

Moratuwa Development Plan 2019 - 2030

Volume I



Urban Development Authority
June, 2019

Moratuwa Development Plan

2019–2030

Volume I



Ministry of Megapolis and Western Development
Urban Development Authority

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This Moratuwa Development Plan is consisting of two Volumes; they are Volume One and Volume two. The Volume One includes two sub sections as Part 1 and Part 2. The Part 1 of the Volume One provides introduction to the Development Plan, study of the background that led to the preparation of the development plan and followed by establishment of the need for a development plan for the development of the Moratuwa Town while Part 2 devoted to discuss the vision of the Development Plan, goals and objectives, concept plan and the strategic plan adopted.

The Volume Two of this plan has been set out as a separate publication as it includes the legally enforceable development and zoning regulations during the effective planning period of the Development Plan starting from 2019 to 2030. The Moratuwa Development Plan was prepared by the Western Provincial Division of the Urban Development Authority (UDA) with the assistance and guidance of the multiple functional divisions of the UDA.

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Geographical Information System Division
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Acknowledgement

The preparation of the Moratuwa Development Plan, enforceable over a time period spanning from 2019 to 2030, has been realized with the invaluable contributions made by the staff of the Western Provincial Division and the Research and Development Unit of the Urban Development Authority and with the coordination of all the stake holders who were involved in bringing up the development to the Moratuwa Town.

We, the Planning Team of the Moratuwa Town, greatly appreciate the effective leadership role played by the Minister of Megapolis and Western Development, Hon. Patali Champika Ranawaka, in infusing the courage and vision that guided us to reach the target in time. The Hon. Mayor of the Moratuwa Municipal Council and his staff extended their fullest corporation and support to the Planning Team in finalizing this plan ensuring that the main issues of the town are prudently and realistically addressed to within this Development Plan preparation process. We thank him and his staff for their invaluable contributions.

There are many agencies, both public and private, made invaluable contributions towards improving the analytical quality and fine-tuning of the recommendations made in the planning process. The residents and stake holders, who actively participated at the workshops held in this regard, provided information that helped the Planning Team in producing an implementable plan for the development of the Moratuwa Town.

We express our deep gratitude to the Chairman of the UDA, Dr. Jagath Munasinghe, for his continuous innovative guidance provided to us throughout the development plan preparation process, enabling presentation of this plan on an advanced scientific format, together with application of new technologies. Our thanks are also due to Eng. S. P. Rathnayaka, the Director General, Additional Director General, Deputy Director General (Planning and Operation) and all the other Directors of the UDA who extended their corporation in making this development plan a reality. We express our sincere gratitude to all of them.

It is also our duty to thank the Western Province Division, Research and Development Unit, Geographical Information Systems Division, Enforcement Division, Environmental and Landscaping Division, Projects Management Division, Urban Regeneration Project Division and all the other Divisions of the UDA which provided their assistance in making this endeavor a reality. We also convey our heart-felt gratitude to all those who extended their assistance to the planning team in making this exercise a great success.

Honorable Minister’s Foreword



The Urban Development Authority is now commemorating completion of its 40th year since its establishment in 1978 following the enactment of the Law no 41 of 1978, during this period of its existence it has been devoted itself to the achievement of planned urban development in the Country. This Authority is currently passing through another milestone of preparing development plans for all the urban areas falling within the Western Province.

We are fully aware of the fact that the establishment of a planned urban development process in the Country, within the given socio-economic, political and cultural context, is a challenging task. The Governments that came to power consecutively in the past implemented many incompatible development plans in the absence of national policies, which inevitably resulted in emergence of many critical issues in the urban sector of our Country. In this backdrop, it has become necessary to establish a smart urban network that will be compatible with the needs of the Country while preserving our indigenous identity. It is our duty to put a halt to the projects that are destructing the lives of people, destroying the natural environment, costing a colossal amount of public money with no tangible benefits to the public and all kind of irregular urban development projects. We have now reached a time where we have to identify the urban development projects through a scientific analytical process which are capable of yielding benefits to the general public while contributing to the betterment of the Country at large.

I am extremely happy to be aware of the fact that this Moratuwa Development Plan preparation had been handled by experienced professionals, through application of modern digital technologies following scientific process of planning and with a wider participation of the general public and the relevant stakeholders. I appreciate very much the commitment and the dedication devoted by the Chairman, Director General and their Planning Team of the UDA in successfully completion of this much awaited assignment. I also take this opportunity to appreciate and thank the Local Authority and both the Public and Private Agencies which extended their invaluable assistance and corporation in making this endeavor a success.

Patali Champika Ranawaka
The Minister
Ministry of Megapolis and Western Development.

Chairman's Foreword



The Urban Development Authority is the leading agency in the Country which is entrusted with authority by enactment to manage the urban environment of the Country. The Urban Development Authority Was established in 1978 with the main objective of promoting and monitoring the integrated urban development of the Country for the betterment of the general public.

The Minister in charge of the subject of urban development for the time being is empowered by the provisions provided for under the no 4 of 1982 amendment (Part II Section 8A (10)) effected to the Principal Enactment to direct the Urban Development Authority to prepare development plans for the areas declared as urban development areas under this Law. Accordingly, the Moratuwa Development Plan was prepared by the Urban Development Authority in keeping with the provisions of this Law.

Our journey of producing this plan has not been a comfortable one; it was full of challenges and risks involved in every step taken forward. However, now I am extremely happy and proud to state that the Urban Development Authority is now capable and equipped with modern technologies of and in handling such challenging tasks in the future.

I take this opportunity to extend my heartfelt thanks to the officers of the Planning Team who has shown a strong commitment and devotion in successful completion of this challenging endeavor in time and to those who extended their assistance and corporation in multiple ways to the Planning Team to make their assignment a reality. My sincere hope is to see the similar devotion and commitment of all those who were involved in producing this plan would be extended towards successful implementation of this plan as well.

Dr. Jagath Munasinghe
Chairman
Urban Development Authority

Honorable Mayor's Foreword



I convey my heartfelt thanks to the Urban Development Authority of the Ministry of Megapolis and Western Development for preparation of this Moratuwa Development Plan, and declaring it under the provisions of the relevant enactments in order to make it legally enforceable.

I am also happy to state that preparation of this Development Plan with the main focus on the betterment of the general public following identification of the issues and problems of the people of Moratuwa is a timely step taken by the Urban Development Authority. I also have to appreciate the fact that this plan preparation process involved an extensive public consultation process with the staff of multitude of Governmental and Non-Governmental organizations, residents and investors. The involvement of the stakeholders in the plan preparation process is commendable.

I express my sincere gratitude to the Urban Development Authority, which is the principal stakeholder of the development of the Moratuwa Town, for directing its Development process with a long-term vision through this Development Plan 2019-2030 which has been finalized in keeping with the provisions of the relevant enactments. It is also my sincere hope that the Urban Development Authority may have the strength and the ability to implement this Development Plan successfully.

Samanlal Fernando
The Mayor,
Moratuwa Municipal Council

Preamble

The Urban Development Authority Law no 41 of 1978 empowers the Minister in charge of the subject of Urban Development for the time being to declare any area as an urban development area under the Section 3(1) and (2) of the said Law. Accordingly, the Minister in charge of the subject of the urban development declared the Moratuwa Urban Area as an urban development area by a special Government Gazette Notification published bearing number 26/8 dated 7th of March 1979.

This Development Plan of Moratuwa covers the time period from 2019 to 2030 and prepared with the main objective of achieving a sustainable physical, social, economic and environmental development for the benefit of the people. This plan has been prepared by using the information that were available in the year of 2018.

This development plan is consisting of two Volumes, namely Volume I and Volume II, of which the Volume I includes two parts. The first Part is consisting of three Chapters. The first Chapter focuses on explaining the scope of the development plan, the stakeholders who made contributions and provided consultations and the methodology adopted in the plan preparation process.

The second Chapter deals with the historical background of the Moratuwa area, physical, social, economic and environmental context including situational analysis. This Chapter has also been devoted to analyze the regional and national linkages and their significance in the process of development. Finally, this Chapter deals with the delimitation of the planning area within which this development plan will be enforceable during the planning period.

The Third Chapter focuses on the issues of the planning area identified through analysis of primary and secondary data and this Chapter finally discusses the reasons as to why this development plan is necessary and its significance in the Moratuwa Town development process.

The Second Part of the Development Plan starts with the Fourth Chapter, which discusses in detail the vision, the goals and the objectives that help reaching the expected destination. The Fifth Chapter devoted to identify the strength, weaknesses, development opportunities and threats in the planning area and their details were discussed extensively.

The sixth Chapter focuses on how the development forces are directed under this development plan towards reaching the intended development during the planning period. The strategies identified through analysis in the planning process will be discussed in detail in this Chapter and describes the methodology of achieving the objectives of the development plan during the planning period from 2019 to 2030. The social and physical infrastructure development strategy, economic development strategy, sustainable development strategy and the strategic development projects that are being proposed are also discussed in this Chapter in detail.

The first Chapter of the Volume II describes the use zones identified in the development plan and their boundaries including the regulations enforceable within such zones while the Second Chapter deals with the building development regulations enforceable within such use zones.

