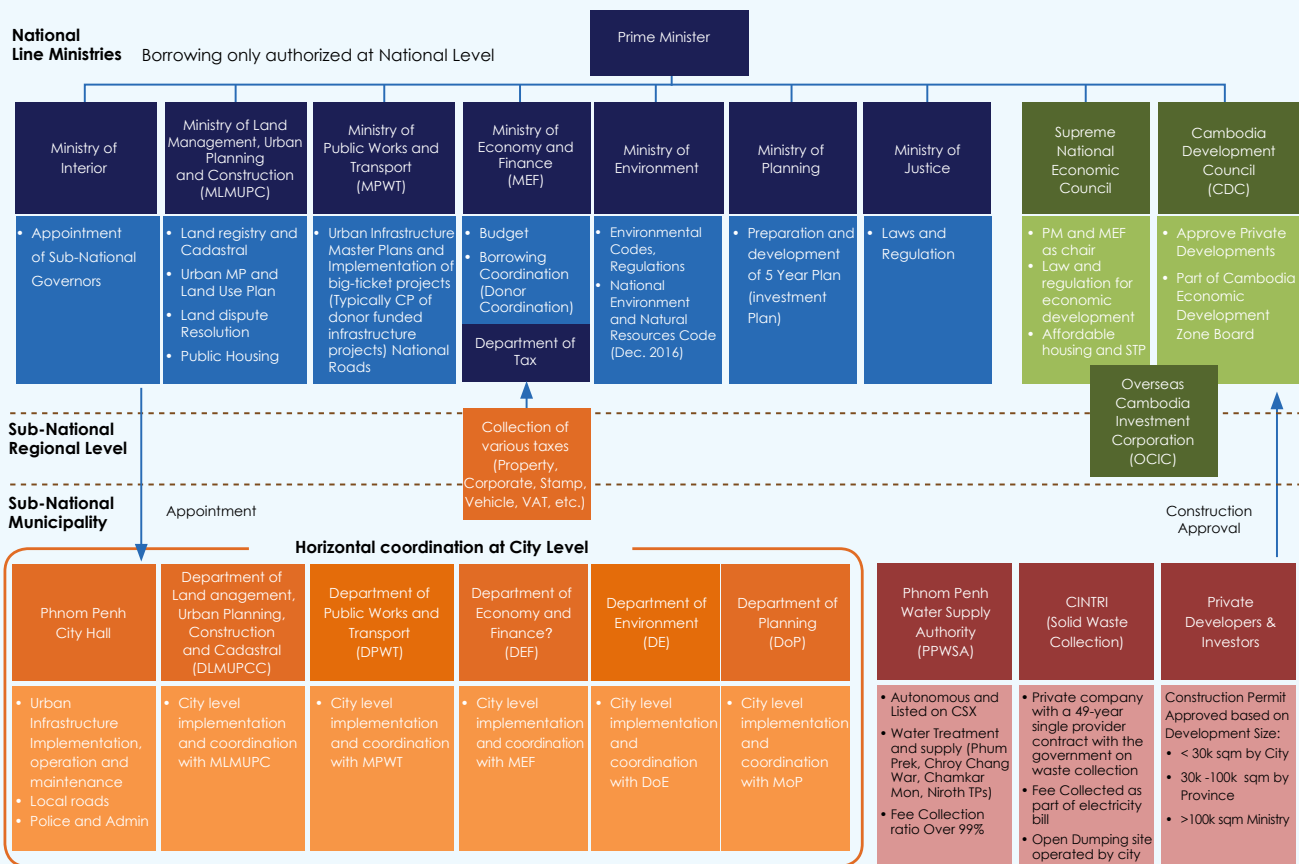
21. As a part of the decentralization reforms, efforts have been underway to link public financing as closely as possible to local needs. The Commune/Sangkat Fund provides funds to every commune and sangkat in the country for community-prioritized infrastructure and service investments. In Phnom Penh, these investments are modest in terms of overall need, and largely used for road and drainage improvements. There is no targeting mechanism for allocating additional funds to sangkats with greater needs such as higher poverty rates. The allocation formula is primarily population based. Districts/khans also receive some portion of the municipal budget, and there are plans within the decentralization reform program to expand the amount of funds allocated through the District/Municipality (DM) Fund from .8% of the national revenue in 2016 to 1% in 2017. As a significant portion of the DM funds are spent on administration, there are also plans to increase the development component of the DM Fund from .23% to .5% of national revenue to increase the amount of funds available to meet local investment needs. In addition, starting in 2017, 30% of property taxes collected can be kept by each sangkat. This is a positive step in the direction of more responsive local government financing, but will place additional demands on the already limited capacity of subnational government.

1.5 STATE OF URBAN PLANNING IN CAMBODIA

22. Urbanization in Cambodia has been largely unplanned and unregulated. While several national and sub-national level laws, frameworks, and plans in relation to urban development and land management exist, institutional fragmentation, as well as weak regulatory and technical capacity, have prevented these from being implemented. Plans are also seen as lagging behind the actual pace of development. While a Phnom Penh Master Plan 2035 has been developed, this remains a broad strategic document without detailed land-use or phasing plans for implementation. Various sectoral master plans and feasibility studies for urban transport, drainage, water supply, sewerage and wastewater treatment have been drawn up by JICA, ADB and other donors, however there is no entity to oversee urban planning and development in a comprehensive manner. Figure 1.12 provides a broad mapping of the various government entities involved in urban planning in the country, including at the different levels of government.

Figure 1.12: Urban Planning and Management in Cambodia

Urban Planning and Management in Cambodia



Source: Based on Mission Findings (Feb 2-10,2017)

1.5.1 Laws, Regulations, and Decrees

23. Policies and laws regarding land management and urbanization is relatively new to Cambodia, dating only back to 2001. Annex Table 1 shows the relevant policy documents, laws, regulations and decrees pertaining to urbanization, urban planning and development.

24. The various administrative levels of government (national, provincial, municipal, and commune levels) have distinct responsibilities for urban, spatial, and land use planning. The different roles, levels of detail in planning, planning cycles, and approval processes across the administrative levels are summarized in Table 1.4. While the framework of planning process exists, the lack of capacity (funding and technical skillsets) is often a bottleneck to developing urban, spatial, and land use plans, especially at the Khan and Sangkat levels. For this reason, urban sectoral master plans are often prepared by donors.

Table 1.4: Description of Urban, Spatial, and Land Use Planning Systems Across Administrative Levels

Level	Description of Plan
National/ Regional	Developed by National Committee on Land Management and Urban Planning, established by Royal Decree under leadership of MLUMPC. To be adopted by Royal Decree. Plan is to have a vision for at least 20 years and will be revised after 10 years (or earlier) through request of the Royal Government.
Capital/ Provincial	Developed by Capital/ Provincial Committee on Land Management and Urban Planning, established by sub-decree, with coordination from Capital/ Provincial Council and approval from the National Committee on Spatial and Urban Planning. Plan is to have a vision for at least 20 years and can be revised every 5 years.
Municipality/District/ Khan	Developed by Municipal/ District/ Khan Committee on Land Management and Urban Planning, established by sub-decree with approval from the Capital/ Provincial Council and adopted by the Chairman of the National Committee on Spatial/ City Planning. Plan is to have a vision for at least 15 years and can be revised every 5 years.
Commune/ Sangkat	Developed by Commune/ Sangkat Council with coordination and technical support from Municipal/ District/ Khan Committee on Land Management and Urban Planning. Plan to be approved by Capital/ Provincial Council through the Capital/ Provincial Committee on Spatial/ City Planning, Plan is to have a vision for 10-15 years, and can be revised every 5 years or based on local development needs and the Commune/ Sangkat investment program.

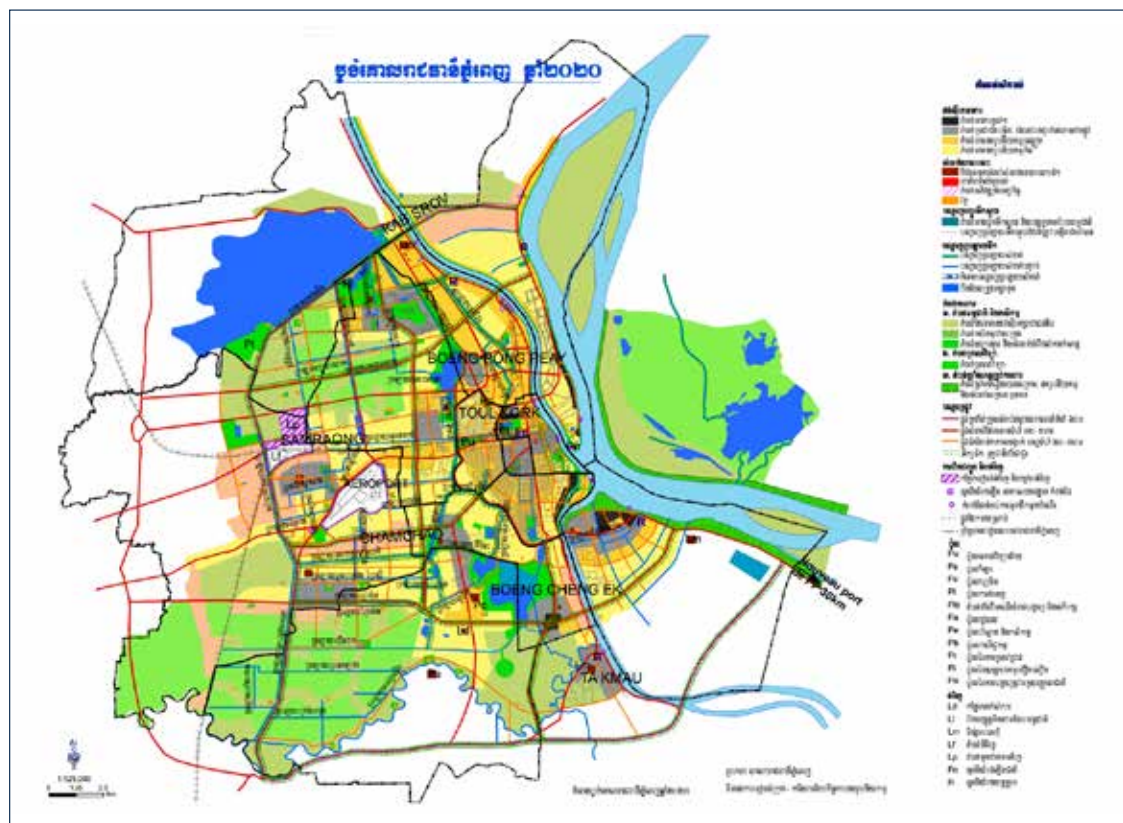
25. **National Level.** At the national level, MLMUPC currently does not have a specific and dedicated Urban Development Policy, however, several important urban policy issues have been incorporated in various documents. In response to the urgent need to address urbanization challenges, MLMUPC has prepared the National Urban Development Strategy Framework (NUDSF) (drafted approved in December 2015) in line with the RS-III and implemented in line with NSDP. The adoption of the strategy is intended to assist and support decision makers, professionals, other stakeholders, and the public by guiding and supporting urban development and its processes at national and sub national levels within the context of the Royal Government's de-concentration and decentralization reforms.⁹

⁹ MLMUPC, National Urban Development Strategy Framework, Draft, 2015.

26. The NUDSF is in line with RS-III which identifies several priority areas for urbanization including lowering transport costs, improving reliability and effectiveness, improving competitiveness, increasing investments in trade (economic and industrial development), and managing environment and climate change issues in order to achieve sustainable economic growth. The NSDP 2014-2018 also recognizes the urgency of urbanization challenges and states that in the five-year life of the NSDP, the Government intends to intensify land reforms, focusing on strengthening the management, organization, utilization and distribution of lands. To achieve the prioritized urban development objectives identified in RS-III and NSDP, the NUDSF sets forth the strategy and framework on the promotion of a comprehensive land policy through the “White Paper on Land” and preparation of the “Law on Land Management and Urban Planning.”

27. **Sub-National (City Level).** At the city level, the Sub-Decree No. 181 SD.E. dated December 23, 2015 endorses the “Implementation of Master Plan for Phnom Penh Land Use” for the target year of 2035 (hereafter referred to as Phnom Penh Master Plan 2035). The Plan, which has been drafted with assistance from the French Bureau of Urban Affairs, serves as a broad strategic document with a broad land use map (Figure 1.13). The priorities set forth in the Master Plan are found in Annex Box 1.

Figure 1.13: Phnom Penh Master Plan 2035 (Land Use Plan)



Source: MLMUPC, National Urban Development Strategy Framework, Draft, 2015

1.6 STATE OF URBAN SERVICE DELIVERY AND KEY URBAN CHALLENGES

1.6.1 Urban Transport in Phnom Penh

28. Rapid motorization has accompanied rapid urbanization in Phnom Penh. Between 1990 and 2012, the number of registered light and heavy vehicles grew from 4,000 to 268,000, and the number of motorcycles from 44,000 to 951,000 (Figure 1.14)¹⁰. This increase has resulted in growing congestion throughout the city. Results from the traffic surveys conducted by JICA in 2001 and 2012 show that travel speeds along major boulevards within the city have decreased from an average of 22.9 km/hour in 2001 to an average of 14.6 km/hour (Figure 1.15).

29. While there is no detailed Urban Master Plan (or Land-use Plan) for Phnom Penh, JICA's Urban Transport Master Plan completed in 2014, proposes a combination of road, traffic management, and public transport interventions, and several donors are currently active in studying or implementing different components of this strategy (Box 1.1).

Figure 1.14: Increase in Vehicles in Phnom Penh Between 1990 and 2012

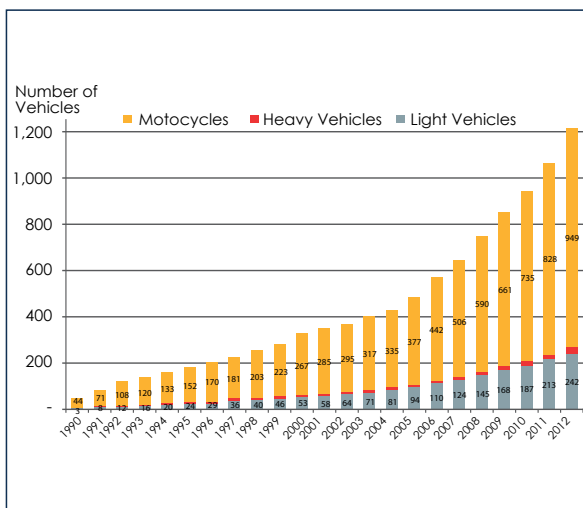
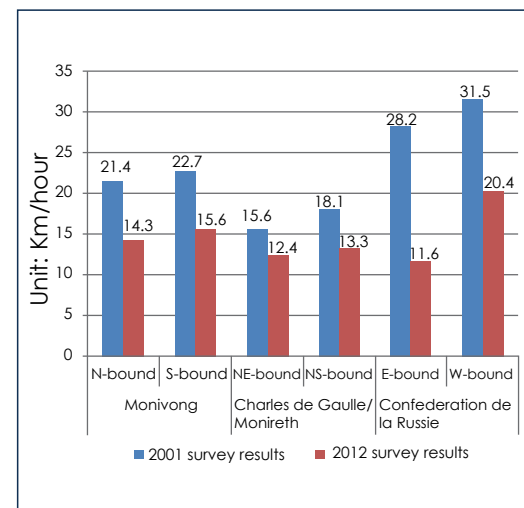


Figure 1.15: Change in Travel Speed Between 2001 and 2012



Source: JICA, 2014. *The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City*

¹⁰ JICA, 2014. *The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City*. Figure is cumulative and does not consider the number of cars that have been scrapped.

Box 1.1: JICA Phnom Penh Urban Transport Master Plan (PPUTMP)

The *Phnom Penh Urban Transport Master Plan (PPUTMP)* assisted by the Japan International Cooperation Agency (JICA) is a comprehensive and integrated transport sector master plan with a target year of 2035. It is the third urban transport plan for Phnom Penh assisted by the JICA, with the first being the *2001 Urban Transport Master Plan in the Phnom Penh Metropolitan Area* (with a target year of 2015) followed by the Improvement Project of Urban Transport in the *Phnom Penh Metropolitan Area (2007-2010)*.

PPUTMP plan involves a thorough analysis of the current urban transport conditions and challenges including the assessment of road networks, traffic management, public transport, regulatory framework, and more. Furthermore, PPUTMP includes a transport model developed based on primary data collected from household interview surveys (trip origin-destination, mode, and reason), cordon-line traffic count surveys, and a base transport network model. Based on the socio-economic trends and land use patterns in Phnom Penh, various urban transport development scenarios for 2035 are explored through the transport model.