Table of Content

Acknowledgement	III
Honorable Minister's Foreword	IV
Chairman's Foreword	V
Honorable Mayor's Foreword	VI
Preamble	VII
Table of Content	VIII
Part I	
Chapter 01 : Background of the Development Plan	01 – 06
1.1. Introduction	02
1.2. Stakeholders of the Development Plan	02
1.3. Scope of the Development Plan	04
1.4.Planning Process	05
Chapter 02 : Preliminary Study	07 – 43
2.1. Study Area	08
2.2. Planning and Situational Context	10
2.3. Boundary Delineation of Planning Area	42
Chapter 03 : Need of a Development Plan	45 – 52
3.1. Introduction	46
3.2. Identification of Problems	46
Part II	
Honorable Minister's Approval	54
Gazette Notification	55
Chapter 04 : Framework of the Development Plan	59 –64
4.1. Vision of the Development Plan	60
4.2. Vision Statement	61
4.3. Goals of the Development Plan	62
4.4. Objectives of the Development Plan	62
Chapter 05 : SWOT Analysis	65 –92
5.1. Encapsulated SWOT analysis	66
5.2. Detail SWOT Analysis	69
Chapter 06 : Development Plan	93 –176
6.1. Concept Plan	94
6.2. Proposed Land Use Plan	96

6.3. Infrastructure Facilities Development Strategic Plan	99
6.3.1. Service Management Plan	99
6.3.2. Road and Transport Plan	107
6.3.3. Water Supply Plan	122
6.3.4. Electricity Supply Plan	125
6.3.5. Waste and Sewer Management Plan	126
6.3.6. Solid Waste Management Plan.	130
6.4. Economic Development Strategic Plan	132
6.5. Sustainable Environmental Strategic Pla	137
6.5.1. Environmental Conservation Plan	139
6.5.2. Landscape Management Plan (LSP)	141
6.5.3. Public Outdoor Recreational Space Management Plan (PORS)	144
6.5.4. Disaster Management Plan	147
6.6. Strategic Plan of Project Implementation	148
Abbreviations	185
List of Maps	186
List of Figures	186
List of Tables	188
List of Annexures	189
Annexures	191
References	206



Part 01



01

CHAPTER



Background of the Development Plan

CHAPTER 01
Background of the
Development Plan

Introduction

Stakeholders of the
Development Plan.

1.1. Introduction

Development plan preparation may be described as a process of planning an urban area declared under the UDA law with a view to develop that area integrating social, economic, physical and environmental aspects and monitor the process.

The Minister in charge of the subject of urban development for the time being may declare certain areas as urban development areas under the Section 3 (1) and (2) of the Urban Development Authority Law No 41 of 1978 to prepare development plans for such areas as provided under the provision 8 II (a) of the Urban Development Authority (Amendment) Law No 4 of 1982.

The Moratuwa urban area had been managed by an Urban Council since 1930, and it was subsequently brought under the UDA Law as an urban area by the Government by a Special Gazette Notification, bearing No 26/8 issued by the Minister in charge of the subject of Urban Development on 7th of March 1979, and then in 1998 this urban council was promoted to the status of a Municipal Council. Accordingly, the UDA, in keeping with the provisions of the Law, a first ever development plan for this town with a planning horizon from 2005 to 2020 was prepared and legalized under the Law by publication of this plan in a Gazette Notification bearing No 1396/7 in the year of 07th of June 2005.

Since the first development plan is currently approaching the end of its legally-effective planning period and that the changing physical, social, economic and environmental circumstances inspire a strategic planning intervention to address the issues prompted by such changes, the UDA initiates action to prepare a development plan for this town with a vision to continue the planning intervention in the development process to continue uninterrupted.

1.2. Stakeholders of the Development Plan.

As it was initially decided by the Planning team, to get the participation of the stakeholders, representing the relevant development sectors, such as industry, environment, economic, administration and infrastructure sectors, following stakeholders were engaged in the development planning process.

Prime Partner

1. *Moratuwa Municipal Council*

Consultative Institutions

1. *Divisional Secretariat, Moratuwa*
2. *Department of Census and Statistics*
3. *Department of National Physical Planning*

4. *National Enterprise Development Authority*
5. *Central Environmental Authority*
6. *Department of Coast Conservation*
7. *Department of Sri Lanka Railways*
8. *National Housing Development Authority*
9. *Sri Lanka Land Reclamation and Development Corporation*
10. *Sri Lanka Transport Board*
11. *Road Development Authority*
12. *Sri Lanka Telecom*
13. *Ministry of Megapolis and Western Development*
14. *Police Station, Moratuwa*
15. *De Soyza District Hospital, Lunawa*
16. *National Water Supply and Drainage Board*
17. *Civil Aviation Authority*
18. *Department of Buildings*
19. *National Building Research Organization*
20. *Department of National Land Use Policy*
21. *University of Moratuwa*
22. *Colombo District Secretariat*
23. *Sri Lanka Export Development Board*
24. *Lanka Electric Company Pvt Ltd.*
25. *Ceylon Electricity Board*

CHAPTER 01 Background of the Development Plan

Stakeholders of the
Development Plan.

Other Institutions represented at the consultations

1. *Carpenters' Association – Moratuwa*
2. *Three-Wheelers' Association – Moratuwa*
3. *Trade Association – Moratuwa*
4. *Fishermen's Association – Moratuwa*

Planning Team- Urban Development Authority

1. *Mr. Janak Ranaweera*
(Director-Development Planning and Research & Development Unit)
2. *Ms. Dayani Francis*
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(Deputy Director (Planning)- Western Province Division)
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5. *Ms. P.D.C. Jayamali Jayawardhane*
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6. *Ms. Shanika Sumanapala*
(Assistant Planning Officer- Research and Development Unit)
7. *Ms. Monali Rupasinghe*
(Assistant Planning Officer- Research and Development Unit)

CHAPTER 01 Background of the Development Plan

Stakeholders of the
Development Plan.

Scope of the
Development Plan

Other Functional Divisions Assisted

1. *Development Planning Division*
2. *Research and Development Unit*
3. *Geographical Information Systems Division*
4. *Environmental and Landscape Division*

1.3. Scope of the Development Plan

The Moratuwa Municipal Council (MMC) is one of the prime Municipal Councils in the Administrative District of Colombo. The Galle road and the railway track that run across this town established a dynamic relationship between the Western Province and the Southern Province of the Country. The National Physical Structure Plan-2030 prepared by the Department of National Physical Planning set out the Moratuwa town within the high-density urban zone while the proposed Spatial Structural Plan-2050 includes it within the economic corridor. The Western Megapolis Structure Plan envisages to develop the Moratuwa town within the urban high-density development zone and to place it in the 2nd order of the urban hierarchy. Taking such effective planning policies in to consideration, the Moratuwa will be developed as a second order town.

The Moratuwa MC, being situated within an urban environment with close proximity to the City of Colombo, it has been endowed with a picturesque environment surrounded with beautiful beach, Bolgoda Lake and the Lunawa lagoon. However, the issues emanating from the disorderly developments in this town relating to the socio-economic and environmental spheres inspire a need for a strategic urban development plan to drive the development process towards an orderly development avoiding such issues.

This development plan was prepared with the aim of establishing a sustainable development for residential green city in the Moratuwa MC area through physical, socio-economic, and environmental development. This development will be based on the strategic plans that had been prepared covering the areas of sustainable environment, infrastructure networks and socio-economic sectors.

The development plan has a long-term vision for an integrated development of the Moratuwa MC area based on the strategic plans included therein, but the stated vision of the plan is confined to a period of 12-years. This can be identified as a limitation in the scope of the plan. The current land use pattern demonstrates that the Moratuwa MC area has been developing with a greater inclination towards a commercial and industrial development, however development of this town based on tourism industry combined with the strategic plan of the city of Colombo development as a water front tourist attraction also can be integrated in to the plan with a view of making use of the potential of the water front though it appears as a limitation.

1.4. Planning Process

The preparation of the development for the Moratuwa MC area, right from the beginning to the end, has followed a planning process which includes 10 steps. The Figure No 1.1 depicts the 10 steps included in the said Planning process.

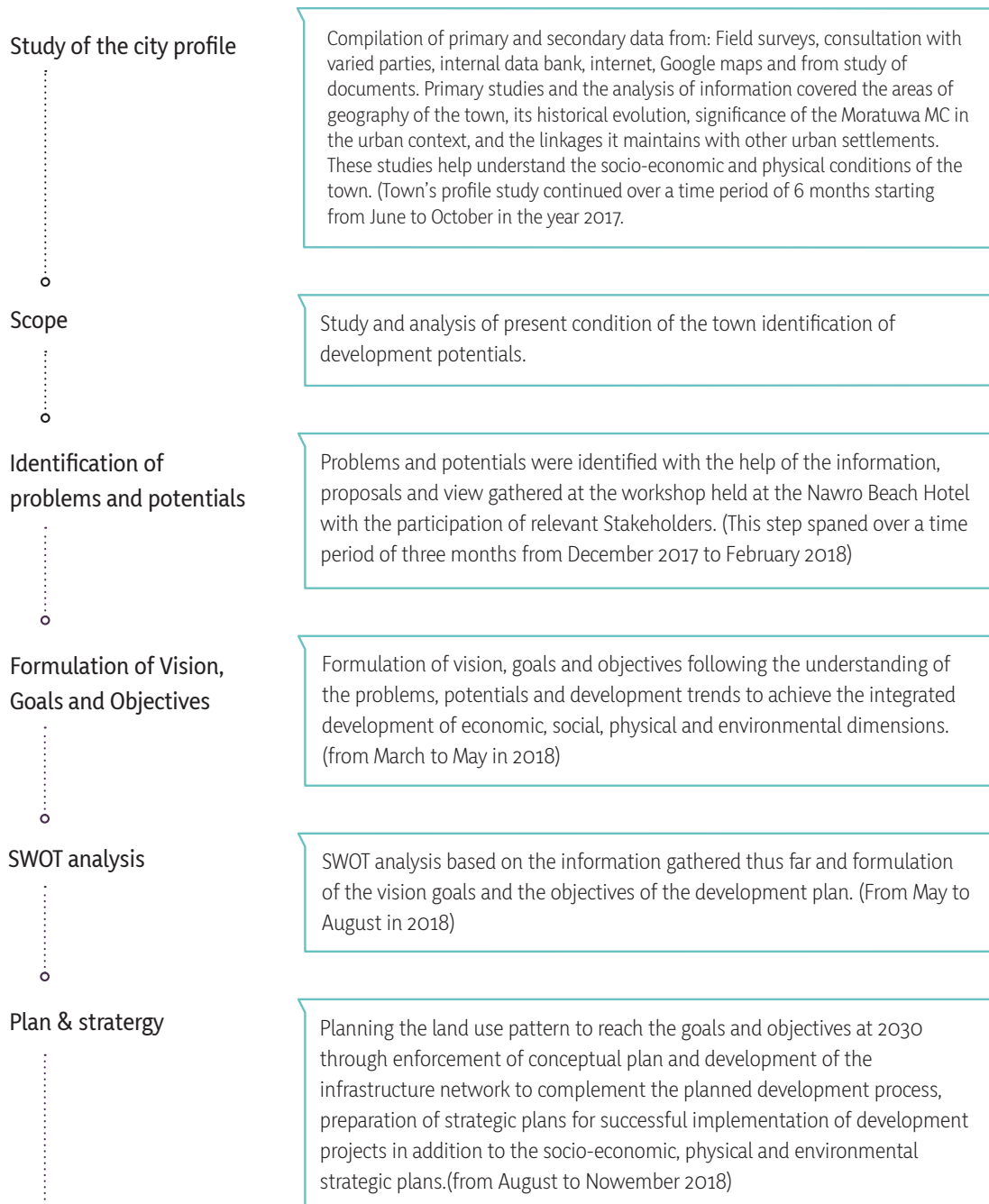




Figure 1.1 : Planning Process

02

CHAPTER



Preliminary Study

CHAPTER 02 Preliminary Study

Study Area

The positive development trends in the present context of development, having potential to drive the development process in the future, particularly during the next 12-year planning period, to reach the Goals and the Objectives set out in the development plan were identified through the studies of the city profile. Accordingly, this chapter has been set out to cover the areas of planning area study, planning and conditional context study and delimitation of the planning area.

Under the planning area study, the location of the Moratuwa town with its influencing areas and its boundaries were identified while the planning and situational context focused on the study of historical evolution of the town and its background, physical, social, economic and environmental characteristics, past planning efforts in the city management and the current land use pattern. In delineation of the planning area, aforesaid areas were studied in depth and depending on the active influencing area and the administratively authoritative boundaries the planning area of the Moratuwa town was determined for the purpose of this development plan.

2.1. Study Area

The Moratuwa MC area situated 19 Km to the South of the City of Colombo occupies a land area of 23.4 sq.km, and surrounded by natural boundaries on three sides. This urban centre, bounded on the West by the picturesque beach, on the East and the South by a similar water fronts of Bolgoda Lake, is one of the five Municipal Councils in the Administrative District of Colombo. The authoritative land area of the Moratuwa MC includes 42 Grama Niladari Divisions. The figure no 2.1 depicts the geographical location of the Moratuwa MC area within the administrative organizational set up of the Colombo District. Accordingly, the Moratuwa MC administrative area is bounded on the North by the Rathmalana Divisional Secretariat Division, on the East by the Bolgoda Lake and the Kesbawa Divisional Secretariat Division, on the South once again by the Bolgoda Lake and the Kaluthara Administrative District and on the West by the sea with a 10.5 Km long wonderful beach.

CHAPTER 02
Preliminary Study

Area of Study



Figure 2.1 : Geographical Location of the Moratuwa Municipal Council
Source : Urban Development Authority, 2018

CHAPTER 02
Preliminary Study

Planning and
Situational Context

Historical Background
and Evolution of the
Moratuwa Town

2.2. Planning and Situational Context

The study of Planning Context and the situational analysis were carried out through the study of historical evolution process of the Moratuwa town. The planning boundaries were defined on the basis of the findings of the studies undertaken covering the physical, economic, social and environmental aspects and Moratuwa town was placed on the appropriate position in the urban hierarchy of the country at the national, provincial and local levels. The chapter is set up accordingly.

2.2.1. Historical Background and Evolution of the Moratuwa Town

2.2.1.1. Evolution of the Name Associated with the Legends

The historical legends reveal that there was a “Mora” tree dominated- forest in the Moratuwa area, so this forest was called “Mora Ata”, and over the time it was evolved to be “Mora Atuwa” and then it has been evolved to be “Moratuwa” in the modern history. Further when going down in the history lane it is found that the Sanskrit language uses the word “Morata” to mean the “Moru”, accordingly the name Moratuwa was established as the name of this town.



Figure 2.2 : The Moratuwa Town in the History
Source : Lankapura Internet Website

Historical celebrities of “Sandesh Poems” such as “Thisara Sandeshaya”, “Gira Sandeshaya” and “Kokila Sandeshaya” made references to the Moratuwa town with poetic description of certain aspects of the urban life. The author of the “Thisara Sandeshaya” poem, believed to be written during the reign of King Parakumba V during the years of 1348 when he was ruling the “Dadigampura” area, advised the swan, which had to carry a letter via Moratuwa, to stay there and enjoy its beauty. The “Gira Sandeshaya” makes

references to some urban leisure activities of "Moratu Eliya". The "Kokila Sandeshaya" describes a village called "Lakshapathiya" where existed a garden full of coconut trees. This village has been existed to date and this name has been existed throughout the history defying the evolution. .

2.2.1.2 Evolution of Administrative Boundaries

a) *Era of Pre-Colonial Rule*

During the pre-colonial rule of Sri Lanka, the Moratuwa town had been divided in to six administrative units; namely Moratueliya, Moratupitiya, Moratumulla, Moratuwella and Moratudikwella.

b) *Era During the Colonial Rule*

The Moratuwa town was established administratively as an Urban Council in 1930 following through many an evolutionary event being influenced by the foreign invasions in the past. The notable evolutionary events that led up to the current position are encapsulated bellow.

Period of Dutch Rule: In the year of 1735 during the Dutch rule the Moratuwa town limits existed thus far were expanded to include the Koralawella to be a part of the Moratuwa town administration.

Period of British Rule: The colonial rule of the Country was transferred by the Dutch rulers to the British rulers in the year of 1835. The British rulers further expanded the administrative area of the Moratuwa town over the Villages of Katukurunda and Egoda Uyana. In the year of 1908 the District Development Council was established and followed by the establishment of the Moratuwa Urban Council in the year of 1930.

The Moratuwa Town had been undergoing formidable waves of cultural and social changes, being influenced by the foreign rulers, and as a result the Christian religion was expanded swiftly in this area paving the way for mushrooming the churches and the schools for educations.

c) *Post-Colonial Rule*

The Moratuwa Urban Council's administrative area was brought under the Authority of the UDA for physical planning and development purposes by the Minister in charge of the subject of urban development by a special gazette notification issued bearing number 26/8 dated 7th March 1979 as per the powers vested with him under the section 3 (1) and (2) of the Urban Development Authority Law no 41 of 1978.

Hence forth the Moratuwa had been continuing as an Urban Council until it was promoted to be a Municipal Council in the year of 1998 in the hierarchy of the Local Authority administration. Presently it is functioning as one of the five Municipal Councils in the Administrative District of Colombo.

CHAPTER 02
Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context

2.2.2. Moratuwa in Today's Context

The planning context of the Moratuwa town was identified through analysis of the information associated with the social, economic, physical and environmental sectors. Those sectors are examined in the following sections.

2.2.2.1. Study of Physical Dimension of the Town

This study, that covers the subject areas of land use pattern, national and regional or provincial linkages maintained by the Moratuwa town, transport facility network and the infrastructure facilities and helped understand the physical characteristics of the locality.