PPUTMP concludes with a short list of project recommendations, pre-feasibility studies for priority projects, and a financial and economic analysis of the priority projects. Recommendations include shift to public transport (combination of rail, BRT, and public bus), completion of the radial-ring trunk road network, upgrade of traffic management (including modern traffic management system, parking systems, and high quality pedestrian environments), and institutional capacity building. Several projects identified in the PPUTMP, such as the Public Bus Improvement Project and Modernized Traffic Management Project are already in implementation phase, while others such as the Automated Guideway Transit (AGT) or “sky train” linking Phnom Penh International Airport to the city center are currently under Feasibility Study phase. Furthermore, JICA has ensured stakeholder participation throughout the master planning process.

Source: JICA, 2014. The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City

30. **Road and Traffic Management.** Phnom Penh's road network is comprised of various radial roads leading out of the city center (Monivong, Norodom, Russian, Charles De Gaulle, and Monireth Boulevards) and ring roads (Sihanouk, Mao Tse Toung, Inner Ring Road (IRR) and Outer Ring Road (ORR)). The radial roads connect to connect to the national roads NR1, NR2, NR3, NR4, NR5 and NR6 in the suburban areas. The percentage of paved roads in the central four Khans is 94% while paved roads are only at 27% in suburban areas. Much of the missing links and rehabilitation/ improvement (including paving and widening) works required have been identified in the JICA Transport Master Plans (2001 and 2014) ¹¹, and are being implemented by MPWT and DPWT. Furthermore, a new city bypass to relieve traffic congestion is under construction with funding from China.
31. As new residential development projects in the peripheral areas come to completion, further traffic congestion is anticipated. The capacity of the trunk roads will not be able to accommodate new traffic from the suburban access roads and new traffic bottlenecks are likely to emerge. Furthermore, much of the suburban roads remain unpaved without proper drainage systems, and will require upgrading as traffic volume increases.
32. The number of traffic accidents has also increased with the rise in vehicular ownership. While much of the traffic accidents in Phnom Penh are caused by human error and unsafe driving behavior such as drunk driving and speeding, weak traffic management, weak traffic law enforcements, and lack of driver education contribute to the unfavorable situation. As of January 2013, there were 69 signalized intersections in Phnom Penh with most of them on a fixed time isolated signal system. Additional traffic lights and a modernized traffic management system were installed with the assistance of JICA and China.
33. **Public Transport.** Public transport alternatives have not proven viable in Phnom Penh so far. The JICA transport survey conducted in 2012 showed the most common mode of mobility in Phnom Penh as motorcycle (52%), followed by walking (24%), paratransit (14%), and car (10%). JICA has historically been deeply involved with the public bus sector in Phnom Penh. As part of the Comprehensive Urban Transport Plan in Phnom Penh, JICA piloted an 8.5 km public bus service in 2001 as a social experiment to test the usability and acceptance of such a service. In 2014, MPWT, PPCH and JICA piloted a public bus network with 3 routes (totaling 54 km), however, despite strong public interest in the first month, sustained ridership has been low due to poor traffic conditions, unreliable schedules and the poor quality of buses used.

¹¹ JICA, 2014. The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City.

34. The public bus along the 3 routes is currently managed and operated by the City Bus Authority (CBA), which was established by PGC in 2015. Current ridership is around 8,000 passengers per day, which amounts to 0.3% of total traffic demand. While the fare is set low at an affordable level of 1,500 Riel/trip, approximately 40% of the riders use the bus for free, including key rider groups such as students, monks, elderly and the disabled, limiting the financial sustainability of the service. Currently, the bus fleet is comprised of approximately 100 buses, however, fleet utilization is low at 80% as the second-hand buses require frequent maintenance and repair. The low ridership, unsustainable subsidies, high labor costs due to overstaffing and salary inflation, and weak business expertise make the public bus service a financial and operational burden for the city at a deficit of 1.2 million USD in 2015 ¹².
35. In order to resolve these challenges, a second phase of the public bus operation improvement project is under implementation by JICA. The project, which commenced in early 2017 and to be completed in late 2020, will increase the bus fleet by 180 buses (100 buses from China and 80 buses from Japan), expand the operation to a total of 10 routes (totaling 148 km), while assisting CBA to improve institutional capacity and service quality. Challenges in terms of implementation, relate mostly to issues around securing land for infrastructure (such as bus stops) and promotional activities to increase ridership. Figure 1.16 and Figure 1.17 shows the existing and proposed bus routes.

Figure 1.16: Existing 3 Public Bus Routes



Figure 1.17: Proposed 10 Public Bus Routes



JICA, 2016. *Preparatory Survey Report on the Project for Improvement of Transport Capacity of Public Bus in Phnom Penh*

36. Aside from the expansion of the public bus service, alternative public transport options are being explored by various donors and investors. Agence Française de Développement (AFD) has been studying the feasibility of an urban tram system along the north-south Monivong Boulevard. Private investors, in coordination with

¹² Based on interviews with JICA Expert Team, and JICA, 2016. *Preparatory Survey Report on the Project for Improvement of Transport Capacity of Public Bus in Phnom Penh*.

PPCH, have plans to introduce a water taxi system along the Bassac River, from Takh Mao to the city center. JICA has commenced a feasibility study for a proposed elevated Automated Guideway Transit (AGT) or “sky train” linking Phnom Penh International Airport to the city center ¹³.

37. The two railway lines in Cambodia, the North Line and South Line, which originates from the Phnom Penh terminal station serves a logistics rail line to Poipet (North Line) and to Kampot (South Line). The heavily deteriorated track rehabilitation is currently under implementation with funding from the Asia Development Bank (ADB) and is privately operated by an Australian company. There has been some initial interest in using these line for passenger purposes, however, details have not been explored ¹⁴.
38. **The First-Last Mile Issue and Walkability.** The absence of first- and last-mile connectivity is a major deterring factor to the use of public transport, especially in comparison to the convenience of door-to-door transport available through personal vehicles, motorcycles and paratransit options such as tuk tuks. As a legacy of the French colonial development, many sections of the Phnom Penh Central Business District (CBD) have relatively wide sidewalks (ranging from 2-3 meter sidewalks on local roads to 5 meter sidewalks on major roads). However, most of these sidewalks have largely been co-opted for parking and commercial activities, and pedestrians are often forced to walk on the roadways (Box 1.2). Furthermore, the alternative use of sidewalks has contributed to the deterioration of pavements and uneven surfaces, making it difficult for pedestrians to walk on.

Box 1.2: Current Condition of Sidewalks in Phnom Penh

Phnom Penh's city sidewalks have largely been co-opted for parking and commercial activities.

Left: Parking and commercial activities on the sidewalk force pedestrians to walk on the roadways.

Right: Illegal parking blocking the sidewalk and deteriorating pavements.



Source: Mission Findings (Feb 2-10, 2017)

¹³ Based on interviews with various stakeholders during Mission (February 3-10, 2017).

¹⁴ Based on interviews with various stakeholders during Mission (February 3-10, 2017).

39. While the lack of enforcement of traffic laws and parking regulations is a major factor in the alternative use of sidewalks, the lack of parking supply adds to this challenge. In Phnom Penh CBD, there is currently a shortage of 12,000 parking spaces for motorcycles and another 6,000 spaces for cars¹⁵. The Global Green Growth Institute (GGGI) is currently conducting a parking study in Phnom Penh to further identify the current situation and challenges.
40. Due to the lack of a pedestrian-friendly environment, preference for personal vehicles remains strong in Phnom Penh. The physical walkability (adequate width, even surfaces, appropriate crossings at intersections), safety (street lighting and distinction from roadways), aesthetics (cleanliness and signage) all contribute to an attractive pedestrian environment, which are essential to both the city inhabitants and foreign tourists.

1.6.2 Drainage and Flood Protection in Phnom Penh

41. Situated on the banks of Tonle Sap, Mekong, and Baasac rivers, Phnom Penh and its surrounding areas consist of a typical alluvial and flood plain area for Cambodia. Like many other parts of Cambodia, Phnom Penh is vulnerable to floods – both daily rainy season events as well as episodic larger-scale floodplain events. The lack of a comprehensive drainage management system worsens the impact of these flooding events. In 2011 and 2013, Phnom Penh experienced extreme flooding caused by a combination abnormal level monsoon rains, successive typhoons, and rising water levels in the Mekong River, impacting over 17,000 families in the 2011 floods, and over 3,500 families in the 2013 flood.
42. Phnom Penh is served by a combined drainage and wastewater collection network, which is ill-equipped to meet current demand. The filling in of natural lakes, rivers and streams to make way for hard infrastructure and new developments has reduced the city's ability to rely on natural systems for drainage. Since 1998, JICA grant assistance (Phase 1, Phase 2, and Phase 3) as well as ADB loan projects (2000-2003) has helped to improve flooding in central parts of the city with high density. The four central khans have had significant improvements made to the drainage system and technologies (such as network of drainage channels, sluiceways, pumping stations and retention basins), and are protected from flooding effects by a series of dykes.
43. In contrast, the eight peri-urban khans and outlying areas currently lack a comprehensive drainage and flood protection system and remain at great risk to more frequently occurring flooding. Furthermore, rapid development of large scale satellite cities in the peri-urban areas poses additional challenges. Drainage systems in these satellite cities have not been appropriately planned or constructed according to any unified standards. While the Sub-Decree No.86 regarding construction permits

¹⁵ JICA, 2014. The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City.

and the National Environmental and Natural Resource Code of Cambodia (draft approved in December 2016) require large-scale developers to be responsible for storm-water drainages, enforcement and technical standards for flood prevention infrastructure (such as onsite regulating resources, bio-swales, green spaces, and permeable surface area requirements) are yet to be implemented.¹⁶

44. JICA is currently in the final stage of the “Study on Drainage and Sewerage Improvement Project in Phnom Penh Metropolitan Area” (Draft completed in September 2016). The Master Plan sub-divides Phnom Penh into 27 drainage areas and proposes the primary drainage facilities required, while recommending feasibility studies for secondary and tertiary drainage. Furthermore, the Master Plan identifies the priority areas (sub-catchment areas of Trabek, Wat Phomn North, and City Core North) for the Phase 4 grant aid assistance.

1.6.3 Sewerage and Wastewater Treatment in Phnom Penh

45. Currently, there is no formal wastewater treatment system in Phnom Penh. Sewage and other wastewater from households, commercial enterprises and industries combines with rainwater in a series of covered and open canals, which then flow into the city's rivers, lakes and wetlands . The poor (or lack of) drainage and water treatment infrastructure and the lack of appropriate regulation and enforcement has resulted in the build-up of raw sewage in water bodies. The conditions pose a threat to the urban environment, particularly for residents in low-income areas around canals and lakes.
46. The urgency of the development of a modern Wastewater and Sewerage Treatment Plant (STP) at Cheong Aek area and installation of sewage system has been identified in JICA's *Study on Drainage and Sewerage Improvement Project in Phnom Penh Metropolitan Area* with various on-site and off-site sewerage treatment options explored. The urgency of wastewater treatment in Phnom Penh has further been reiterated in the GGGI “Phnom Penh Green City Strategic Plan 2017-2026” which includes the development of a Water Pollution Control Fund for manufacturers in its proposed long list of green projects.
47. While various donor assisted studies have addressed the urgent need of wastewater and sewerage treatment in Phnom Penh, limited progress has been made in the provision for funding wastewater treatment. The absence of regulation and enforcement has been a major bottleneck, and the formulation and adoption of a Wastewater Management Law by MPWT or MoE in the immediate future is critical. Furthermore, there is a high priority in establishing guidelines for sewerage and drainage management in large-scale development areas as growth in large-scale satellite cities exceeds the treatment capacities of the city¹⁸.

¹⁶ Global Green Growth Institute, 2016. Phnom Penh Green City Strategic Plan 2017-2026.

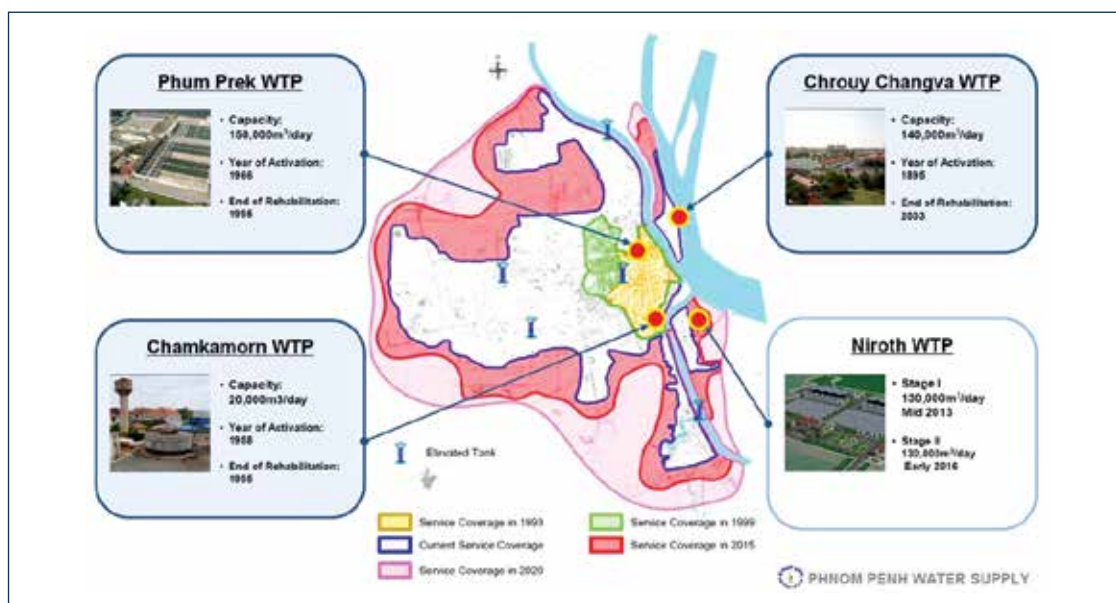
¹⁷ Sahmakum Teang Tnaut, 2012. Phnom Penh: City of Water.

¹⁸ JICA, 2017. Study on Drainage and Sewerage Improvement Project in Phnom Penh Metropolitan Area.

1.6.4 Water Supply in Phnom Penh

48. The provision of potable water supply services in Phnom Penh, is one of the few sectors which has experienced success. The Phnom Penh Water Supply Authority (PPWSA) was founded in 1895 and gained autonomy in 1997. With three phases of sub-sovereign financing from donors including JICA and AFD, the four Water Treatment Plants (WTP) in Phum Prek, Chroy Chang War, Chamkar Mon, and Niroth, as well as the extensive distribution network supplies potable water to the whole city of Phnom Penh (Figure 1.18).

Figure 1.18: Water Treatment Plants in Phnom Penh

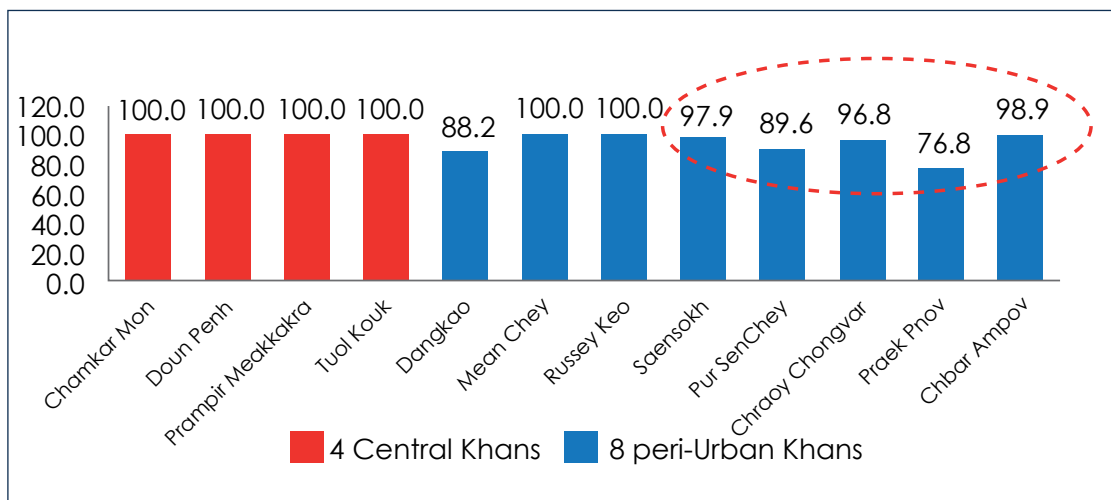


Source: Phnom Penh Water Supply Authority Website

49. Through the commitment of leaders as well as the empowerment from the autonomy, operation of PPWSA is healthy, with a profit margin ranging between 25-26% and a fee collection ratio above 99%. Customers are able to pay their water bill through designated payment towers (located in convenient areas within the city), mobile or bank cashiers (customers cannot make direct cash payments to meter collectors in order to mitigate corruption). 8-10% of the fees collected are pooled to PPCH and budgeted to drainage and sewerage operation. While water supply has been relatively successful Phnom Penh, expansion of the distribution network is required to service new developments in the peri-urban area which still lack access to clean water supply, as shown in Figure 1.19. However, changes in accessibility to sub-sovereign financing (now financing goes through the Ministry) has caused delay in project implementation.¹⁹

¹⁹ Based on interviews with various stakeholders during Mission (February 3-10, 2017).