a) Land Use Pattern

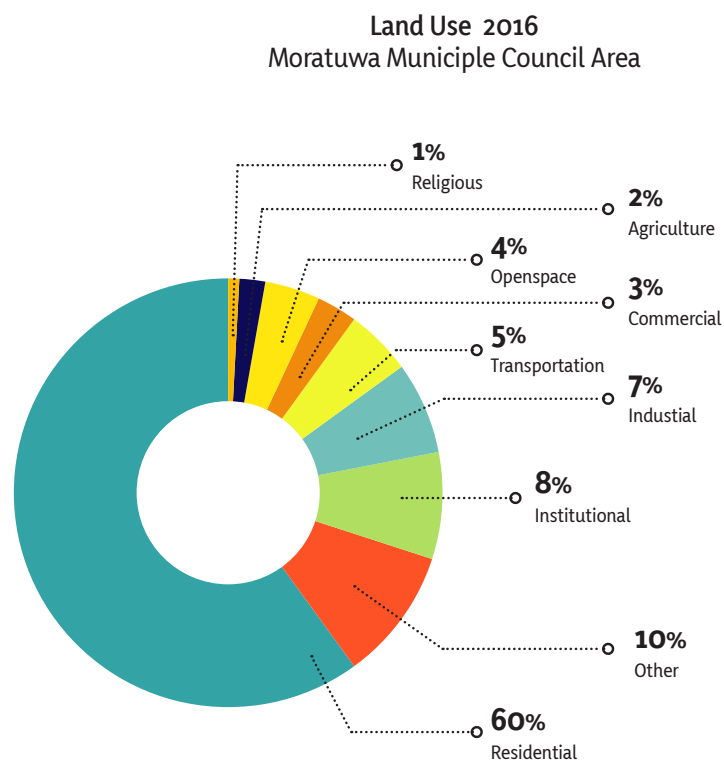
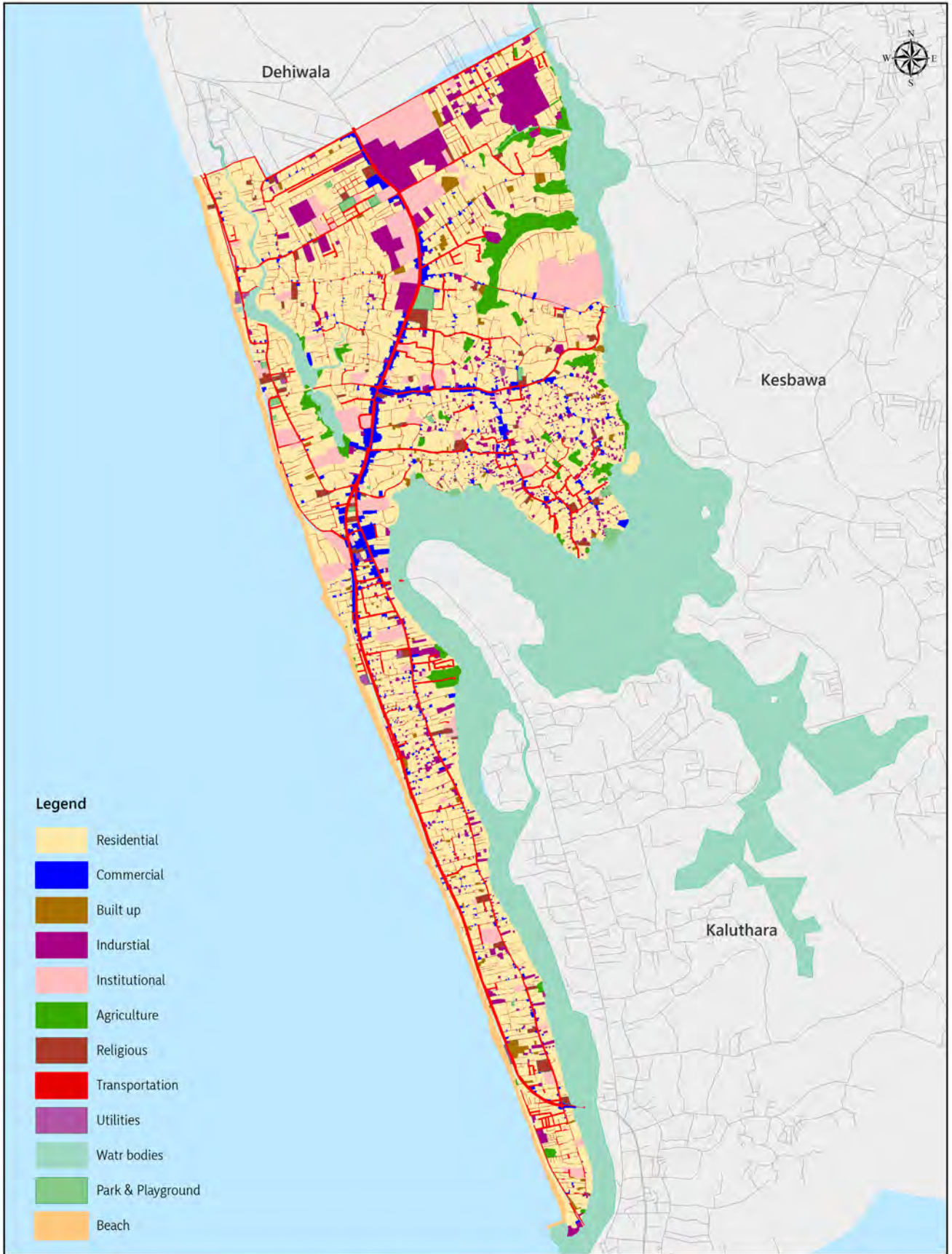


Figure 2.3 : Moratuwa Land Use Profile
Source : Urban Development Authority, 2016

The land use pattern depicted in the map no 2.1 reveals that the 60% of the total land area has been used for residential purposes while approximately 4% is being used for the industrial activities. A detail of the land use pattern in the Moratuwa town is exhibited in the map no 2.1.



Land use- 2016
Moratuwa Municiple Council

0 0.325 0.65 1.3 1.95 2.6 Kilometers

Urban Development Authority
 December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 2.1 : Land Use Pattern of the Moratuwa Town

Source : Urban Development Authority, 2018

CHAPTER 02
Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context

b) National and Provincial Linkages

Moratuwa town established and maintains a strong network of linkages through a network of nationally and provincially significant institutions functioning within its administrative boundaries. The University of Moratuwa, German Technical Training Institute, Arthur C Clark Centre, National Apprentice and Industrial Training Authority (NAITA), International "De Soyza Playground", Lanka Industrial Development Board, Handicraft Advance Training Institute and National Designing Centre are the leading institutes located in this town area supporting the Moratuwa MC to maintain such sustainable linkages with the areas outside of the planning area. The Ratmalana Airport that facilitates the internal flights is located closer to the northern boundary of the Moratuwa MC.

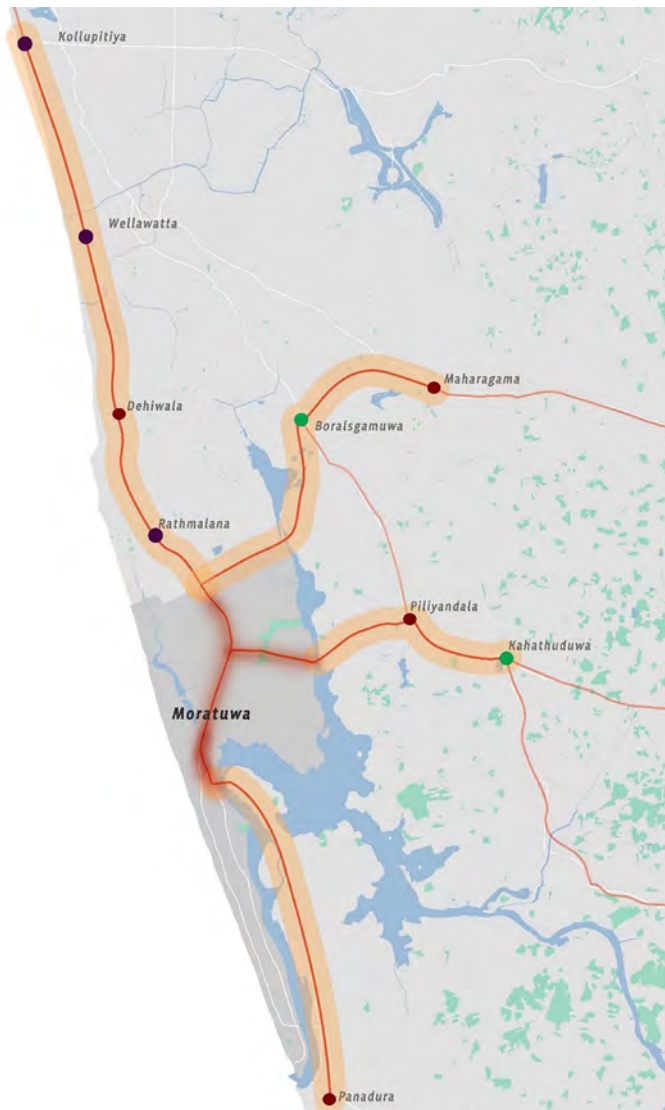


Figure 2.4 : Moratuwa Town and its Provincial Linkages
Source : Urban Development Authority, 2018

The figure no 2.4 depicts the network of linkages sustained by the Moratuwa MC with the surrounding areas; it is linked to the most dynamic suburban towns closely located around itself, such as Rathmalana on the northern boundary, Piliyandala on the eastern boundary and Panadura town on the southern boundary. These suburban towns have become more dynamic in terms of socially and economically along with the outward urban sprawl that has been ongoing as a strong phenomenon motivated by the transport network developments being implemented within the western province. New Galle Road, with its trace running outward of the Colombo City up to the southern boundary of the Colombo Administrative District, along the southern coastal area via Kollupitiya, Wellawatta, Bambalapitiya, Dehiwela, Mount Lavinia Rathmalana, and Moratuwa could be a catalytic development that would provide a strong impetus to the future development of these areas.

c) Transport Network

The Moratuwa town has the advantage of an integrated transport centre located between Galle Road and the southern railway line. The public passenger bus transport station is located hugging the railway station along Galle Road which is expected to be linked with the south-bound New Galle road that is being implemented from the City of Colombo. This rare arrangement will have catalytic role to play in the future city development effort.

Road Network

The land use plan revealed that the road network of this area occupies a land area of 12% of the total land area, and its total length has been recorded as 160 Km. According to the road classification standards of the Road Development Authority, all the roads in the country have been classified under four categories, as "A" Grade, "B" Grade, "C" Grade and "D" Grade. The road network in the Moratuwa town is made up of the roads belonging to these four categories. The Galle road, which is the main arterial road running south-bound across this town, is falling under the "A" Grade category while the Piliyandala-Katubedda road comes under the "B" Grade and the rest of the roads are classified as "C" and "D" grade roads respectively. However, though the road network appears to be covering the entire developed area of the Moratuwa MC area efficiently, in reality 80% of the roads in the planning area are falling within the range of 10-15 feet in width, quite inadequate to cater sufficiently to the dynamism of the city's development.

The "ComTrans" report recorded a total of 30,000 passengers being transported daily along the Galle Road corridor while the vehicles running Colombo bound accounted for 11,600; the same for Galle bound, has been recorded as 10,900 per day. The Colombo-bound vehicles running along the "Weera Puranappu Mawatha" -New Galle Road- have been counted to be 580 in number while the same of Galle-bound has been recorded as 700.

CHAPTER 02 Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context

Rail Road Network

The South bound railway line runs across the Moratuwa town along the coastal belt. The length of the section of the rail way line that is falling within the Moratuwa MC area is 11 Km. This rail line is facilitated with four stations located at Lunawa, Angulana, Korawalwella and Egoda Uyana, all of which are falling within the Moratuwa MC area. The records have revealed that a total number of passengers travel by train from Bambalapitiya to Moratuwa accounted for 79,000 per day, which is a much higher number than the passengers transported by road daily. The popular experience of the passengers is that the travelling by train daily is faster than the travel by road in view of the increasing vehicular traffic in the road network. The average speed of the running trains from Rathmalana to Panadura via Moratuwa has been computed as 18 Km per Hour.

d) Services and Infrastructure Facilities

The settlement pattern of the Moratuwa MC area is characterized by a pattern of clusters each developed organically based on economic activities that provide employment opportunities to the settlers in such clusters. The settlement cluster developed along the coastal zone and the railway reservations is based on the fishing industry. Similarly, the low-income settlements around the river reservation areas based on the timber related industrial activities in areas such as Moratumulla, Indibadda and Willorawatta have been developed. The industrial establishments located in the areas of Borupona, Thelawela, Maligawa (Palace) Road provide employment opportunities for the residence around them.

The settlements around the Katubedda, where the Moratuwa University is located, provides a solid economic base for the settlements developed around it in areas namely Kaldemulla, Soysapura, Luxshapathiya and Thelawela. These areas are providing settlements for the high income and middle-income families.

Year	Housing Units
1981	24,656
1991	32,143
1994	33,541
1999	37,335
2001	40,168
2012	41,633

The information of the Department of Census and Statistics revealed that the Moratuwa MC area has been experiencing a steady growth of housing in number during the last 4 decades. The table no 2.1 depicts the number of housing units enumerated in each census since 1981 up to 2012.

Table 2.1 : Number of Housing Units in the MMC – 1981 - 2012
Source : Department of Census and Statistics- 1981 – 2012

The housing stock in the Moratuwa MC area in the year of 2012 was recorded as 41,633 units, of which 37,033 units were classified as permanent houses while 4,470 units were recorded as semi-permanent houses. The temporary housing units in the Moratuwa MC area, according to the census classifications, 130 housing units were recorded. The housing stock has also been classified by their types; accordingly, 69% of the stock is identified as single housing units, 18% as storied housing, 5% as multi-storied flats, 5% attached housing, 0.7% twin-houses, 1% row houses and 1.3% low income settlement housing units.

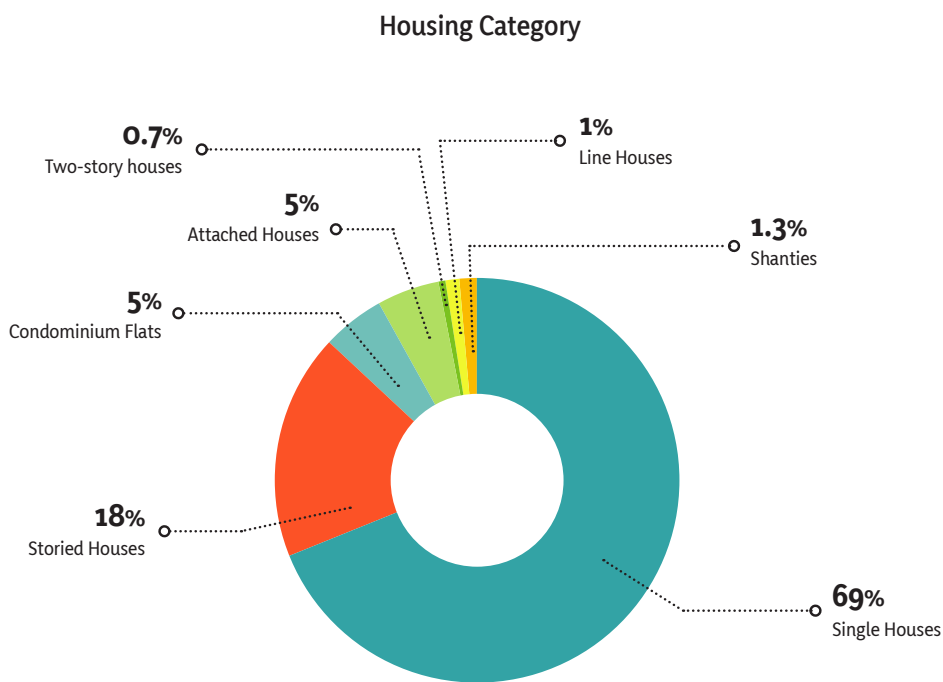


Figure 2.5 : Classification of Housing Units in the Moratuwa MC area by Type
Source : Department of Census and Statistics, 2012

The map no 2.2 was prepared based on the information provided in the records of the Census and Statistics by Grama Nildhari Divisions in the Moratuwa MC area. This record reveals that about 7.27% of the total housing stock of the Colombo Administrative District is recorded in the Moratuwa MC area. When this figure is compared with other areas of the same District, namely Homagama, Maharagama, Kolonnawa, Kesbewa and Kaduwela, the housing density of the Moratuwa MC area appears to be notably high. The average housing density in the year of 2012 enumerated as 1,783 housing units per square Km.

CHAPTER 02
Preliminary Study

Planning and
Situational Context

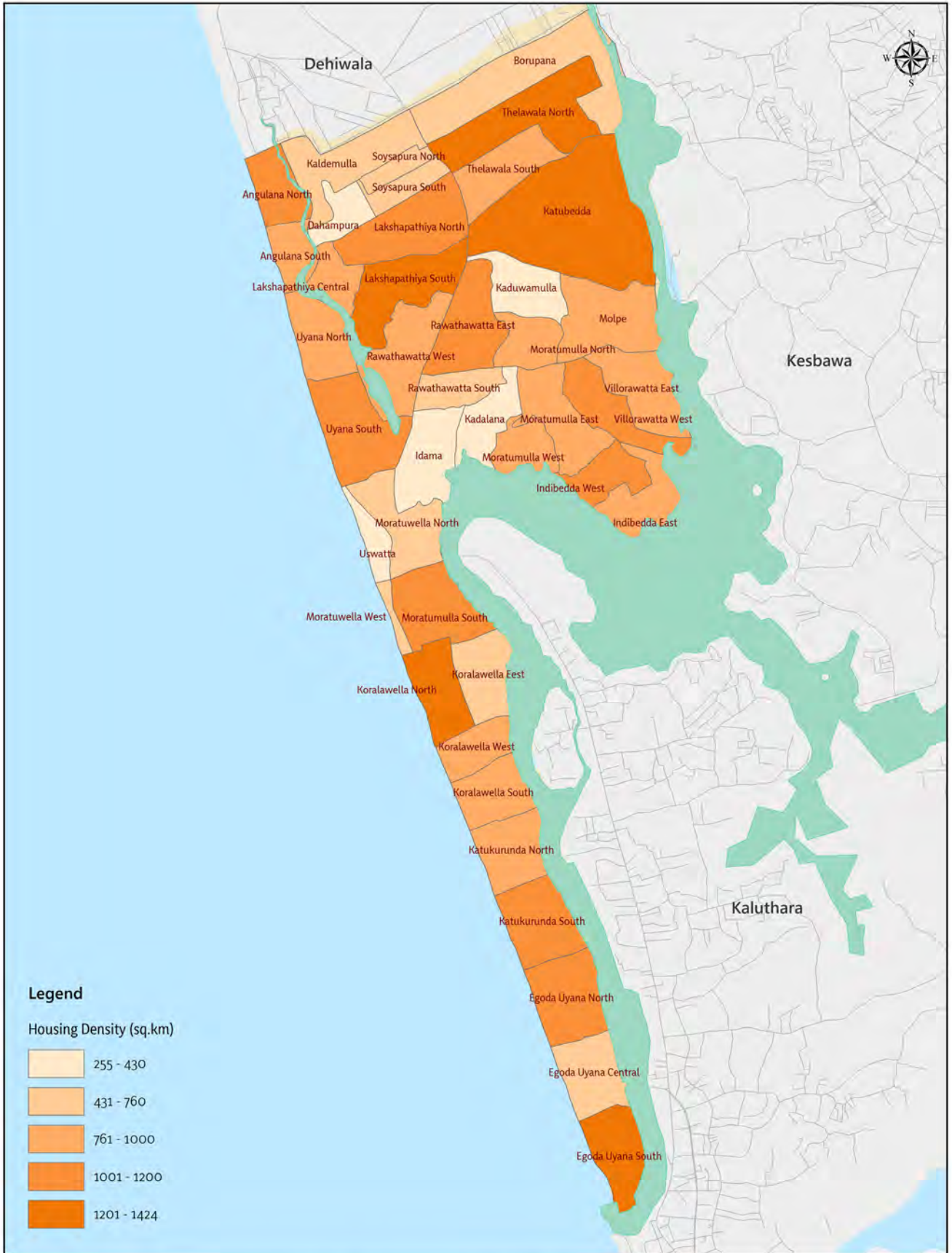
Moratuwa in
Today's Context

Area	Housing Density (per sqkm)
Colombo District	3893
Homagama	399
Maharagama	1133
Kolonnawa	1445
Kesbewa	839
Kaduwela	608
Thimbirigasyaya	2475
Moratuwa DSD	1783