Figure 1.19: Families Accessing Clean Water in Phnom Penh (%)

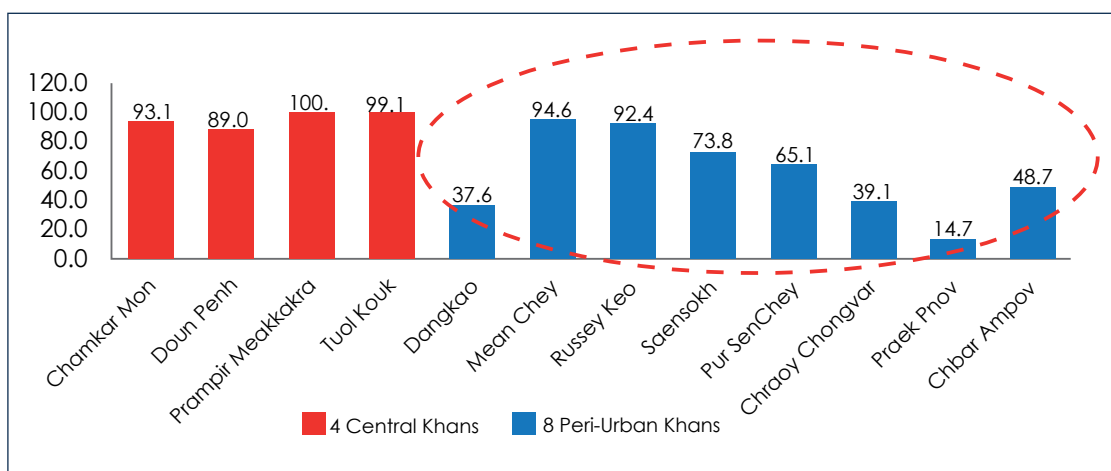


Source: Phnom Penh Profile On Economic and Social in Year 2016

1.6.5 Solid Waste Management in Phnom Penh

50. **Waste Collection.** Solid waste collection services in Phnom Penh are managed solely by a local private company, CINTRI, which has a 49-year single provider contract with the government. Discussions are under way between the government and CINTRI to break its contract into pieces to allow districts to directly finance waste management, however this is proving difficult. Fees are collected as part of residents' electricity bills however, collection coverage is uneven due to traffic congestion, labor problems and the continued growth of the city. An estimated 100-200 tons of solid waste remain uncollected in Phnom Penh every day. In areas underserved or not served by waste collection services, residents burn or bury waste, or dispose of it on open roads or in waterways. Disposal of waste into waterways further exacerbates the issues faced in drainage and flood protection.

Figure 1.20: Families Using Waste Collection Services (%)



Source: Phnom Penh Profile On Economic and Social in Year 2016

51. **Waste Treatment and Final Disposal.** Furthermore, the city lacks adequate waste disposal sites. In 2009, the new 31-hectare Dangkao landfill in Phnom Penh opened with a designed lifespan of 25 years. However, just after 5 years of operation, the first phase comprised of 14 hectares had been filled. The second phase comprised of 17 hectares has been in operation since 2015, however, current projections suggest that the remaining capacity of the landfill is only sufficient for five more years, achieving less than half of its planned lifespan. The city is struggling to keep up with the volume (and composition) of waste deposited every day, which has significantly increased from approximately 800 tons per day in 2009 to 1,475 tons per day in 2014 (with some forecasts estimating that this will increase to 2,200 tons per day by 2020)²¹. Currently, consideration is being given to reforming the existing framework for solid waste management, including the sole provider contract. However, it is further important to address measures to decrease the volume of waste entering the landfill, including measures such as 3R (reduce, reuse, and recycle) and intermediate waste treatment such as composting, waste-to-energy, and incineration.

1.6.6 Housing Supply and Real Estate Development

52. Rapid urbanization and the influx of Foreign Direct Investments (FDI) has led to real estate development in Phnom Penh. Large scale private sector developments such as the Platinum City Project, Diamond City Project, Camko City Project, and the Grand Phnom Penh Project, have significantly increased housing and commercial real estate supply to the market (Figure 1.21). With a strong growth in credit to mortgage subsector in the last few years, housing demand has also increased.



Figure 1.21: Large Scale Developments in Phnom Penh



Source: JICA, 2014. *The Project for Comprehensive Urban Transport Plan in Phnom Penh Capital City*

		Location	Area (ha)	Use	Progress	Project Owner
1	Boueng Kok	Srah Chak in Doun Penh	133	Commercial and Office, Residential (40,000)	Under construction	Sukaco
2	Diamond City	Tonle Basak in Chamkar Mon	80	Commercial and Office, Residential (5,000)	Under construction	Canadian Bank
3	Camko City	Phnom Penh Thmey in Saen Sokh	119	Residential (10,000)	On Sales partially and Under Construction	World City
4	Grand Phnom Penh	Khmounth in Saen Sokh	233	Commercial and Office, Residential (12,000)	On Sales partially and Under Construction	YLP & Ciputra
5	Chrouy Changva	Chrouy Changva in Ruessei Kaev	14	Commercial Residential	Under Construction	Soximex
6	Satellite City	Preaek Lieb, Preaek Ta Sek in Ruessei Kaev	380	Residential (40,000)	Under planning	OCIC
7	Boeung Chuuk	Nirouth in Mean Chey	238	Residential (2,000)	Under Planning	Soximex
8	Green City	Chak Angra Leu, Chak Angra Kraom in Mean Chey, Dangkao, Cheung Aek, Preaek Kampis in Dangkao	2634	Residential (200,000)	Under Planning	AZ
9	Pratinum City	Nirouth in Mean Chey	80	Residential (6,000)	On Sales partially and Under Construction	Borey Peng Huoth

22 Based on interviews with various stakeholders during Mission (February 3-10, 2017).

53. In Phnom Penh, developers and contractors require a construction permit from the relevant agency subject to the size of the development (PPHC for developments under 30,000 square meters, Provincial Government for developments between 30,000 to 100,000 square meters, and MLMUPC for developments larger than 100,000 square meters) in order to proceed. Land ownership is checked as part of the approval procedure, however, there is no consideration given to land use or compliance with the city's Master Plan. As there is little coordination with other infrastructure agencies or departments, impacts and mitigation measures of new developments on the city's infrastructure such as traffic, public space, drainage and wastewater treatment, are not factored in. Large scale new developments are required to provide their own septic tanks and drainage infrastructure, however, no technical standards or requirements for such infrastructure are imposed or enforced²².
54. Cambodia has recognized the lack of affordable housing as a problem, and has released the National Housing Policy (2014), which states that all citizens have the right to adequate housing, and provides options to ensure land tenure and security. The policy aims to provide low- and medium-income households and vulnerable groups with access to decent housing, however, implementation has been slow and many urban poor and slums remain exposed to vulnerable conditions (discussed below).

1.7 SUSTAINABILITY AND INEQUALITY

1.7.1 Key Issues of Sustainability

55. In line with the Royal Government's Rectangular Strategy for Growth, Employment, Equity and Efficiency, Phase III (RS-III) which identifies the importance of environmental and climate change issues in achieving sustainable economic growth, the Royal Government of Cambodia has endorsed green growth principles in the past few years. The National Green Growth Roadmap, established in 2010, has set a path for green growth in Cambodia, and the development of green and sustainable cities has become a key policy priority for the Department of Green Economy of the National Council for Sustainable Development (NCSD) of the Ministry of Environment (MoE)²³.
56. In this context, NCSD, MoE and PPCH, with the support of the Global Green Growth Institute (GGGI), developed the Phnom Penh Green City Strategic Plan 2017-2026 in 2016. The plan addresses the various urban service delivery challenges of Phnom Penh discussed in the previous sections through the lens of environmental sustainability and green growth. The 2017-2026 Plan proposes a long list of potential green projects in urban planning, urban vulnerability (including sanitation, flood protection, environmental safeguards), energy, transport, built environment, manufacturing,

22 Based on interviews with various stakeholders during Mission (February 3-10, 2017).

23 The Green Growth roadmap was established with the support of United Nations Economic and Social Commission for Asia and the National Policy on Green Growth approved by the Council of Ministers in 2013

24 The Phnom Penh Urban Poor Community Need Assessment Report, December 2012, Phnom Penh Capital.

solid waste management, public spaces, and cultural heritage. Currently, the Plan is pending technical review by the Technical Working Group (TWG) on Sustainable Cities, established under the NCSD. The TWG includes representative from PPCH and the 12 Khans of Phnom Penh. Following the technical review, the TWG will seek endorsement by the Minister of Environment on behalf of the NCSD, and thereafter, the government may make a decision on whether to establish a sub-decree (or Prakas) on the implementation arrangements outlined in the Plan. In the interim, donor/NGO-led actions are being taken on particular sub-sectors as detailed in Section 1.6.

1.7.2 Urban Poor and Vulnerable Areas

57. To ensure that urbanization is inclusive and does not leave disadvantaged people behind, efforts to identify and provide targeted support to the poorest, most vulnerable residents are needed. There are two primary classifications for identifying poor and vulnerable households in Phnom Penh: (a) ID Poor; and (b) Urban Poor. "ID Poor" is a national poverty assessment methodology used to identify poor households for delivering targeted assistance programs to those who most need it. The terms "Urban Poor," "Urban Poor Communities," (UPCs) as well as "Urban Poor Settlements" have been used somewhat interchangeably to refer to communities that are largely informal, or resettled from informal areas. PPCH uses 11 different codes for identifying where urban poor communities are located, including on: public and state land (railways, road side, sewage pipe, lake, river bank, roof of old buildings, pagoda, stupa), private land owned by the state, community land, private land, areas the government relocated, and private lands the government or communities rent²⁴.

Box 1.3: Urban Poor and Slums in Phnom Penh

Urban poor and slums remain exposed to unsanitary and vulnerable conditions.

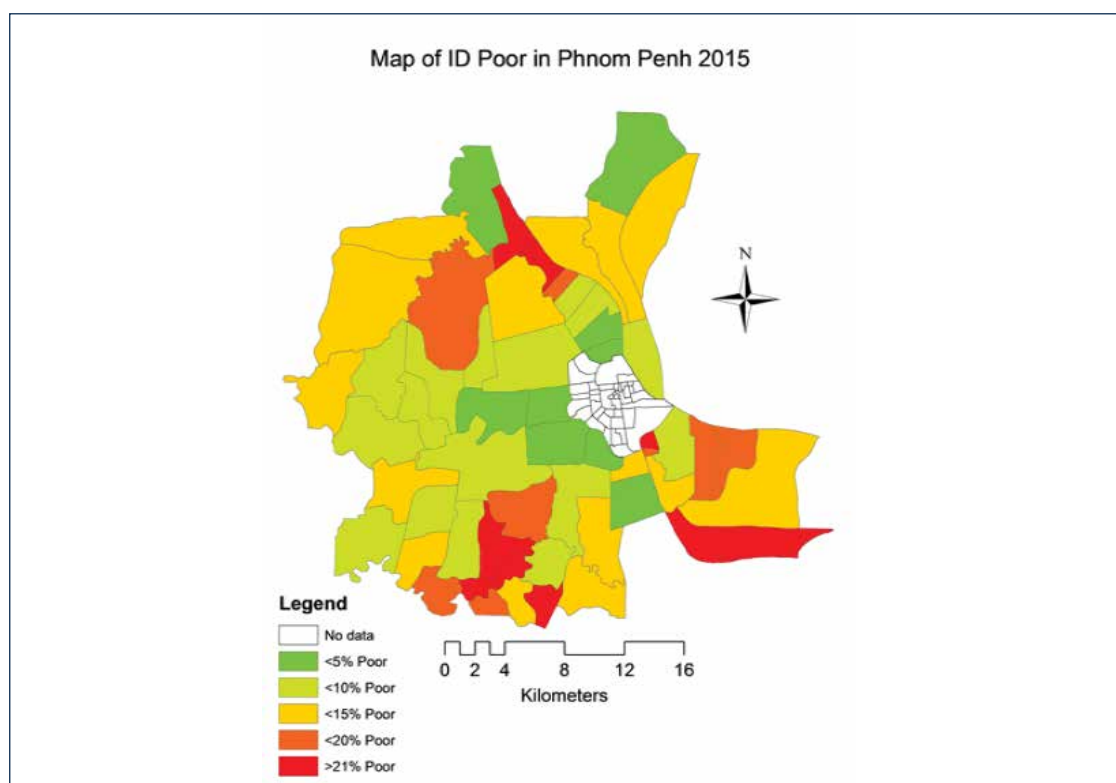


Source: Mission Findings (April 4-7, 2017)

24 The Phnom Penh Urban Poor Community Need Assessment Report, December 2012, Phnom Penh Capital.

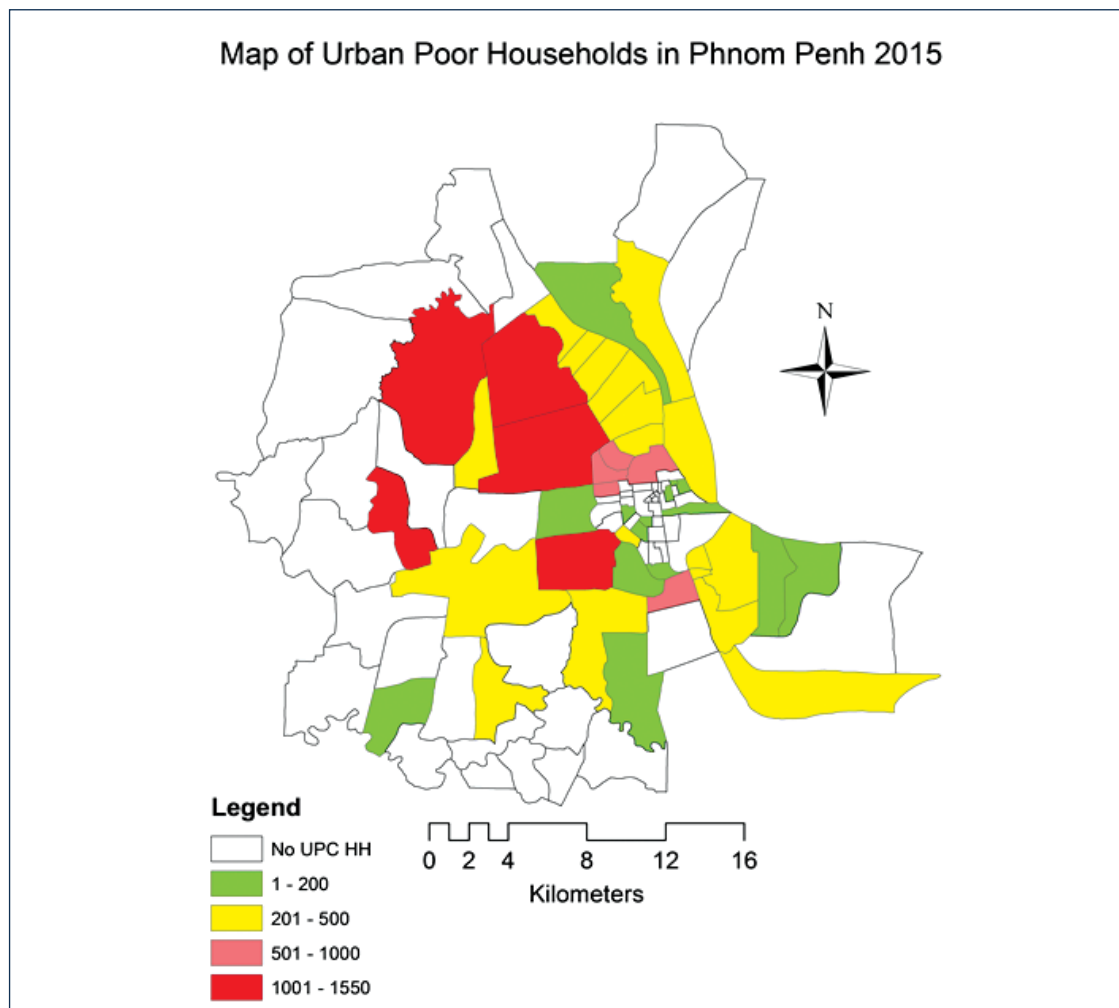
58. Figure 1.22 shows where most ID Poor households are located. According to the 2015 ID Poor Assessment for Phnom Penh, the citywide average poverty rate was 9.9%. As seen on the map, data has not yet been collected for the four central/downtown khans. A pilot is currently being implemented to test a new ID Poor methodology for urban areas which aims to better capture the urban dimensions of poverty, as the current methodology is oriented towards rural economic activity such as agriculture, fishing and natural resources. At the moment, households in the four central khans are not able to access special support related to ID Poor classification due to the absence of a methodology.
59. The Sangkats highlighted in red, orange and yellow have ID Poor rates that are above the city average. These Sangkats are largely clustered in the north, south and eastern periphery of the city. While such analysis has yet to be undertaken, it may be that the western Sangkats are less poor as this is the corridor from downtown to the airport where many businesses are located, including garment factories and large residential and business real estate projects which have been under construction in recent years. While the connection between residential and job/income generation opportunity locations is uncertain in this case, it does highlight the need for PPCH to pay attention to the importance of infrastructure connections, particularly for poor, peri-urban areas that may face difficulties accessing economic opportunities. Convenient and affordable public transportation is an essential element to addressing such challenges.