Table 2.2 : Comparison of Housing Density
Source : Department of Census and Statistics, 2012

There is a tendency that the low-income people living in the planning area are compelled to encroach on to the low-lying lands after reclamation, that has become the main reason that the low-income housing areas are confined to the low-lying land areas. Another characteristic visible in these housing areas is that one low-income housing unit accommodates more than one family, which increases the population density as well. The Government authorities, such as National Housing Development Authority, Urban Development Authority and Urban Settlement Development Authority, Red-Cross Society, non-Governmental Organizations and the City managers being aware of this growing housing issue and that it has the potential of giving birth to too many related issues in the environmental and health sectors. In the circumstances above authorities implemented many housing projects at Soysapura, Sayurapura and Tsunami Housing schemes where many families have been relocated from such low-lying lands. However, this solution does not seem to be effective enough to resolve the real housing issues prevailing in the planning area as still there are 6000 people living in the low-lying areas in the Moratuwa MC area. This fact was transpired at the public consultation meeting held with the participation of the relevant officials of the government authorities during the process of development plan preparation.

The Department of Census & Statistics enumerated 41,633 number of housing units and 42,000 families in the Moratuwa MC area in the year of 2012. This indicates a housing backlog of 367 units. This housing backlog figure becomes more critical in view of the fact that the 2012 Census did not include the low-income housing units—that existed in the low-lying areas- in the housing stock. Consequently, the housing backlog prevailed in the Moratuwa MC area would have been much higher than the estimated backlog when the low-income housing units in the low-lying areas too are included in the said housing backlog. In the effort of assessing the actual housing backlog in this area the planning team surveyed and gathered information from many stakeholders of the Moratuwa MC area and able to settle on the figure that 6,000 people are living in low-lying reservations. These people need approximately 1,500 housing units. Further the low-income families living in areas, namely Dandeniawatta, Pittaniyawatta, Batarywatta and Samarkoonwatta need approximately another 1,000 housing units. When all these housing needs are taken in to account the accumulated housing backlog in the planning area reach approximately 3000 housing units.



Housing Density- 2011
Moratuwa Municipality Council

0 0.325 0.65 1.3 1.95 2.6 Kilometers

Urban Development Authority
 December 2018

Source: Census & Statistics Report, 2011 Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 2.2 : Housing Density in the MMC Area -2011

Source : Department of Census & Statistics

CHAPTER 02 Preliminary Study

Planning and Situational Context

Moratuwa in Today's Context

Water Supply

The current water supply to the Moratuwa MC area is in the charge of the National Water Supply and Drainage Board. The water to the Moratuwa MC area is purified at both Ambathale and Kalatuwawa purification plants. How much water is supplied from each plant to Moratuwa MC area cannot be estimated as separate data gathering system is not place in the plant management process. However, the Ambathale Plant has a capacity of purifying 500,000 Cubic meters of water and it caters for the Northern areas of the Moratuwa MC area; namely Soysapura, Angulana and Borupana areas. The Kalatuwawa reservoir operating with a capacity of 60,000 Cubic Meters of water, takes the care of Moratuwa MC areas that have been left out by the Ambathale purification plant.

The span of the Bolgoda Lake with large quantity of potable water may compel one to think that the Moratuwa MC area should be rich in ground water and as such water need of the people may be met through the shallow wells. But the ground water has been more likely to be contaminated with the industrial wastes discharged in to the open drains and the lake. In this view the Bolgoda lake cannot be considered as a safe drinking water reservoir to cater for the needs of Moratuwa MC area.

Electricity Supply

The electricity supply to the Moratuwa MC area is in the charge of both the Ceylon Electricity Board (CEB) and the Lanka Electric Company (LECO). Every Ward of the Moratuwa MC area is covered either by the 33KV lines or 11 KV lines of the National Grid. The 33KV supply line network has a total length of 60 km while that of 11Kv line network has a total length of 230 km. The electricity supply network in the Moratuwa MC area is facilitated by three substations, located at Thelawela, Katubedda and Rawathawaththa and 124 depots. As far as electricity consumption in the Moratuwa MC area is concerned, 85% of the supply is utilized for the domestic purposes, 9% for commercial purposes, 4.5% for industrial purposes and 0.55% for the purposes of religious institutions. The map provided to the planning team by the LECO depicting the electricity supply network maintained by the company is attached as Annexure 1.

Sewer and Waste Water Management

The Moratuwa accommodates considerable number of industrial establishments and high-density residential developments. The sewer and the waste water generated daily by the developments are not properly managed by the authorities, as a result most of such liquid wastes find their ways in to the open drain network and into natural water ways. There is a piped-born network of drainage system in operation covering the areas of Thelawela, Borupona and Rawathawaththa in the Moratuwa MC area. (Annexure no 2)

Solid Waste Management

The solid waste management is currently handled by the Moratuwa MC. The sorted solid waste is collected in two types, carbonic and non-carbonic wastes. The total collection of solid wastes per day ranges between 70-120 tons. The general composition of the wastes collected is 78% bio-degradable, 12% paper based and 10% plastic based.

The solid waste collection depot is located behind the public market complex within the same premises where collected solid wastes is sorted out once again, and about one metric ton of bio-degradable wastes so collected and brought in to the depot is utilized for composting and the balance is sent to the Karadiyana solid waste processing centre. The Karadiyana solid waste processing center may produce, out of the wastes brought in to the centre, either electricity or composts or they may be recycled for reuse.

The records revealed that 30 metric tons of bio-degradable solid wastes are being used for composting after evaporation of humidity equivalent to 60% of the total weight of the wastes used for composting and the carbon left out in the process is ranging from 10% to 20%. The composts so processed at this centre are supplied to the market under the trade name of "Mihisaru".

Non-biodegradable materials, such as plastics, polythene, cans, and others, collected by the service amounts to 1 Ton, 1 Ton, 2 Tons and 6 Tons respectively per week. These materials are removed from the wastes processing centre by private organizations, 20 in number, for recycling purposes.

CHAPTER 02 Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context

CHAPTER 02
Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context

2.2.2.2. The Economy of the Moratuwa Town

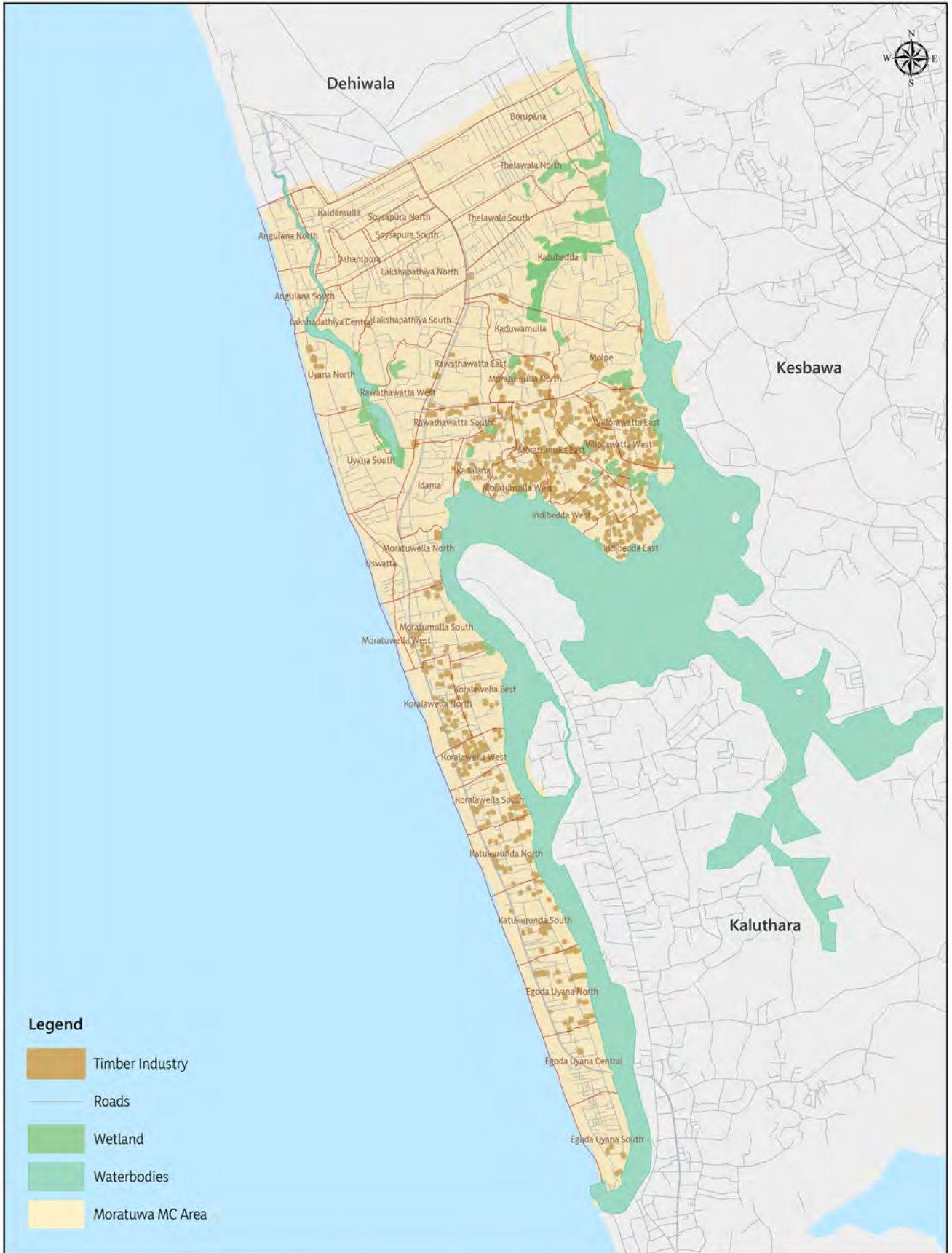
The economy of the Moratuwa town is dominantly led by the timber-based industry, fishing industry and commercial trades and services. The tourism industry is gradually emerging as a new economic sector making use of the environmental features that have the potential of attracting tourism-based activities in this area.