Figure 1.22: Breakdown of ID Poor Households by Sangkat



60. Figure 1.22 shows where the largest numbers of Urban Poor Community (UPC) households are located. As the map indicates, UPCs are scattered across a wide area of the city. According to the list maintained by PPCH, there are currently 215 UPCs in the city with 17,462 households. This is down from 281 identified in the 2012 PPCH survey. The number of UPCs has been dropping over the years, largely as a result of either the relocation of households from public land such as railways and canals to areas with land security, or through the formalization of informal settlements by incorporation into existing villages or the registration of new villages. There is also a shift in the concentration of UPCs from the central khans to the outer, peripheral khans. The reorganization and reduction of UPCs has been a deliberate effort of PPCH, initiated by the Prime Minister in 2000, to address the problem of informal settlements in the city. The effort is spearheaded by a special Poor Community Development Office within the Planning and Investment Division of PPCH.

Figure 1.23: Map of Urban Poor Households in Phnom Penh, 2015



61. Several studies have been undertaken to assess the conditions in UPCs and to identify the needs of their residents. These studies have found that UPCs are generally characterized by poor quality housing, infrastructure gaps (i.e. water supply and waste collection), low skill, low pay jobs, and, of course, lack of land tenure. There is also a disparity between the central and outer khans in terms of service delivery. A 2013 study found that 72% of UPCs in outer khans had no waste collection, whereas 82% of inner/central khans had some form of collection. It was also found that 58% of outer khans had no drainage while only 6% of the inner khans were without drainage²⁵.
62. Another significant challenge for UPC households is the informal nature of many of the income-generating opportunities. As the 2012 PPCH survey revealed, nearly half of the jobs occupied by UPC household members (43.6%) are either construction jobs (mainly men) or factory jobs (mainly women). While these jobs usually provide regular income, pay is typically low and job security may be low as well since employers may have different needs on different days. The more stable positions which can be found in other public and private sector organizations is more limited, at 14.5%.
63. PPCH's efforts to address the needs of UPCs is aided by support from a range of international agencies that are providing a range of support including access to finance, job training, education and health service improvements.

Table 1.5: Occupation or main sources of income for people living in UPCs ²⁶

Type of Job	Percent of households
Factory/construction worker	43.6
Vendor in community	27.8
Motor taxi driver	22.6
Employee in private/public sector	14.5
Rubbish collector	7.3
Service and labor	6.0
Family handicraft	3.1
Entertainment services	2.6
Agricultural worker	1.9
Others	9.8

²⁵ Sahmakum Teang Tnaut, February 2014, The Phnom Penh Survey: A Study on Urban Poor Settlements in Phnom Penh"

²⁶ 2012, Phnom Penh Urban Poor Assessment, PPCH.

SECTION 2

UNDERLYING CONSTRAINTS TO EFFICIENT URBANIZATION

2.1 INTRODUCTION

64. Phnom Penh's transformation from a city ravaged by conflict and instability to a center of rapid urbanization and economic development has been remarkable. Yet, typical of other fast-growing Asian cities like Jakarta and Bangkok in the 1970s and 80s, the city's growth and development has been largely unplanned, and is placing increasing strain on the city's infrastructure. Rapid in-migration and low capacity for urban planning and enforcement, coupled with real estate investment and development, pose challenges for sustainable urban development in Phnom Penh. Three key underlying constraints to developing a more efficient, sustainable urbanization path in the city have been identified and are discussed below: lack of clarity in roles and responsibilities, poor implementation of plans and limitations in institutional capacity, and unsustainable financing.

2.2 LACK OF CLARITY OF ROLES AND RESPONSIBILITIES

65. Urban development is by nature a multi-sectoral process. A lack of coordination in developing and implementing urban plans can affect the quality of such plans, result in major gaps or overlaps, and ultimately strain urban infrastructure and create a less livable urban environment. In Phnom Penh, urban development coordination remains a challenge at both the vertical level -- within Ministries, their line departments and Phnom Penh City Hall (PPCH), and at the horizontal level, between various line Ministries and agencies.

66. **National vs. City-Level Roles.** Cambodia has gradually implemented its policy of decentralization since 2005, when the National Strategic Framework for De-concentration and Decentralization (D&D) was formally adopted by the Council of Ministers. While the centralized system remains the core of day-to-day management and administration, key roles and responsibilities are systematically being delegated to lower levels of government. More effective and efficient delivery of public services was a key objective of the D&D policies, with sub-national councils, such as Municipal, Provincial, khan and commune councils, given ownership of functions and resources (including staff and financial means) to respond to local needs. Across Cambodia, 80 percent of civil servants are now estimated to be in decentralized locations²⁸.

27 Ministry of Land, Infrastructure, Tourism and Transport, 2016. *An Overview of Spatial Policy in Asian and European Countries*. (https://www.mlit.go.jp/kokudokeikaku/international/spw/general/cambodia/index_e.html; accessed March 20, 2017)

28 Lepain, Jean-Marc. 2011. "Decentralization and Deconcentration in Cambodia: Progress and Issues. August 2011." (<https://www.slideshare.net/JeanMarcLepain/cambodia-decentralization-and-deconcentration-progress-and-issues-august-2011>; accessed April 26, 2017)

67. Signaling commitment to granting the capital more autonomy, Prime Minister Hun Sen announced in 2010 that “Phnom Penh City Hall is the main player to rebuild and develop Phnom Penh city” (Sen, 2010, quoted in Paling, 2012). Phnom Penh municipality has reportedly experienced greater levels of political and financial autonomy since the decentralization reforms, but relationships between ministries, institutions and departments at various levels remains unclear, largely due to a delay in the transfer of power and functions from key national ministries to sub-national institutions. Current budget practices, for example, do not allow for a distinction between revenues at the provincial and central levels, with an estimated 75 to 80 percent of revenues recorded centrally. The current Law on Public Finance System also appears to run counter to the intent of the D&D reforms, retaining a centralized approach to the preparation and approval of sub-national budgets. In addition, provincial- and municipal-level budgets are still considered as belonging to the state budget; there are no provisions for these budgets to be managed by sub-national entities.
68. A lack of clarity over reporting lines, financing and responsibilities has implications on the implementation of urban development plans. Currently, new developments in Phnom Penh only require approval in the form of a building permit. For developments of less than 3,000 square meters in total floor area, approval is sought from PPCH, while larger developments are approved by MLUMPC. Given these separate approval processes, a development can be approved at the Ministry-level without consultation or involvement of relevant city-level authorities. This leaves little scope for PPCH to guide or stipulate the size, form and location of developments beyond a specific floor area, giving rise to urban developments that are not necessarily suited to their surrounding land use contexts, or which are not appropriate given existing infrastructure constraints. Any large foreign investment projects will also necessarily involve the Council for the Development of Cambodia (CDC), a national authority which promotes and facilitates investment, and which serves as a one-step service center for overseas investors. While CDC’s approval process technically includes working with the relevant line Ministries and agencies to approve required plans and studies, including building plans and Environmental Impact Assessments (EIAs), anecdotal evidence suggests that these procedures are not closely followed. As discussed in Section 2.2.2, a lack of coordination in approving and phasing developments in line with infrastructure capacity also has a negative impact on the existing urban environment.
69. **Lack of Sectoral Coordination.** At the planning level, sectoral coordination is necessary to ensure that urban plans are developed to accommodate the range of demands that any city has. Land is to be set aside to meet a variety of needs, including industrial, commercial, civic, residential and recreational uses, as well as key infrastructure such as airports and roads. In integrated land use planning, the demand for specific land uses, amenities and services is typically determined by respective line Ministries in an iterative, consultative planning process to ensure that the resultant land use plan has taken different, sometimes competing, needs into account.

70. Cambodia adopts two distinct planning systems, one for socio-economic development planning, overseen by the Ministry of Planning (MoP), and another for physical planning, overseen by MLMUPC. Socio-economic development planning is carried out at national and sub-national levels and is considered a generally more well-established process, whereas spatial planning appears to lag behind. As described in Section 1.5.2, the National Strategic Development Plan (NSDP) 2014-2018 defines how the government's overarching Rectangular Strategy Phase III is to be implemented. The plan covers a broad set of socio-economic factors and makes recommendations for each, including sector-specific economic growth, financial sector reform, climate change adaptation, poverty reduction, gender equality and universal education. However, the relationship between the two planning systems is not well-established. Recommendations for implementation of economic development plans, for instance, lack corresponding spatial plans to establish and safeguard land for identified economic sectors. This is evident in Phnom Penh, where the seemingly arbitrary placement of factories amidst residential zones, and the emergence of informal settlements around factories, reflect a lack of coordination between projected socio-economic needs and goals and the spatial plans required to realize them.
71. At the *implementation* level, a lack of coordination among departments and agencies results in infrastructure being unable to keep pace with development. As discussed in Section 1.6, urban service delivery in Phnom Penh has been hampered by poorly maintained or inadequate infrastructure such as roads and drainage systems. With the relaxation of building height regulations to encourage denser, more efficient urban forms²⁹, it is now estimated that more than 600 buildings over 5 stories in height have received construction approval in Phnom Penh³⁰. Denser urban developments have not, however, been accompanied by a corresponding increase in infrastructure capacity. It is common, for example, to find medium- and high-rise buildings directly fronting two-lane roads, which are not wide enough to accommodate the increased traffic flow. Without coordinated improvement or replacement of infrastructure, the city's basic service networks cannot cope with the increase in people and uses that higher-rise buildings and new multi-use developments entail.
72. The continued infilling of waterbodies in Phnom Penh – lakes, wetlands, streams and ponds – is another practice that takes place in absence of a coordinated sectoral approach. To create land that is legally and physically buildable, bodies of water that make up the city's natural drainage network have gradually been filled and replaced with hard urban surfaces³¹. This practice of infilling exacerbates the city's existing drainage problems, and appears to take place without full consideration of the environmental impacts, effects on at-risk flood areas, or of mitigation measures required for the city to cope with man-made changes to its drainage systems.

29 Building and Construction Authority, 2013. Cambodia Country Report – Focus on Construction Sector. (<https://www.bca.gov.sg/ExportServices/others/CambodiaCountryReport.pdf>; accessed March 22, 2017)

30 Team findings.

31 Doyle, Shelby. 2012. Phnom Penh, City of Water. Cambodia: Sahmakum Teang Tnaut.

Box 2.1 Coordination Challenges in Provision of Public Transport

Congestion on the streets of Phnom Penh – a result of the city's growing population, rapid motorization and over-strained infrastructure – costs the city an estimated US\$6 million per month³². While the city has made attempts to introduce public transport to reduce congestion and improve mobility for residents, these have not met with success. Section 1.6 discusses the state of public transport in greater detail.

A public bus network, introduced in 2014 after an earlier attempt in 2001 ended because of low ridership, is currently the only form of public transport within the city. The 3-route network is operated at a loss of approximately US\$100,000 each month, again suffering from low rates of ridership (JICA). Reasons for this include poor traffic conditions, inadequate first- and last-mile connectivity, unreliable schedules and the poor quality of buses used. Travel by motorcycle, car or tuk tuk is preferred as these remain far more convenient ways to move around the city.

Well-utilized public transport systems are necessary for cities to thrive. These involve not only the physical provision of infrastructure and the planning of transport routes, but close linkage to broader policies and strategies on transportation and vehicle demand management, as well as coordination with land use and infrastructure planning. In the case of Phnom Penh, the City Bus Authority (CBA) was established as a department within PPCH to oversee the operation of Phnom Penh's bus network. However, there appears to be little coordination between CBA and other departments at the city- (i.e. within PPCH) or national-level (e.g. MPWT, MLMUPC) to improve the provision of bus services. The introduction, for instance, of dedicated bus lanes, could go far in improving service reliability, and would make bus travel more efficient than that by other forms of transport. Given constraints in terms of land availability for road widening, the bus lanes could be operational only during peak hours, outside of which access to all other vehicles could be allowed.

The public bus system has also been introduced without any parallel measures to curb the rapid pace of motorization. Cities such as Kuala Lumpur and Bangkok have seen public transport become stigmatized as a last resort mode of transport, as motorization had reached relatively high levels before any substantial mass transit systems were introduced³³. In contrast, Hong Kong and Singapore were able to build a high public transport mode share by deliberately controlling the pace of motorization with vehicle demand measures. Consideration of such measures, whether as city-wide or national policies, would go far in encouraging the use of public transport, reducing congestion and improving the urban environment.

32 Sotheary, Pech and Mom Kunther, 2015. "Congestion costing \$6 million a month." Phnom Penh Post (<http://www.phnompenhpost.com/national/congestion-costing-6-million-month>; accessed online April 20, 2017)

33 Barter, Paul, Jeff Kenworthy and Felix Laube, 2003. "Lessons from Asia on Sustainable Urban Transport" in Low, N.P. and Gleeson, B.J. (eds.) *Making Urban Transport Sustainable*. Basingstoke UK: Palgrave Macmillan



Public Buses in Downtown Phnom Penh (Source: Mission Findings February 2017)

2.3 POOR IMPLEMENTATION OF PLANS AND LIMITED INSTITUTIONAL CAPACITY

73. The planning system in Cambodia appears to have no shortage of frameworks and guidance for how one plan feeds into another across different administrative levels (see Section 1.5). However, the implementation of what seems to be a highly developed system in reality is less structured and coordinated, resulting in a degree of informality in planning and development. More comprehensive urban planning, as well as the enforcement of urban regulatory reforms, are required to ensure more sustainable urbanization.
74. Furthermore, the capacity to implement such plans and enforce regulations is weak at the local level. While capacity in the line ministries appears involved in urban development appears to be relatively well-equipped to carry out tasks of coordinating national programs and developing rules and regulations³⁴, the capacity at the local level is substantially weaker. Provincial and municipal agencies of the respective line ministries' agencies are generally understaffed and under-equipped. In terms of urban planning, a key reason cited for the lack of a detailed land use plan is the lack of technically-trained staff available to devise the plan. PPCH employs a total of 50 urban planners, and local authorities commonly raised the lack of technical urban planning expertise as a challenge to implementing urban development plans.
75. **Strategic Plans vs. Detailed Land Use Plans.** One of the most significant constraints to implementation of urban plans in Phnom Penh is that the city currently lacks a detailed land use plan to guide spatial development. A strategic 2035 Phnom Penh Master Plan exists, but this remains a broad-level document with no influence over spatial growth and land uses within the city. In absence of a plan to guide developments, urban growth in Phnom Penh continues to be haphazard, often taking place without alignment to a land use vision, and without the necessary supporting infrastructure improvements. Detailed sectoral plans have been developed by agencies such as JICA, and implementation of some infrastructure has followed these closely. A cohesive land use plan that integrates infrastructure requirements, however, is missing. In addition, while the Master Plan indicates a time

³⁴ Asian Development Bank, 2012. Cambodia Urban Sector Assessment, Strategy and Road Map. Manila: Asian Development Bank.

horizon up to 2035, the plan was prepared based on projections only up to 2020³⁵. As such, even without being translated into a detailed plan, the strategic plan will soon be outdated.

Box 2.2 Phnom Penh Master Plan 2035

The Phnom Penh Master Plan 2035, completed with the assistance of the French government and approved in 2015, consists of both a broad land use plan for the city and a written Strategic Development Plan. The Master Plan establishes a vision of Phnom Penh as the nation's sustainable, equitable and inclusive capital city, and lays out the need for multi-sectoral infrastructure and basic service delivery improvements, a more comprehensive public space network, building code amendments and new policies relating to land and housing. The plan envisions Phnom Penh as a multi-polar city, with the historic core linked to secondary centers through restored waterways and green corridors, paying homage to pre-war Phnom Penh³⁶. The objectives of the Master Plan are far-reaching, and include enhancing the standard of living for Phnom Penh residents, guiding land use to ensure efficient and effective use of resources, and preventing against natural disasters.

Though officially approved in 2015, the Master Plan has not been translated into a detailed land use plan, and its impact on urban development in Phnom Penh remains to be seen. Some steps have been taken towards creating a framework for implementing the Master Plan. Promulgated in 2015, Sub-Decree No.42 ANKR. BK on Urbanization of the Capital, Municipalities and Urban Areas provides the legal foundation necessary for developments to be built in accordance with land use regulations, which previously did not exist. However, urban development continues to take place in an ad-hoc manner, which impacts the ability to ensure that infrastructure is adequately provided to meet current and future demands. As seen in earlier sections of this report, the city faces significant challenges in sectors such as urban transport and wastewater treatment, with congestion and lack of a formal treatment system made worse by new, large-scale developments.