a) *Timber-Based Industry*

Well establish timber-based industry in Moratuwa has been evolving through the history making use of the advantage of the Bolgoda Lake for transport of timber logs along the river from the source. This industry became a specialized activity in the recent history acquiring significant market share of the furniture industry in the Country. This industry is unique to the Moratuwa town and the people employed in the sector acquired labour specialization, and currently this industry is undergoing a modernization process through application of modern technologies. The industrial establishments, functioning based on handicrafts or mechanized process, spread over the areas surrounding the Wards such as Moratumulla, Indibadda, Molpe and Willorawatta, covering approximately 15 numbers of Gramaseva Divisions has a high degree of potential for further developments and strengthening of the local economy. The map no 2.3 demonstrates the spread of the timber-based industrial establishments in the Moratuwa MC area. This industry in the Moratuwa area has today acquired the status of a national furniture centre in the Country through its specialization and it has established a trade name gradually in the context of national furniture trades.

The areas around the Koralawella and Egodaunya wards accommodate small-scale furniture industrial establishments functioning as handicraft industries with specialization for sawing timber logs and making furniture items required for funerals. The areas surrounding the Moratumulla, Molpe, and Indibadda localities are specialized for timber carving, furniture and other timber-based items making. The figure no 2.5 depicts some of the furniture industrial activities in the Moratuwa area.

The study of records revealed that 83% of the timber-based industries in Moratuwa used hard timber as raw materials while 17% use soft and seasoned timber. In 2003, the Research Unit of the Jayawardhanapura University conducted a research on the furniture industry in the Moratuwa Town and produced a report on "A Study on the Status of Furniture Manufacturing, 2003." (Amarasekara. T.A.D.S. and Jayapala M.S.) According to this report the monthly income generated by this industry was estimated to be Rs 54 Mn and annually this figure became Rs 648 Mn. Based on this information the researchers estimated the contributions made by this industrial sector of the Moratuwa town to the GNP to be 0.007%. The timber-based industrial establishments registered at the Timber Corporation recorded 128 establishments while 65000 people are employed in this sector.



Distribution of Timber Industry-2017
Moratuwa Municipality Council

0 0.35 0.7 1.4 2.1 2.8 Kilometers

Urban Development Authority
 December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 2.3 : Locations of Furniture Industrial Establishments -2017

Source : Urban Development Authority, 2018

CHAPTER 02
Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context



Figure 2.6 : Furniture Industry in Moratuwa

Image Courtesy : Photograph at the top left by : www.exploresrilanka.lk, Photograph at the Bottom left corner by : www.greenwood.lk, and the Photograph at the bottom right corner by : www.globalpressjournal.com

b) Fishing Industry

Fishing industry in the Moratuwa area is of three types; namely sea-water fishing, Lagoon-water fishing and Inland-water fishing. The sea-water fishing is predominantly concentrated along the coastal belt to a length of 10.5 km. This fishing area is facilitated by the location of fisheries harbours at Angulana, Moratuwella, Koralawella, Katukurunda, Egoda Uyana and Modara, and by the fishing boat landing sites located at Angulana, Lunawa, Moratuwella, Koralawella, and Katukurunda. (Vide figure no 2.7 and 2.8)

The inland-water fishing industry is based on the Bolgoda lake and the Bolgoda river estuary area being endowed with a rich habitat of mangroves and marshy lands provides fertile lagoon for lagoon-water fishing. The total fish harvest per month of the total industry has been recorded as 7,600 to 20,000 kg.



Figure 2.7 : Fisheries Harbour at Modara
Source : Urban Development Authority, 2018



Figure 2.8 : Trade Stalls near Modara Fisheries Harbour
Source : Urban Development Authority, 2018

c) Commercial Trade

The land use map demonstrated that the commercial activities including whole sale and retail trades and services of the Moratuwa town occupy 3% of the land area and that use is mainly concentrated along Galle Road starting from the town center area. (Vide figure no 2.9)

d) Tourism Industry

The Moratuwa town is situated between the two resort areas of Dehiwela-Mt. Lavinia and the Panadura-Kaluthara and is being endowed with ample opportunities for tourism development. Though Moratuwa is surrounded by such tourism resort areas, the opportunities available have not been made use of in the tourism sector development as the most tourist attractions such as Bolgoda Lake, the beach area and the lagoon are not properly managed with a vision to support the tourism industry. However, there are tourism-related developments currently in progress, such as hotels and condominium housing developments along the embankment of the Bolgoda Lake and the Lagoon area. The water-sports and tournaments are becoming a common feature in the Bolgoda Lake, mostly organized by the investors and the public that drives the tourism activities to ramp up organically.

CHAPTER 02
Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context



Figure 2.9 : Commercial activities of the Moratuwa town
Image Courtesy : Top left Photograph by <https://www.facebook.com/kzonemoratuwa/>, top Right by : www.travelfootprint.net , and the bottom left and right photographs by the Landscape unit of the Moratuwa University.



Figure 2.10 : Tourist Activities
Image Courtesy : Top Left: <https://www.facebook.com/kzonemoratuwa/>, Top Right by www.travelfootprint.net, and the Bottom Left and Right: The Landscape Unit of the Moratuwa University

2.2.2.3. Demographic and Social Perspective

This section is devoted to discuss the demographic profile and the social perspective of the Moratuwa MC area with a view to identify its relevance to the future development of the Moratuwa town. This discussion will cover the areas of population, health, education and crimes and the control of narcotics.

a) Population

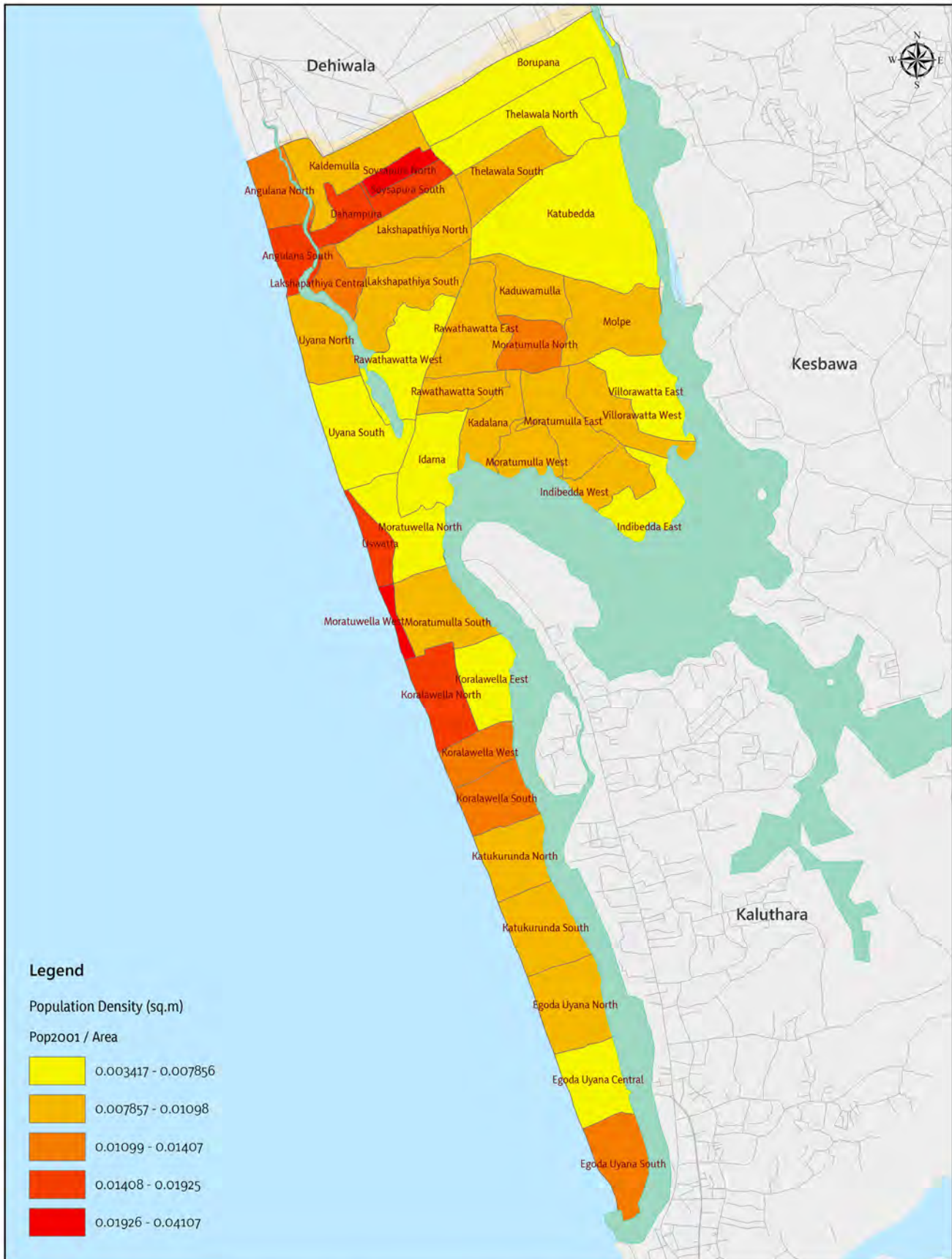
The population of Moratuwa MC area was recorded by the two Censuses enumerated in 2001 and 2012 as 177,563 and 168,280 respectively. The Department of Census and Statistics, based on the census information of 2016, forecast the population of the Moratuwa MC area to be 173,395 people. The information provided by the Census and Statistics Department points the fact that the population in the Moratuwa MC area is gradually declining. This declining trend of the population has been confirmed by the fact that the population growth rate of the Moratuwa MC area was recorded as -0.49%.