The more fundamental task of zoning the city and developing a detailed land use plan is needed with urgency, though it is a lengthy process that requires significant funding and capacity building. As a gauge, the city of Battambang took ten years to complete the process of developing a detailed land use plan, with technical assistance from GIZ. Issues relating to land ownership also cannot be ignored in discussions of implementing a land use plan. While the 2035 Master Plan envisages the restoration of pre-war Phnom Penh's tree-lined streets and green spaces, for example, full realization of this image is unlikely, as much of what constituted green space in the pre-war era is now privately held.

35 Team findings.

36 Paling, Willem. 2012. "Planning a Future for Phnom Penh: Mega Projects, Aid Dependence and Disjointed Governance." *Urban Studies* 49(13): 2889-2912.

Box 2.3: Uncoordinated Real Estate Development

As a whole, low capacity for urban planning and poor provision of urban infrastructure, coupled with comparatively liberal foreign investment laws and growing middle-class demand, have led to the “privatization of urbanization”³⁷ in Phnom Penh, in which private sector companies now undertake large-scale urban development projects. These projects – often fully integrated satellite cities in peri-urban areas – meet demand from the growing middle class for better housing, infrastructure and amenities, and from businesses for higher-quality office space in less congested areas³⁸. Examples include Camko City, a 120-hectare project with high-end villas and townhouses; and Grand Phnom Penh International City, a 260-hectare development built around a large golf course. Infrastructure within the walls of these developments meets the needs of their residents, but little attention is paid to how the developments plug in to the surrounding urban fabric, or to the resulting impact on existing urban infrastructure. This has led technical experts to comment that such developers “think only about the development in their locations, turning blind eyes on the development of the whole city.”³⁹ In addition, as the proliferation of such developments has typically involved the infilling of lakes and displacement of residents, there are growing concerns over their impact on environmental and social fronts.

Box 2.4 Urban Planning Capacity

Technical urban planning capacity varies widely across the world. The United Kingdom has an estimated 38 accredited urban planners per 100,000 population, while the United States has 13. In India, this figure was 0.23 in 2011, and in Burkina Faso it was 0.08⁴⁰. While a comparative figure for Cambodia is not available, it is understood that the vast majority of the government’s urban planning staff are not professionally trained planners. Of the 50 urban planners employed by PPCH, only 10% have formal training as planners⁴¹.

The 2008 Organic Law in Cambodia required each municipality to assume responsibility for detailed land use planning. Prior to this, urban planning responsibilities remained at the national level with MLUMPC, with no urban development offices at the sub-national level. Given the relatively short period since the Organic Law

37 Global Green Growth Institute, 2016. Phnom Penh Green City Strategic Plan 2017-2026 Executive Summary.

38 Percival, Tom and Waley, Paul, 2012. “Articulating Intra-Asian Urbanism: The Production of Satellite Cities in Phnom Penh.” *Urban Studies* 49(13), 2873-2888.

39 Mauret, F. 2008. “Traffic jams, flooding consequences of poor urban planning.” Phnom Penh Post (<http://www.phnompenhpost.com/index.php/2008100121918/In-focus/traffic-jams-flooding-consequences-of-poor-urban-planning.html>; accessed March 24, 2017)

40 UN Habitat, 2016. World Cities Report 2016 - Urbanization and Development: Emerging Futures. Nairobi, Kenya: UN Habitat.

41 Team findings.

was introduced, municipalities, including Phnom Penh, have struggled to build technical urban planning capacity. Urban planning is not offered as a course of study in Cambodian institutes of higher education. While classes relating to urban planning are offered as part of other degrees – Pannasastra University of Cambodia, for instance, the country's largest private University, offers planning modules as part of its Architecture program – the topics covered pertain more to theories of urbanism and urban design, as opposed to more technical aspects of physical or land use planning. Without an academic pathway for the urban planning profession, technical officials in urban development offices rely on on-the-job training to build capacity. However, this too is a challenge in the absence of officials and administrative professionals familiar with the discipline to provide leadership and guidance.

Technical capacity also remains concentrated at the national level. Capacity building in urban development has relied heavily on donor funding, and has tended to focus on other aspects of urban development given the long timeframe required to build urban planning capacity. For example, the Asian Development Bank (ADB)'s 3-year Technical Assistance (TA) program from 2012-2015 focused on building urban management capacity and the development of a national urban development strategy. The program successfully completed the National Urban Development Strategy (NUDS) Framework, and developed a series of 21 training modules covering areas such as environmental management, land use management, housing, infrastructure provision and local economic development. Urban planning, however, was not included. Feedback on the lack of technical capacity has also indicated that more resources are needed at the sub-national level, rather than at the national level, where most of the urban planning capacity remains concentrated.

76. **Weak Enforcement of Codes.** In most developing countries, local governments lack the resources, mandate or legal power to implement plans. Related to limitations in institutional capacity and a lack of clarity over roles and responsibilities, urban development in Phnom Penh suffers from a lack of enforcement of regulatory codes. A clear example of this is in the use of urban sidewalks for purposes other than pedestrian activity, as described in Section 1.6.1. Legally, sidewalks are part of the city's road reserve, which is considered state public land under ownership of the government. However, sidewalks are regularly co-opted for private parking and commercial activities, leaving no room for pedestrians. Despite sidewalks being government land, there is no enforcement by officials to ensure that their original intended use can be upheld, and it is unclear as to which city-level department should oversee enforcement activities. As such, pedestrians are deterred from

walking as a means of urban mobility, and motorization remains the preferred mode of transport. In considering the lack of effectiveness of JICA's pilot public bus scheme, the lack of pedestrian sidewalks to facilitate first- and last-mile connectivity has been cited as a contributing factor.

77. The forthcoming National Environmental and Natural Resource Code of Cambodia – a draft version was approved in December 2016 – contains broad-reaching requirements for the development of the country in an environmentally sustainable manner. This includes a breakdown of responsibilities among various Ministries, as well as the need for land use planning to include environmental and sustainability considerations. More specifically, the Code specifies that no building permits are to be issued without the Ministry of Environment approving the environmental requirements, such as environmental protection and conservation. Current practice suggests that there are no unified or stringently enforced requirements regarding environmental studies and mitigation measures. While the Code is a step in the right direction, successful enforcement and implementation through close inter-agency coordination will remain a challenge.

2.4 UNSUSTAINABLE FINANCING

78. Urban development is typically financed in one of two ways – public investments in key services and trunk infrastructure (including main roads, wastewater treatment plants and networks) or private investments in developments and accompanying infrastructure improvements. In Phnom Penh, where relatively low levels of internal revenue contribute to the municipal budget, public infrastructure has been funded largely by foreign aid and private investment.
79. For some urban services, such as the maintenance of roads, there remains a disconnect between the responsibility to provide a service and the funds required to do so. National roads come under the purview of the Ministry of Public Works and Transport, whereas Phnom Penh municipality is responsible for financing its growing and increasingly-dense network of roads. Recently proposed changes to the property tax regime will allow sangkats – the lowest level of sub-national government – to retain 30% of locally generated revenue to invest in commune-level priority areas. While this has the potential to enhance responsiveness of local governments to small-scale investment and maintenance needs, roles and responsibilities in financing medium and large-scale investment requirements will still require greater clarity.
80. A major constraint in carrying out this study was access to data on financing for urban infrastructure and services. This information was not available which can inhibit informed decision making and policy.

SECTION 3

PRIORITIES FOR IMPROVING CITY COMPETITIVENESS, SUSTAINABILITY, AND INCLUSION

3.1 INTRODUCTION

81. As Phnom Penh continues to grow investments in urban planning and management along with adequate infrastructure are critical. The result of not doing so include further congestion, sprawl, slums, and environmental and health risks. One only has to look at neighboring cities such as Manila to understand the complexity of urban challenges that can occur. In contrast, cities such as Singapore or Seoul provide models of what is possible.
82. The future of Phnom Penh as a competitive, sustainable and inclusive city is reliant on implementing several key policy priorities. These include investments to improve institutions and governance, investing in sustainable infrastructure, and ensuring an inclusive approach so that low income populations are not left behind. These priorities are summarized in Table 3.1 and discussed below with relevant examples for consideration in Phnom Penh. Within each area, specific recommendations are outlined in broad order of priority and sequencing, and with estimation of the time horizon needed for implementation.

Table 3.1: Summary of Priority Recommendations for Phnom Penh

POLICY AREA	RECOMMENDATIONS (SEQUENCED WITHIN SUBAREA)	TIME FRAME (S, M, L)
Improving Institutions and Governance	❖ Clarify roles and responsibilities between line ministries and PPCH to ensure urban planning and service delivery are integrated and sustainable	S
	❖ Clarify responsibilities across municipal-, khan- and sangkat-levels regarding integration and financing of plans and the delivery and contracting of services and local investments	S
	❖ Provide capacity building as needed for local level institutions, includes technical and implementation capacity	S/M
	❖ Improve coordination within and across municipalities at the Phnom Penh metropolitan level for key urban infrastructure and services	M
	❖ Align legal, regulatory and enforcement framework for urban development with urban planning (see below)	M
	❖ Explore and implement new approaches to increase own source revenue	M/L

Improving Urban Planning and Implementation	❖ Introduce resiliency in urban planning to reduce risk	S
	❖ Build technical capacity to develop a detailed land use plan with phasing plans for investments and implementation	M
	❖ Introduce the required laws and codes to facilitate implementation of a detailed land use plan.	M/L
Investing in Sustainable Infrastructure	❖ Increase investments in priority infrastructure sectors: urban transport; drainage and flood protection; sewage and wastewater treatment; solid waste management; affordable housing and community improvements	M/L
	❖ Initiate an integrated, neighborhood revitalization approach in strategic areas of Phnom Penh	S
	❖ Ensure stakeholder engagement in prioritization and design of infrastructure investments	S
	❖ Assess opportunities for public-private partnerships (PPPs), for the development and operation of municipal services such as solid waste disposal/recycling; mass transport; water supply; etc.	S
Ensuring an Inclusive Approach	❖ Ensure sustainable infrastructure investments reach the poor	S
	❖ Facilitate mobility through better urban transport for low income areas to enable job market access	M
	❖ Scale up job training, micro enterprise and other programs for the urban poor	S
	❖ Improve targeting of existing programs to those in greatest need through the ID Poor identification system	S
	❖ Enhance community participation through increased community involvement in the Commune Sangkat Fund decision making process.	S

Source: World Bank Team. S-Short term (18 months), M-Medium Term (2-5 years), L-Long term (5 years +)

3.2 IMPROVING INSTITUTIONS AND GOVERNANCE

83. Effective institutions are critical for the development and management of cities. The World Development Report (WDR) in 1999/2000 underscored the need for effective organizations and enabling institutions to foster development, and found that countries with stable governments, transparent legal systems, secure property rights and strong judiciaries experienced higher growth than those without such institutions in place. WDR 2002 subsequently recognized that efficient institutions are necessary for cities to benefit from agglomeration economies, and to mitigate against negative externalities such as congestion.

84. While this report has focused on urban planning and the delivery of basic urban services, strong institutions and good governance extend into several other areas that are fundamental for Cambodian cities to grow and thrive, including the creation of jobs, establishment of a transparent and enabling business environment, as well as the raising and equitable re-distribution of revenue. Even as improvements to urban planning processes are made (as suggested in Section 3.3), these will need to be accompanied by an enabling legal, regulatory and enforcement framework for plans to be realized. In addition, as Cambodia's Decentralization and Deconcentration initiatives continue to evolve, Phnom Penh could explore innovative methods to increase its own-source revenues (Box 3.1).

Box 3.1: Case Study – Using ICT to Enhance Local Government Revenue in Tanzania

Many local governments face difficulties in mobilizing resources to meet basic service and infrastructure needs. At the same time, collecting revenue from growing numbers of people and businesses can be a daunting task. Seven cities in Tanzania, in response to this issue, have harnessed information and communication technology (ICT) to create a Local Government Revenue Collection Information System (LGRCIS), an integrated platform to improve local revenue collection. The system has so far produced promising results.

Before the introduction of LGRCIS, cities relied on manual tax assessments and field surveys, often with inaccurate and limited results. Many potential taxpayers were not included in assessments, and both assessments and payments were easily manipulated for personal gain. Tax revenues were limited, and cities were caught in a vicious cycle of being unable to fund their development plans, and subsequently failing to create conducive environments for business, investment and growth needed to fund development.

The government started laying the foundations for LGRCIS in 2013. LGRCIS is a holistic system and database, built on a Geographic Information Systems (GIS) platform. The system now allows proper identification of taxpayers, defaulters, invoicing, and bill generation, and facilitates electronic payment through a single gateway. Reporting and analysis by geography, payers, or revenue types are enabled, and the system is easily accessed online through any web browser. LGRCIS also has the capability to be used to inform urban planning, Operations and Maintenance (O&M), and cost recovery plans.

LGRCIS radically improved how taxes are collected, with gains in transparency, accountability and customer-focus. A year after implementation, the seven Tanzanian cities saw own source revenue increase by an average of 30%. The increased revenues have been critical in meeting shortfalls from central government transfers, and are ploughed back into local development projects. LGRCIS is now being scaled up country-wide, both through other World Bank operations and by the government.

85. Greater clarity in terms of roles and responsibilities, as well as enhanced coordination between various line Ministries and PPCH, are necessary to ensure that urban planning and service delivery are integrated and sustainable. In addition, if the boundary of Phnom Penh continues to grow (Section 1.1.2 illustrates spatial growth between 1990 and 2015), an additional challenge will be the need to balance high-quality local service delivery with coordinated, metropolitan-level planning. While this report has not identified metropolitan fragmentation as a current challenge for Phnom Penh, continued urban sprawl and absorption of peripheral districts within the city's boundaries could require metropolitan governance structures in future. Box 3.2 offers international examples of planning authorities at the metropolitan scale.

Box 3.2: Examples of Metropolitan Planning Authorities

In some cities, separate agencies have been established to oversee planning and urban development. Some focus more on land use and master planning, while others may have more broad-reaching responsibilities. The following examples illustrate different models:

- ❖ Mexico City, Mexico: The Metropolitan Coordination Executive Committee provides a bridge between the State and multiple local governments, and is responsible for the “planning and execution of coordinated actions within the Federation, States and Municipalities in the outlying city areas of Mexico City, in the areas of human settlements, environmental protection, preservation and restoration of the ecological balance, transport, drinking and drainage water, the collection, treatment and disposal of solid waste and public security.”
- ❖ New York City, USA: The Regional Plan Association (RPA) is an independent policy, research and advocacy group that serves the New York – New Jersey – Connecticut Metropolitan Region. While not a government entity, it performs most of the regional planning functions and is partially funded by the 31 Counties in the area. The RPA developed the world's first comprehensive, long-term metropolitan plan in 1929, and has since completed the Second and Third Regional Plans to respond to new challenges in economic growth, mobility, as well as environmental and social issues.
- ❖ Chicago, USA: The Chicago Metropolitan Agency for Planning (CMAP) has the aim of planning for public and private investments across seven Counties, and to integrated land use and transport plans for the area. CMAP is the result of a merging the operations of the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC), and develops a comprehensive regional plan at least once every five years that integrates land use and transport. Based

on this plan, proposed public investment priorities in transport and other infrastructure is made. CMAP's plans and forecasts provide the foundation for all urban planning in the region, while local government units continue to maintain control over land use and zoning decisions.

Key lessons to be learned from these examples include the need to:

- ❖ Provide clear mechanisms to link technical studies with public infrastructure and private investment;
- ❖ Specify technical profiles for technical and management staff;
- ❖ Provide long-term work programs;
- ❖ Include representation of all local governments of the metropolitan area in the government organs of the planning authority.

Source: World Bank, Forthcoming. Philippines Urbanization Review.

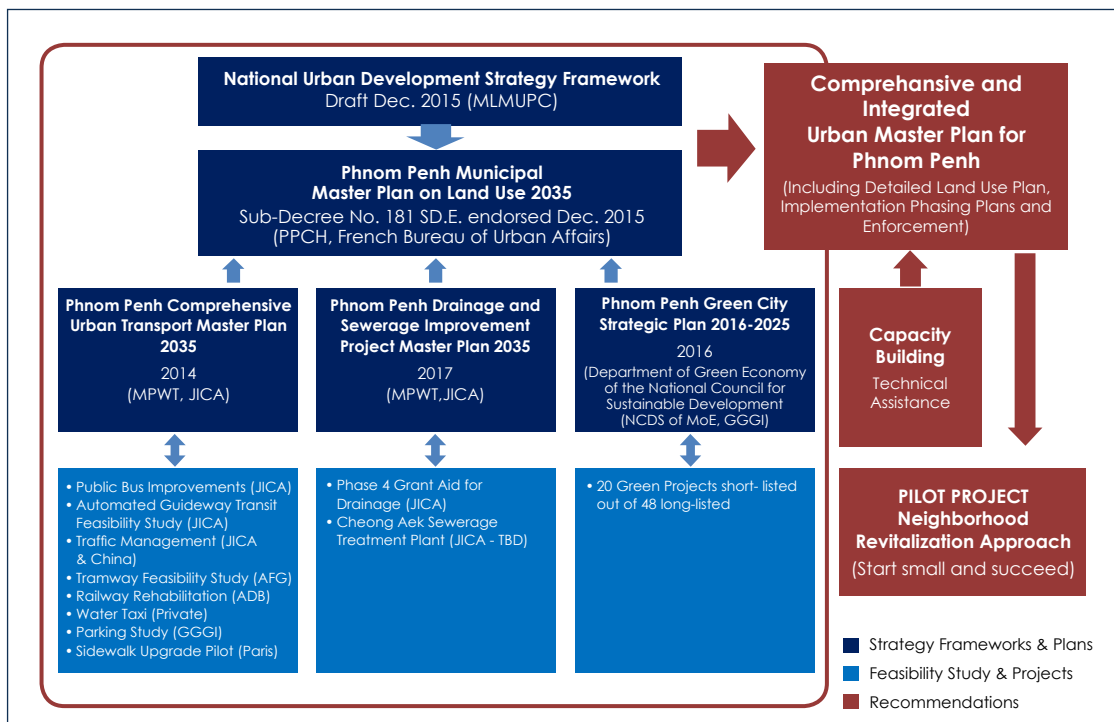
3.3 IMPROVING URBAN PLANNING AND IMPLEMENTATION

86. To meet the Phnom Penh Master Plan 2035 vision of the city as the nation's competitive, sustainable, and inclusive capital, the city's urban planning processes, regulations and implementation require some strengthening. Without a detailed land use plan, the city will continue to develop in an uncoordinated and fragmented manner, with infrastructure coming under increasing strain, increases in sprawl and congestion, worsening vulnerability to climate change and a less livable urban environment.
87. As a first priority, there is much need in building the technical capacity to develop a detailed land use plan, as well as introducing the required laws and codes to facilitate implementation, while providing sufficient predictability in phasing and implementation for Phnom Penh. Improving planning processes is a long-term endeavor, but one which can better shape a city to be more sustainable, green and livable. With integrated, evidence-based urban planning processes in place, Phnom Penh can maximize the economic gains from urbanization and improve quality of life for its growing population.
88. Among priorities when developing a detailed land use plan, are ensuring that spatial planning, land use, infrastructure development and service delivery keep up with the population growth and that incentives for densification are created to avoid inefficient patterns of urban growth. Robust data to inform the planning process will also be required. Infrastructure development needs to be coordinated with land use planning and addressed as an integrated urban strategy that can cater to various user groups and anticipate long-term needs. Investments in intra-city connectivity can reduce the distance between people and jobs and open up

new opportunities for affordable housing. Efficient land use through transit-oriented development (TOD) has been demonstrated to be a high-value complement to mass transit development in many other countries.

89. To address the urban challenges of Phnom Penh in a holistic manner, integration of the existing sectoral and thematic plans (which have different target years and visions/goals) into an evidence-based comprehensive Urban Plan with detailed land-use and phasing plans for investments and implementation as suggested in Figure 2.1 are needed. The comprehensive and integrated masterplan is not a one-off planning document, but ideally functions as an instrument for better physical planning, coordination and implementation. Through clear identification of land use rules, investment priorities, and safeguard measures, the planning process could enhance the transparency, predictability, and accountability of both public and private engagement in urban development. The masterplan could function as a platform for stakeholder dialogue and participation while also serving to identify and address the capacity building needs, especially at the *Khan and Sangkat* levels. Broad dissemination of the masterplan with national line ministries, local governments, private sector, and civil society who are engaged in urban planning and development in Phnom Penh will provide clarity for implementation. Finally, it is essential to realize that the masterplan and its sub-components (detailed land use plans and investment plans) are live and evolving documents with accompanying policies, which need to be periodically reviewed and responsive to immediate market needs, while ensuring long term development objectives and safeguard measures.

Figure 3.1: Comprehensive and Integrated Approach to Urban Planning

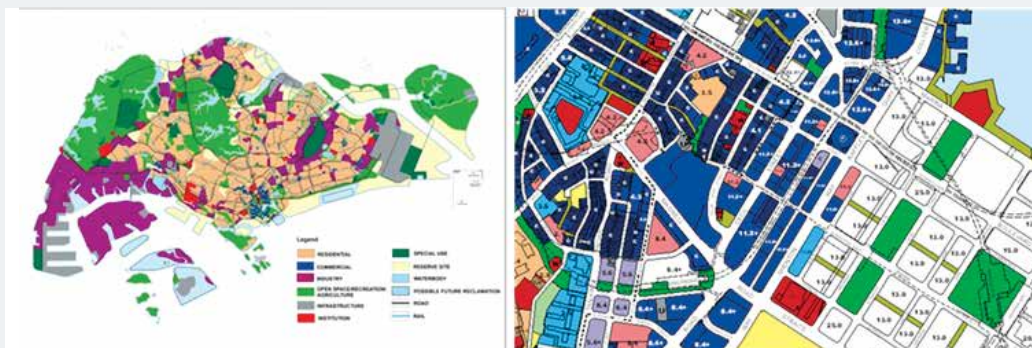


Source: World Bank.

90. Neighboring Singapore provides a good example of leveraging private sector participation and investments in urban planning and development to meet the city's needs over the longer term (Box 3.3). Public action alone is not enough to achieve the socio-economic goals envisaged in long-term development plans and governments would benefit from proactively setting policies and programs to encourage private sector participation in urban planning and development. A strong partnership is critical to accelerate and sustain urban development, and would further enhance the diversity, dynamism and social and economic balance necessary for a city. The balancing of business acumen with civic and social responsibility among private developers, as well as the balancing between public intervention and market friendly policies, has proven successful in many Global Cities⁴².

Box 3.3: Case Study – Urban Planning in Singapore

Several best practices in urban planning can be gleaned from the case of Singapore, where the city-state's success as a well-planned urban environment has largely been attributed to integrated, long-term strategic planning. Driven by the country's land scarcity and the resultant need for prudent, carefully-considered use of land, urban planning in Singapore begins with a forward-looking Concept Plan, a multi-agency government effort that maps out Singapore's urban development over a 40 to 50-year timeframe. Based on projected future economic growth and population figures, the Concept Plan provides a broad-based land use plan to meet the country's long-term land needs, establishing the amount and location of land under key land use groups, including residential, industrial, commercial, parks and transport infrastructure.



Source: Urban Redevelopment Authority, Singapore

Left: Land Use Plan 2011, showing broad land use categories;

Right: Master Plan 2014, showing detailed land uses and densities for individual parcels

42 Centre for Livable Cities Singapore, 2016. Urban Systems Studies – Urban Redevelopment: From Urban Squalor to Global City.

The Concept Plan shapes the development of a detailed statutory Master Plan, which reflects the details of designated land use, land parcel configuration and allowable density. The Master Plan guides the development of land in Singapore over a medium-term timeframe of 10 to 15 years, and is reviewed in a joint agency effort at 5-year intervals. The realization of planning intentions established in the Concept Plan and Master Plan is further enabled through several downstream processes, including the Government Land Sales program, whereby the State releases land parcels for sale in a carefully-timed manner, responding to market demand and also facilitating the development of strategic growth areas. All developments are also subject to the Urban Redevelopment Authority's Development Control guidelines, which establish technical requirements such as building height and setbacks.

Government Land Sales Program

In Singapore, where most of the land available for development comes under State ownership, the Government Land Sales (GLS) program is an important tool in shaping the physical development of the city, and in ensuring that developments are in line with planning visions and strategies. A key feature of the GLS program is transparency and clarity in terms of what is expected of private developers. When individual sites are announced for sale, detailed tender conditions are also published online; these include planning parameters and urban design guidelines, as well as general terms and conditions of sale. While the government takes responsibility for ensuring that sites are ready and suitable for sale – when opening new areas up for development, for example, major infrastructure such as roads, drainage and sewerage will be undertaken by the state – it is also common for GLS tender conditions to require developers to improve or provide other infrastructure alongside their developments. This can include minor widening of roads, construction of electrical substations, provision of green spaces, or provision of publicly accessible thoroughfares to ensure connectivity.

Marina Bay Development

Marina Bay, a mixed-use waterfront district forming an extension of Singapore's Central Business District, provides a more detailed case in point on how the long-term planning process can be realized. Beginning in 1969, the government began large-scale land reclamation work to create Marina Bay, covering 360 hectares of land in total. Other key infrastructure provided by the State include roads, an extensive Mass Rapid Transit (MRT) network, and a Common Services Tunnel that houses power cables, telecommunications lines and water pipes. To realize the vision of the area as a vibrant, walkable and well-connected precinct, sites sold through GLS are required to comply with a set of comprehensive urban design guidelines. Typically, these include underground, street-level and second-story pedestrian linkages, to provide seamless connectivity between the site, neighboring

developments and key public transport nodes. In some instances, developers are required to provide social amenities such as childcare centers, and must set aside a minimum amount of public space within the site.

Long-term planning has allowed Singapore to balance competing land use needs in a land-scarce environment, while also ensuring a high degree of sustainability and livability. The effectiveness of its Master Plan rests in its clear links to the vision and long-term strategies for growth of the city, as well as the country's strong enabling environment for implementation, i.e. legislative and regulatory systems that support the realization of the land use plan. Public engagement in the development of both Concept and Master Plans is also becoming increasingly established as a key part of the plan formulation process.

3.4 INVESTING IN SUSTAINABLE URBAN INFRASTRUCTURE

91. **Areas for Priority Investments.** As introduced in Sections 1.5 and 1.6, Phnom Penh faces various challenges in urban service delivery, which are rooted in the weak urban planning and implementation capacity but also exacerbated by the recent rapid urbanization and uncontrolled private sector developments. Investments (both financial and technical) are necessary to establish the enabling regulatory frameworks, hard infrastructure, and O&M capacities to supply the growing demand for urban service delivery. Sectors for priority investments are as follows:

- ❖ Urban Transport: public transport, traffic management, improvement of walkability such as sidewalks and pedestrian crossings, traffic and parking regulations, systems (i.e. parking meters) and enforcement
- ❖ Drainage and Flood Protection: comprehensive drainage and flood protection system for the peri-urban khans, regulation and technical standards on onsite storm-water drainage
- ❖ Sewerage and Wastewater Treatment: modern wastewater and sewerage treatment plant (STP), comprehensive sewerage and wastewater collection system for the peri-urban khans, regulations and guidelines for drainage management in large-scale development areas
- ❖ Solid Waste Management: reevaluation of existing framework including waste collection and measures to reduce waste volume entering the final disposal site (such as 3R (reduce, reuse, and recycle) and intermediate waste treatment such as composting, waste-to-energy, and incineration)
- ❖ Water Supply: expansion of distribution network to service new developments in the peri-urban area

- ❖ Affordable Housing: access to decent housing to low- and medium-income households and vulnerable groups
- ❖ Community Improvements: Upgrading of low income communities involving provision of basic services

92. While various donors have assisted in the development of sectoral master plans (in general alignment with the Phnom Penh Master Plan 2035), private sector and donor investments are often based on their own agendas and in most cases ad-hoc in implementation. There is much work to be done in terms of coordinating, integrating, and prioritizing urban infrastructure investments in Phnom Penh.

93. **Clearly Defined Responsibilities and Stakeholder Engagement.** A challenging aspect of Comprehensive and Integrated Urban Planning is the coordination of stakeholders who have different agendas, interests, and priorities. While stakeholder engagement and consensus building processes are critical to successful urban planning and integration, it is important that the roles and responsibilities among various administrative levels of government (relevant Line Ministries and Departments, PPCH, Khans, and Sangkats) are clearly defined and practiced. The platform or mechanism for coordination, integration, and investment would further benefit from involvement of the private sector, international donors, and civil society members. Phnom Penh has much to learn from the examples of good practices and lessons learned from international experiences (Box 3.4). The efforts of NCSD, MoE and PPCH in developing the Phnom Penh Green City Strategic Plan 2017-2026 is a successful example of stakeholder engagement, which can be built on for future investments and implementation in sustainable urban infrastructure.

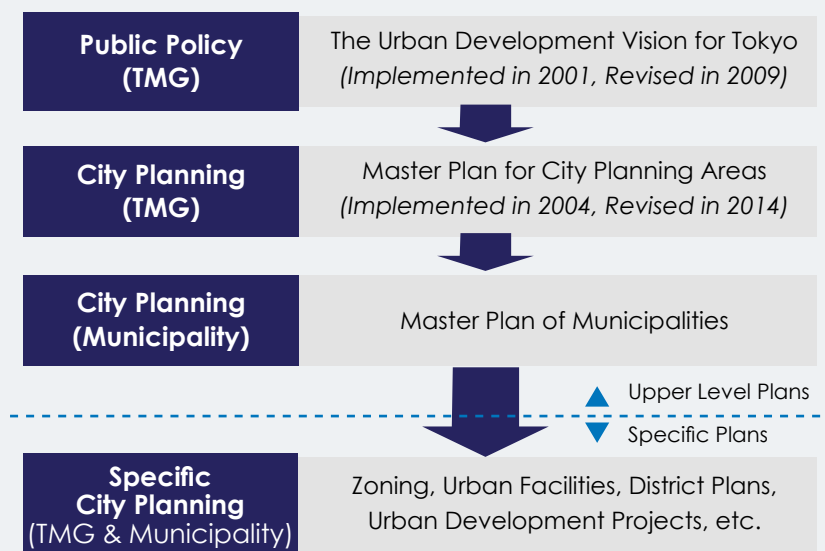


Box 3.4: Case Study – Urban Planning for Greater Tokyo, Japan

Public Policy and Urban Planning

As the socio-economic capital of Japan, Greater Tokyo has had a long history of integrated and coordinated strategic planning. Contributing to over 19.4% of the national GDP and with more than 13 million (10.5% of the Japanese population) living within the jurisdictional boundaries of Tokyo Metro Government (TMG), the metropolitan government has wielded significant political power within Japan. The TMG administers the 23 Special Wards (Ku) of Tokyo (each governed as an individual city), 26 cities (Shi), five towns (Cho), and eight villages (Son) (each with a local government) by clearly identifying the roles, responsibility, and authority of TMG and the municipality. The urban planning and development policies and Master Plan for Great Tokyo are established at the TMG level, while individual City Master Plans and specific urban projects are developed at the Municipality level with appropriate support from the TMG.

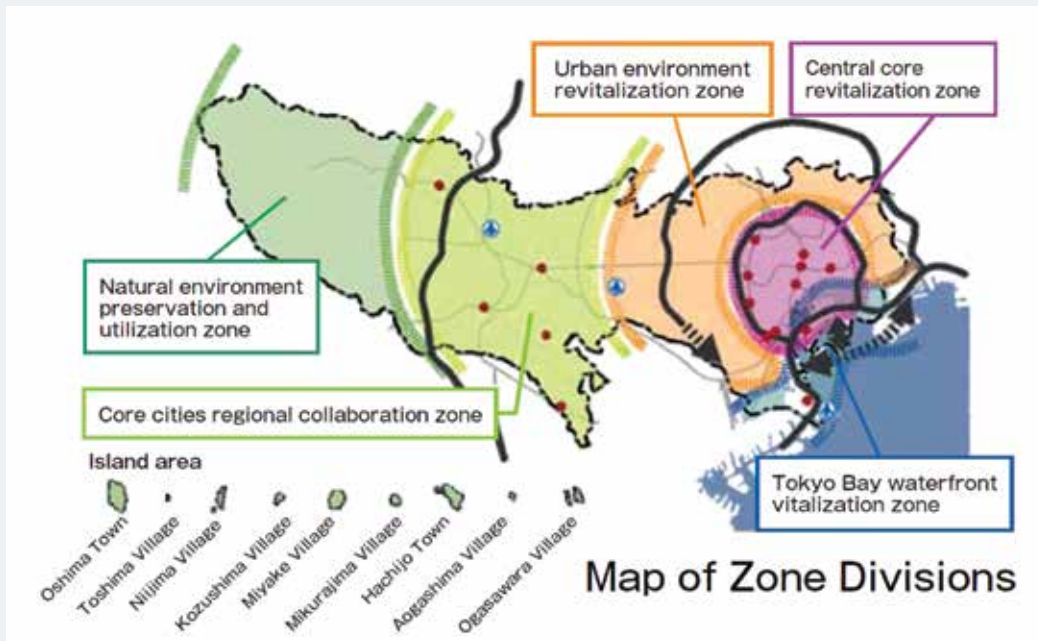
Public Policy and Urban Planning Hierarchy for Greater Tokyo



Source: Tokyo Metropolitan Government, Japan

TMG identifies and designates City Planning Areas (for preservation or fostering overall development), Urbanization Promotion Areas, and Urbanization Control Areas to ensure balanced and sustainable urbanization in Greater Tokyo. Furthermore, TMG plays an important role in the planning and development of critical urban infrastructure and facilities, working closely with major private sector stakeholders.

Zones and Roles for Greater Tokyo



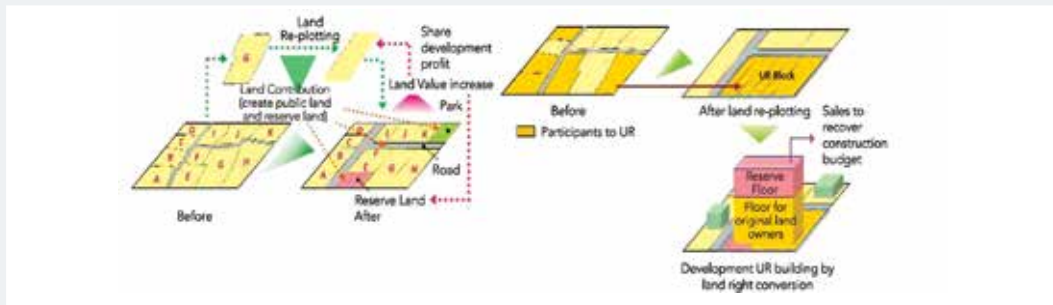
Source: Tokyo Metropolitan Government, Japan

Land Readjustment

The technique of Land Readjustment (sometimes referred to as Land Pooling in other countries) has been successfully used to promote efficient, sustainable and equitable land development in Japan. The origin of Land Readjustment in Japan dates back more than 100 years and has served a critical role in the success of urban development in Greater Tokyo. The Urban Planning Law of 1919 incorporated provisions of Land Readjustment, establishing the legal basis of Land Readjustment, which became the Land Readjustment Law in 1954. In the early years, Land Readjustment was applied mostly as a method for post-earthquake reconstruction in the Tokyo region, urban renovation in large cities, industrial city construction nationwide, and post-war reconstruction after World War II. Through such experiences, Land Readjustment techniques were improved and refined (such as improved approval process, land replotting techniques, and financing) and to date, have been applied to many large-scale projects in major metropolitan areas. Today, the most common application of Land Readjustment is the Urban Regeneration (UR) which converts land rights in a project site to part of building rights by using land right conversion. If the project area is designated as an urban redevelopment promotion area in the Master Plan or satisfies several other conditions (i.e. designated as an area for high-intensity land use, area vulnerable to fire hazards, or area for improved land use efficiency), the project may be approved for Urban Regeneration and may be applicable to national subsidies.

Land Readjustment

Urban Regeneration



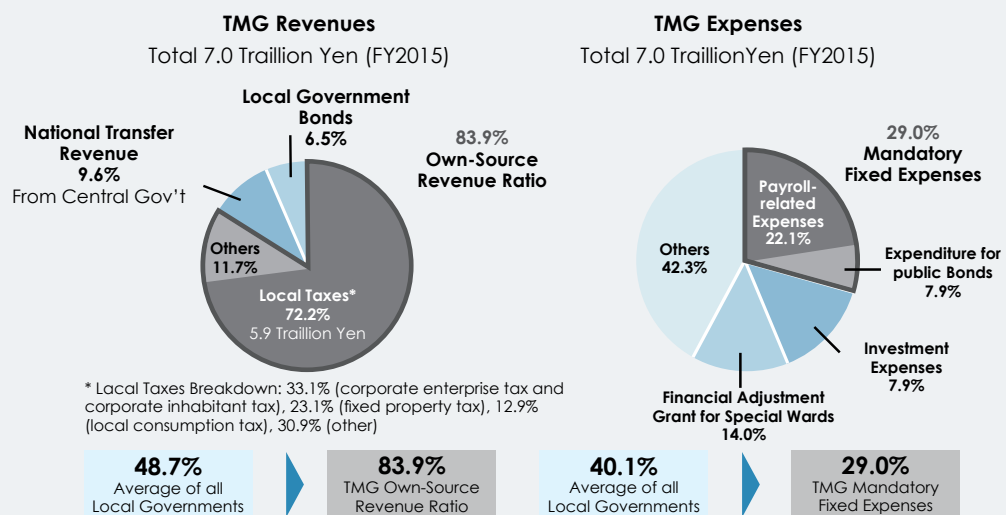
Source: World Bank, Case Study Land Readjustment in Japan

Fiscal Management

A major enabling factor for Tokyo Metropolitan Government (TMG) is its healthy fiscal management. In terms of revenues, TMG is authorized to levy and collect local taxes, forming the core of its independent revenues. At 83.9% (FY2015), the considerably high ratio of TMG's independent revenues enables flexibility in its fiscal management without depending on the central government. TMG's independent revenues come from diverse sources including local taxes, user charges for services, commission, property revenue and other.

While TMG's strong fiscal management is backed by its well-funded independent revenues, its low mandatory spending allows for the flexibility in fiscal management. TMG's mandatory fixed expenses (which included payroll-related and public bond related expenses) are low at 29% of the total expenses. This means the remaining budget can be allocated to flexible uses including investments and financial adjustment grants for special wards.

Breakdown of the TMG Revenues and Expenses (FY2015 General Account Budget)



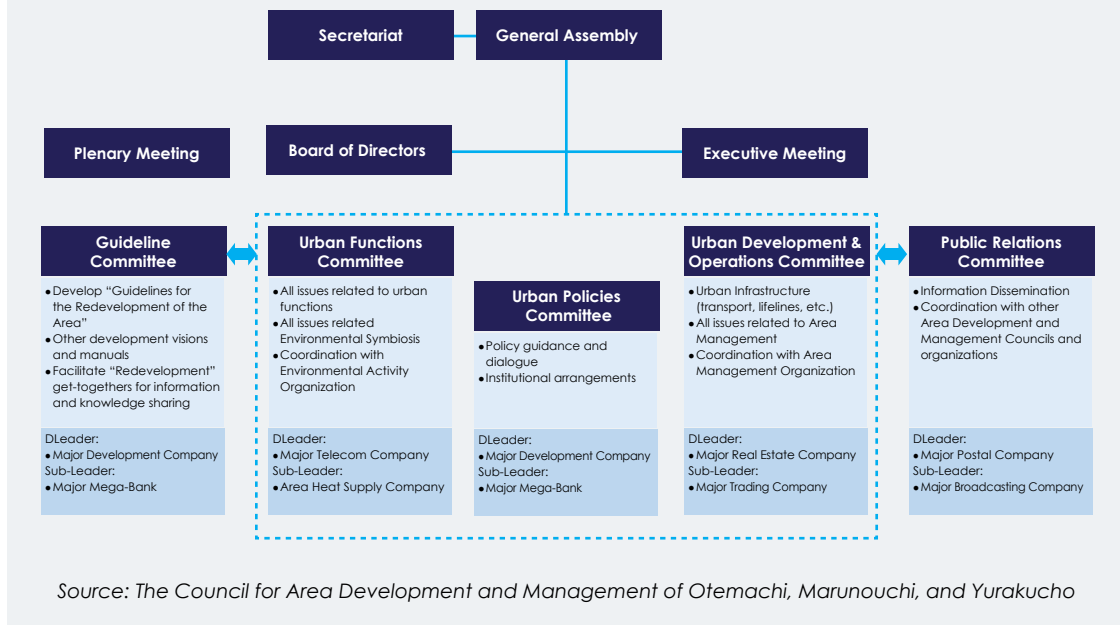
Source: Tokyo Metropolitan Government, Japan

As home to 13 million inhabitants and considered one of the largest metropolitan areas in the world, the Tokyo Metro Government is tasked with a complex set of urban challenges. Though the clear identification and establishment of public policies and urban planning roles, responsibilities and authorization mechanisms, TMG coordinates the complex landscape of diverse stakeholders (numerous municipalities, private sector, and other). Furthermore, through the utilization of urban development techniques and tools such as Land Readjustment and Urban Regeneration, TMG promotes efficient, sustainable and equitable land development. Finally, TMG's healthy fiscal management (independent revenues from diverse sources which allows for lower dependence on the central government as well as low mandatory spending which allows for flexibility of fiscal management) is critical to its successful operation.

Private Sector Participation

Japan has a long history of leveraging private sector participation and investment in urban planning and development to meet the city's long-term needs and to enhance the diversity, dynamism, and socio-economic balance of the city. Many districts and landowners have proactively established local development councils (also known as Machizukuri Kgyogikai - Area Development and Management Councils) through a bottom-up approach, typically led by major private sector conglomerates specializing in real estate or railway development with strong convening power. Such local development councils function as a platform to facilitate appropriate and efficient development through the collaboration of stakeholders including private sector, civil society, and government institutions. A successful example is the Council for Area Development and Management of the Otemachi, Marunouchi, and Yurakucho District, which was established in 1988 as a public private partnership council with 60 members to develop and manage the commercial district around Tokyo station. As shown below, various committees on development guidelines, policies, urban development and operation (including urban infrastructure and area management), environment related activities, and public relations were established and facilitated by private sector companies. Similar to the case of Singapore, the balancing of business acumen with civic and social responsibility among the private sector is understood as a key element to establishing a diverse and dynamic city (or district), which ultimately would lead to increased land values.

Structure of the Council for Area Development and Management of Otemachi, Marunouchi, and Yurakucho District in Tokyo



94. **An integrated, place-based approach.** One way to establish a "Cambodia Example" of integrated and sustainable development is through an 'urban or neighbourhood revitalization' approach (in contrast to a sectoral urban infrastructure approach) to showcase how access to high quality services (including water, sanitation, public transport and walkability, health, education, and public spaces) will work in the context of Cambodia. This approach has also been explored through the consultations for the Phnom Penh Green City Strategic Plan 2016-2025, and Doun Penh District (original urban core) and Takhmao (southern new peri-urban area) have been identified by NCSD to be considered as pilot neighborhoods for such an approach. The two neighborhoods represent the challenges faced by the old urban core and the rapid new peri-urban development, and will serve as examples of good practices in urban planning for Cambodia.⁴³

95. As shown in the Cheonggyecheon Restoration Project (Box 3.5) example, neighbourhood revitalization approaches will not only improve living conditions but will also spur local economic development and job creation, particularly when rooted in transit oriented development as public transport investments increase in Phnom Penh (Box 3.6). With demonstration of success through such an approach, it may be more easily replicable in other strategic parts of the city. Examples from Ningbo and Hong Kong demonstrate how efforts to promote sustainable urbanization are being carried out locally (box 3.6 and 3.7), similar approaches adapted to Phnom Penh could have transformational impact on parts of the city.

43 Based on Mission Findings (Feb 2-10, 2017)

Box 3.5: Case Study – Neighborhood Revitalization in Seoul, Korea.

Downtown Regeneration through Restoration of the Cheonggyecheon Stream

The Cheonggyecheon Restoration Project in Seoul, Korea, involved revitalizing an old stream that had been covered for decades by an overpass, which included an 18-lane highway. It was an effort to regenerate downtown Seoul, which suffered from persistent population decline and decreasing business and economic activities. Furthermore, the project was also regarded as an opportunity to develop a new framework for the regeneration of the inner city, prompting the establishment of the Downtown Development Plan (2004), Seoul Master Plan 2020 (2004), and Urban Renaissance Master Plan (2007), and gave momentum to Seoul's public transportation reform.

While the restoration would have brought value to the neighborhood through the conservation of natural environment, enhancement of the urban environment, and catalyzed economic development, the project was not free from implementation challenges and opposition. The project would have required eliminating a total of 18 traffic lanes in the downtown area and could have caused unprecedented damage to Seoul's overall traffic flow and substantial disturbances to business activities in the neighborhood. Further, the restoration imposed technical challenges, such as sewage treatment and flood preparation difficulties. The planning, implementation and financing were serious issues of concern.

In order to tackle the complexity of the project, three organizations were developed to oversee different components of the project. In 2002, the Project Office was launched in the City Hall and served as the main implementation arm of the project, responsible for the managing, planning, and implementation. The Cheonggyecheon Research Group was established under the auspices of the Seoul Development Institute to support the restoration project. The Cheonggyecheon Citizens' Committee was established to serve as an official channel to collect the opinions and concerns of the citizenry with regard to the project.

Triangular Implementation System of the Cheonggyecheon Restoration Project



Despite the challenges and complexities, Cheonggyecheon was opened to the public in September 2005 and was lauded as a major success in urban renewal and beautification. The impacts of the project were twofold: direct impacts resulting from the restored stream and indirect impacts involving the effect of the stream's regeneration, which created higher real estate values for the adjacent area. The direct impacts of the restored stream included the provision of public spaces and a natural environment, a green public network in the downtown area, and the restoration of the ecosystem that lowered the temperature in the city. In addition, the restored stream greatly contributed to revitalizing the once-stagnating downtown Seoul,

rendering it a highly attractive place. Cheonggyecheon also became a venue for diverse cultural events, helping to firmly position the stream as a place for culture and recreation. The restored downtown area has been revitalized and now attracts people and business activity. More broadly, the restoration resulted in changes to civic consciousness as well as to urban planning strategies for downtown and public transportation reform. Contrary to popular expectations, remarkably, traffic congestion after the completion of the project did not worsen.

Before Project



After Project



After Project



Source: World Bank, 2016. *Regenerating Urban Land – A Practitioner's Guide to Leveraging Private Investment*. Seoul Metropolitan Government.

Box 3.6: Ningbo Sustainable Urbanization Project: Transforming urban public space and mobility and reducing flood risk

The objective of the project is to improve the use of urban public space and urban mobility; and reduce flood risk in selected counties in Ningbo municipality. The project includes investments in urban transport (improvements in the capacity, reliability and service quality of the bus system); flood mitigation (structural and non-structural investments to be better prepared and protect critical assets and vulnerable people from being damaged by potential floods) and urban regeneration. Under the urban regeneration component, the objective is to create a vibrant and safe urban environment by improving the quality of public space following people-centered design strategies and expanding the coverage and upgrading the service level of urban utilities. Urban regeneration refers to a comprehensive package of investments in public infrastructure and service delivery in existing urban areas. This component will fund activities such as upgrading public space along main transport corridors and commercial streets to improve attractiveness of existing urban center; comprehensive regeneration of lagging urban settlements by providing water supply, drainage system, sewage treatment and solid waste collection, lighting, parking and green space; and improvements in road safety for pedestrians and cyclists with better design of crossings and intersections and traffic management efficiency using ICT and electric devices.

Source: World Bank Project Appraisal Document, 2016.

Box 3.7: Improving Mobility and Density: The case of Hong Kong

In the second half of the 1970s, Hong Kong experienced real growth of about 10 percent a year, combined with an influx of immigrants, and roaring demand for private cars. Car registrations more than doubled in a decade. The results were long commuting times for private cars and freight transporters; as well as health costs from air pollution. The Transport Department reacted with draconian measures. In 1979, it defined a transport policy to increase road capacity, and expand and improve the mass transit system.

The government trebled the annual license fee for cars, doubled the first registration fee (to between 70 percent and 90 percent of the import price of a vehicle), and doubled fuel taxes. Private and public vehicle ownership fell quickly. In 1985, the share of private registered cars had fallen to 50 percent, 10 percent of these were taxis. The public transport system consists of a 74-kilometer underground mass-transit railway; a 34-kilometer heavy rail line (linking Kowloon with China); a 32-kilometer light-rail system in the northwest of the New Territories, and a 16-kilometer tram

on the northern side of Hong Kong Island. Five private bus companies operate franchised services with more than 6,000 buses. These are complemented by minibuses with fixed fares and exclusive rights to provide service on certain routes. Entry to this submarket is strictly regulated.

Today, road charges in Hong Kong are seen as a device, not to reduce congestion, but to curtail air pollution and maintain the city's attractiveness. Hong Kong ranks fifth in the infrastructure index of the global competitiveness report, with a score of 6.2 out of 7; it also ranks first in product market efficiency and financial market sophistication.

- ❖ Private cars have limited mobility and accessibility in megacities. Even without congestion and parking charges, strong fiscal disincentives can limit the number of private cars in urban transport.
- ❖ Buses, particularly minibuses, can be regulated to avoid congestion and high travel costs.

Source: World Bank, 2009.

3.5 ENSURING AN INCLUSIVE APPROACH

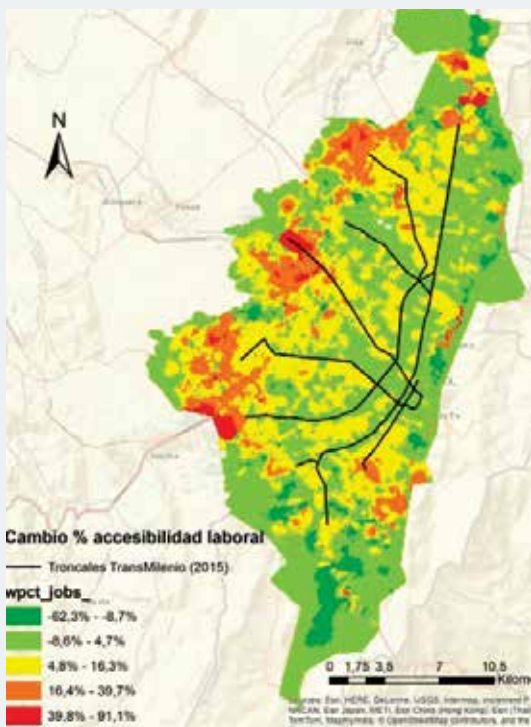
96. Urbanization's benefits are hindered when cities are not well planned or managed, and when the needs of a growing urban population are not met. The lack of planning for physical infrastructure and housing, lagging service delivery, and inadequate transportation and connectivity within cities invariably result in widening inequalities between urban dwellers. Inequality not only threatens the sustainability of the growth process, but can also lead to social divisions and conflict, particularly in dense urban areas where there can be extreme differences in living conditions between the rich and the poor. Policies to assist low-income populations fully participate in labor markets, find affordable housing, access basic services, and have a voice in decision making help ensure that the benefits of urbanization are enjoyed widely.
97. There are a number of approaches that can help to promote inclusive cities centered around economic, spatial and social inclusion which are relevant for Phnom Penh. (For further discussion, see World Bank, forthcoming).
98. **Economic Inclusion.** The economic dimension of inclusion refers to equitable access to jobs and income-generating activities in cities, which are critical to poverty reduction and economic inclusion. Among these is the importance of better connecting the urban poor with job markets through providing better transport infrastructure and services that enable mobility in poor communities. Critical to the

success of the expanding bus lines in Phnom Penh (see Box 2.1) will be the selection of bus stops and routes that link poor communities that value affordable mass transit with business centers and industrial areas with high concentrations of employment opportunities. This, along with necessary improvements to traffic conditions for buses (e.g. the introduction of bus-only lanes), can have a significant impact on economic inclusion.

Box 3.8: Case Study – BRT vs. Bus Reform and Employment Accessibility in Bogota, Colombia

Bogota's Transmilenio Bus Rapid Transit (BRT) system is well-known for the positive impacts it has had on the city, including reduced travel times, more affordable transport (particularly for low-income residents), reduced congestion and improved road safety. Recently, the city also rolled out a system of reforms for its public buses, including the integration and modernization of the city's bus services, reorganization of bus routes, introduction of smart card payments and the replacement of old, unsafe buses.

A World Bank team carried out an analysis of the city's bus reforms, with the aim of measuring employment accessibility and transport affordability. Using an open source analysis tool, the team compared the number of jobs accessible within a one-hour journey time before and after the reforms, as well as the cost of accessing these jobs.



Source: World Bank Transport for Development Blog, 2017.

- ❖ Most accessibility gains were the result not of the bus reforms, but of an expansion of the successful BRT network. Areas where the BRT was more recently introduced saw employment accessibility increase by just under 40%. This was attributed to higher frequency and higher travelling speeds (the result of dedicated BRT lanes), as compared to public bus services.

- ❖ Buses now account for 70% of Bogotá's public transit trips, but has not significantly improved employment accessibility. With the new system, accessibility has either marginally increased (users living in yellow areas on the map could at most reach 10% more jobs in 60 minutes), or worsened (light and dark green effects), especially for some low-income communities on the southern periphery.

Results of the bus reform in terms of improving accessibility were less impactful than anticipated. Riders cited longer bus routes, lower frequencies, long lines at bus stops, an overly complex network and the low capacity of the implementing agency to provide real-time updates as deterrents to making use of the bus system. The system as a whole over-estimated the demand for services, and now operates at a financial loss. A key challenge, not only in Bogota but also in all cities attempting to reform public transport, is thus to provide an option that is affordable, convenient and more reliable than private or informal public transport options already available to city residents.

99. Since many low income populations are self-employed and cannot easily access capital to grow their businesses, there is also much scope for promoting inclusion through expanding access to credit. There are numerous microcredit agencies in Phnom Penh, but poor households have difficulty meeting borrowing requirements and are often burdened by multiple debts, borrowing to repay other debts, leaving little space to invest in productive activities. To address this, microcredit agencies could be encouraged to provide business support services with their financing to enhance the viability of micro and small enterprises. As self-employment entails a high risk of failure and income fluctuations, encouraging pro-poor economic development through skills training could also be pursued as a means to assist poor households to move out of poverty by enabling individuals to compete more actively in the labor market.
100. There are several examples of social enterprises operating in Phnom Penh and elsewhere in Cambodia which are assisting poor and vulnerable individuals to acquire specific vocational skills as well as the “soft skills” needed to identify, acquire and maintain good quality jobs with stable income generating potential. For example, the Friends Restaurant, which provides a combination of individual counselling and on-the-job training to former street children and marginalized youth in Phnom Penh. Building up resilience to shocks, particularly those from natural hazards is also important to promoting inclusion and is particularly relevant for those at risk to flooding in Phnom Penh. In Jakarta, Indonesia, for example, a Flood Early Warning System has been used to build local capacities to manage disaster risk using participatory planning, including in low-income communities.
101. **Spatial Inclusion.** The spatial pattern within cities is one of many factors that affect the inclusion of the urban poor and can be influenced by ensuring geographic alignment between jobs, markets, public transportation, health and education services, recreational areas, and affordable housing. Increased attention to urban planning, especially in cities that are at early stages of urbanization is important to proactively influence growth patterns so that they can avoid problems of sprawl,

slums, and congestion. Ensuring that land use master plans are well-integrated with transport planning can help reduce inequality in access to urban opportunities and amenities. This reduction has been achieved over time in places such as Korea, Japan, and Singapore. Promoting access to affordable housing through reviewing standards for minimum plot sizes, maximum floor area ratio, and zoning to ensure they are aligned with good practice, and investing in sustainable infrastructure as discussed above.

102. Investments in clean water, sanitation, and solid waste collection in low-income neighborhoods can have tremendous impacts on health, productivity, and welfare. The decentralization of some of these services, beginning with a shift in responsibility for solid waste down to the khan level, will improve both access and the responsiveness of such services, particularly in poorly served areas in more peripheral khans. This shift will need to be accompanied by intensive capacity-building to enable khan and sangkat officials to effectively manage service delivery, and to engage the private sector to efficiently deliver quality services. As cities grow, ensuring affordable transport provides access to income-earning opportunities as well as services, such as schools, clinics, and hospitals, and can reduce spatial disparities.

103. **Social Inclusion.** The social dimension of urban inclusion relates to individuals and groups rights, dignity, equity and security. Social inclusion is especially important in cities where, given the high density of people, there are particularly stark differences between groups such as the rich and the poor. Such divisions can exacerbate discontent and lead to conflict. In addressing social inclusion for the urban poor, there are opportunities for targeting benefits at those who, for various reasons, cannot fully benefit from the labor market is important in promoting social inclusion. Social safety net programs, specifically conditional cash transfers and cash-for-work opportunities, can boost poverty reduction and inclusion in cities by providing a mechanism for vulnerable groups to achieve increased accessibility.

104. At the moment, the potential of the ID Poor identification system is not being drawn upon to direct urban services and support to those with the greatest need. There is even a significant portion of the city, the downtown area, where ID Poor identification has yet to take place. Target groups such as single, working mothers, for example, may be able to acquire semi-regular income working in garment factories, but they may not be able to afford health care, or maintain a household with children as they lack both the proximity to family who could help as well as the resources for maternal health and child care. More targeted family support and child care services such as that offered by Enfants & Developpment would allow poor, working mothers to access support services to participate actively, and advance in the labor force, while also caring for the health and educational needs of their children.

105. Enhancing Community Participation. Finally, strengthening local governance and embracing citizen engagement can also promote inclusion. Engaging the urban poor in decision-making processes is important in strengthening policies, enhancing service delivery, and ensuring social stability in cities. Empowering urban dwellers to actively engage and contribute in their cities is a powerful way of promoting social inclusion. The Commune/Sangkat Fund (CSF) procedures and funds offer the potential for empowering communities in Phnom Penh to drive their own development by identifying priorities that they can finance directly with the CSF funds. However, the participatory procedures of the CSF are underutilized, resulting in low levels of inclusion in decision-making, particularly by the poor households that could benefit most from such investments. An effort is needed to revitalize the participatory nature of CSF activities, with a particular focus on empowering poor households to participate in decision-making processes and to identify investments that would be most beneficial to them. Furthermore, the types of activities financed under the CSF funds, as well as programs that use this existing system such as the World Bank-financed Livelihood Enhancement and Association of the Poor (LEAP) project, could be expanded beyond the typical investments in road and drainage maintenance to include social services such as health and child care, street lighting, market improvements, and other income generating investments that are particularly beneficial to poor households.

106. Programs such as the Asia Coalition for Community Action (ACCA), the Urban Infrastructure Upgrading in Vietnam and the Urban Community Driven Development Program in Indonesia (PNPM) encourage urban residents to take a proactive role in identifying community priorities, improving relations with local governments, and designing and implementing community improvements. Phnom Penh can build on its partnership with ACCA by further leveraging the potential of the Community Development Foundation (CDF) and other similar initiatives to provide access to finance and support to access affordable housing and to invest in household improvements which enhance property value and offer opportunities for household businesses. Ultimately such engagements can also help to empower local groups to organize for other community initiatives and benefits, and strengthen social cohesion within cities (Box 3.9.).

Box 3.9: Urban Infrastructure for Low Income Communities

Urban Infrastructure Upgrading in Vietnam. In 2004, a four-city urban upgrading project was initiated with assistance from the World Bank, with the goal of alleviating urban poverty through infrastructure improvements. More than 200 low-income areas (with at least 40 percent of households under the poverty threshold) were identified and communities were asked to evaluate what improvements would be most beneficial. In-situ upgrading of water supply, drainage, road paving, household electricity connections, and sanitation and solid waste management proved ultimately to be less costly than clearing and moving these households to hard-to-access relocation sites. The initiative also included a microfinance component to be used for home upgrades or income-generation purposes, helping to address some of the credit access barriers often experienced by the urban poor. As of 2014, 2.5 million urban poor residents benefited directly from the project, with an additional 5 million benefiting from improvements in primary and secondary infrastructure (World Bank 2016b).

Community-Driven Infrastructure Development in Indonesia. Indonesia's community-driven development program, Program Nasional Pemberdayaan Masyarakat (PNPM), provides block grants for community-level infrastructure and extends to all 11,000 urban wards. The program provides both financial and technical support to poor communities, allowing them to address immediate infrastructure needs. To strengthen local participation and networks, community-based organizations spearhead needs assessments and project design. PNPM is successful in small-scale projects, but is not a substitute for government leadership in infrastructure projects requiring wider coordination or relocation (for example, road network development). As of 2013, the program had financed over 31,100 km of small roads, 8,800 km of drainage, 164,8000 units of solid waste and sanitation facilities, and 9,450 health facilities, and the rehabilitation of 126,800 homes (World Bank 2013e).

Upgrading in Thailand's Community Organizations Development Institute (CODI). With support from the Community Organizations Development Institute (CODI), the urban poor in communities in Thai cities are empowered to address their development needs. CODI manages a community development fund and disburses money allocated from the government to assist the urban poor through upgrading of grants and loans.

Many of CODI's activities are branded as physical improvement, however, social interventions are also integrated in the poverty alleviation investments. The community development fund provides community welfare funding targeting the elderly, school fees for youth, and food for HIV-positive community members, and

others who have various sickness. The welfare support has been particularly helpful for the elderly, who are often vulnerable and fall into poverty without adequate pension support, labor opportunities, or lack of service. CODI set up an elderly welfare fund to finance a variety of projects, including grants for health care, food and funeral expenses, social activities such as exercise groups, music and temple visits, and a revolving fund for income-generation and healthcare needs. An innovative use of the welfare funds was illustrated in Satun, where the elderly decided to use a portion of their CODI funds for a communal rubber plantation to offer the opportunity for elderly to generate income.

Source: World Bank, forthcoming, East Asia and Pacific Cities: Expanding Opportunities for the Urban Poor.



Annex Table 1: Relevant Policy Documents and Laws Pertaining to Urbanization in Cambodia

Year	Law, Regulation or Decree
2001	Land Law
2002	Strategy of Land Policy Framework
2008	Law on Administrative Management of the Capital, Provinces, Municipalities, Districts, and Khans, "the Organic Law"
2009	Declaration of the Royal Government on Land Policy
2010	Law on Expropriation
2011	National Policy on Spatial Planning
2011	Sub-Decree on the Organization and Management of Borey (Management of Villa, Apartment and Condominium)
2012	Comprehensive Land Policy "White Paper"
2012	Royal Decree (No. NS/RKT/0512/463) and Sub-decree (No 77) on the Establishment of Committees for Land Management and Urban Planning
2013	Circular on the Development of Coastal Areas in the Kingdom of Cambodia and associated Framework Plan
2013	Spatial Planning Handbook: Provincial Spatial Planning
2013	The National Policy and Strategic Plan for Green Growth 2013-2030
2013	The Rectangular Strategy (RS)-phase III
2013	Documentation on Mechanism for Coordination of Land Management and Urban Planning in Cambodia
2013	Spatial Planning Handbook: Provincial Spatial Planning
2014	Law on Land Management and Urban Planning (DRAFT)
2014	National Housing Policy
2014	National Strategic Development Plan (NSDP) 2014-2018
2015	Industrial Development Policy (IDP)
2015	National Urban Development Strategy Framework (DRAFT)
2016	National Environment and National Resources Code

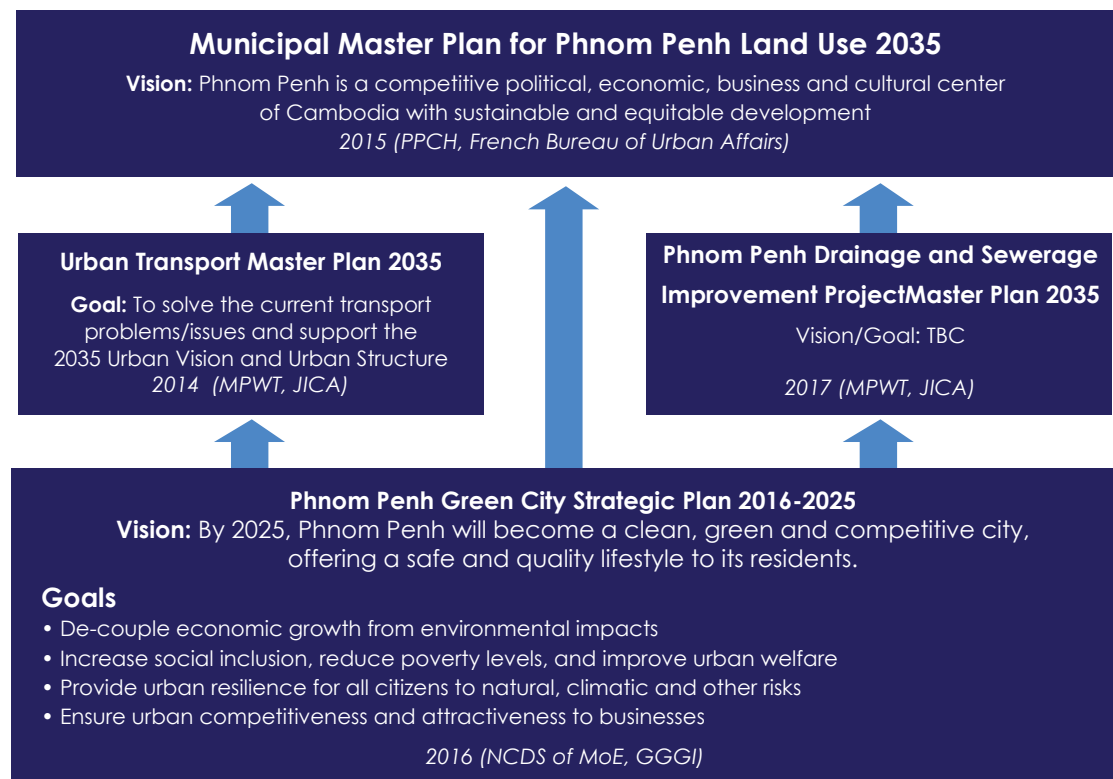
Annex Box 1: Visions for Phnom Penh

The priorities set forth in the Sub-Decree No. 181 and the Phnom Penh Master Plan 2035 include:

- ❖ The rehabilitation and development of physical infrastructure including: national road network and ring road, shipping and logistics port, railway network, and inter-functional inland dry port.
- ❖ Preparation of city-wide Urbanization Plan with emphasis on: network of public spaces, road network, green spaces, urban service hubs outside of the central four khans, and logistics systems.
- ❖ Special Heritage Zones and Green Conservation including: development of Chak Tou Mok Site, development of Beugngng Kok Area, development of Northern Lakes, management of water treatment and reservoir, management of waste landfill, restrictions on construction of tall buildings, and policies on land, housing and real estate.

Efforts to establish an “Urban Development Vision for Phnom Penh” has successfully been endorsed by the various stakeholders through the Sub-Decree, and various sectoral master plans align with the development vision for Phnom Penh, as shown in Figure 1.11.

Figure 1: Development Visions for Phnom Penh



Source: GGGI, 2016, *Phnom Penh Green City Strategic Plan 2017-2026*.



The World Bank

Cambodia Country Office

10th Floor, Exchange Square Building

Streets 51-61 and Streets 102 -106

Sangkat Wat Phnom, Khan Daun Penh

Phnom Penh, Cambodia

Website: www.worldbank.org/cambodia