The Moratuwa MC area accommodates approximately 7% of the population living in the Colombo Administrative District. The population density ratio of Moratuwa vs Colombo has been computed to be 1:2 based on the population density data, that Moratuwa MC area being 3417 and the same in the Colombo MC area being 7209 per square Kilometer.

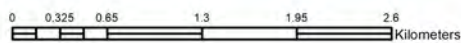
The map no 2.4 and 2.5 demonstrate the population density of the Moratuwa MC area in 2001 and 2011 respectively. These two maps imply that the population in 2001 in GS Divisional areas of Egodaunya South, Rawathawaththa East, Moratumulla North, Moratumulla South, Moratumulla East and Laxshapathiya North had been declining towards the year of 2011 while the same had been increasing only in the Angulana North GS Division during the same enumerations.

The population profile of the Moratuwa MC area, according to the information enumerated in the 2012 Census, the gender composition was 49% male and 51% female. The structure of the population revealed that the people under the age below 15 years recorded 22%, population in the cohort of 15-59 years of age recorded 59% and the population above the 60 years of age was recorded as 13%. These details lead to the conclusion that the economically active population falling within the age cohort of 15 to 59 years indicates a higher figure (59%) which is a catalytic factor that can contribute immensely in the future development effort of the Moratuwa MC area.

The population composition, in terms of the nationality, the majority is recorded as Sinhala while Tamils and Muslims recorded a minority community, in terms of the religion the majority is recorded as Buddhists while the Catholic population also takes a higher figure comparatively.



**Population Density- 2001
Moratuwa Municipality Council**



Urban Development Authority
December 2018

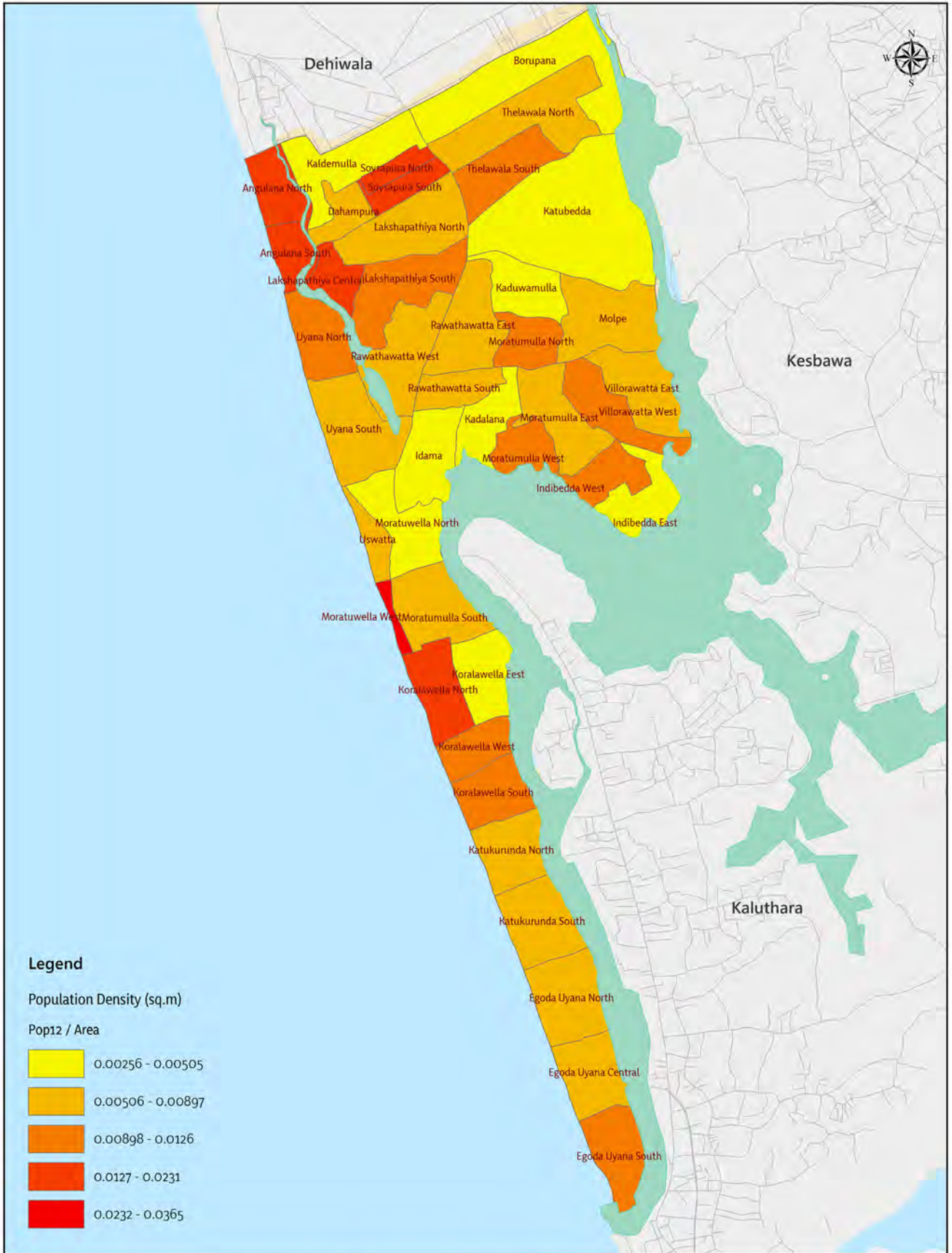
Source: Census & Statistics Report, 2001

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 2.4 : Population Density in the Moratuwa MC Area 2001

Source : Urban Development Authority, 2018



Population Density- 2011
Moratuwa Municipality Council

0 0.325 0.65 1.3 1.95 2.6 Kilometers

Urban Development Authority
 December 2018

Source: Census & Statistics Report, 2011 Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 2.5 : Population Density in the Moratuwa MC Area-2011

Source : Urban Development Authority, 2018

CHAPTER 02 Preliminary Study

Planning and Situational Context

Moratuwa in Today's Context

b) Health Facilities

The residents of Moratuwa are enjoying easy access to the wide verity of options in securing medical health facilities provided by the medical institutions located in the Moratuwa MC area. The medical institutional network is consisting of Government-Managed hospitals, namely De Soysa District Hospital and the Lunawa Ayurveda Hospital and privately run medical centres and central drug stores. These medical institutions offer ample opportunities to the public to choose the type of treatment they wish from the western medical institutions or Ayurveda medical institutions.

The Government-Managed De Soysa District Hospital, located at Lunawa, has been in existence since 1911 and it is one of the oldest Hospitals in this area. Today this hospital is facilitated with three wards together with 83 resident patients' beds. The medical crew of this hospital is consisting of 10 medical officers, 10 nurses and 6 attendants. The medical services provided by this hospital to the general public in the planning area have been reflected in the increased number of patients who admitted to the hospital and received treatments during the year of 2015. The number recorded has been 7800 patients.

The Ayurveda method of medical treatment has been a trusted medical treatment method among most of the local residents. The method of treatment has been deeply rooted in the local traditions and compels the successive Governments to establish such facilities in the Country. The Moratuwa MC area is no exception in this regard. The Government-run Ayurveda Hospital at Lunawa is providing medical services to the local residents as well as those living beyond the Moratuwa MC limits. The records reveal that this hospital received patients from the areas such as Piliyandala, Panadura and Kaluthara areas in addition to the local residents.

The privately run medical institutional network in the Moratuwa MC area is providing a great service to the patients with minor ailments, who otherwise have to visit the Government-run hospitals. In that sense, this privately-run medical network complements with the medical services made generally available in the area. The privately-run medical institutions include 16 number of medical centres, 39 numbers of pharmacies, 02 numbers of central drug stores and 16 numbers of Ayurveda medicine centres. The Annexure number 03 provides the details of the locations of the medical facility centres.

The study of historical medical records, maintained by the MOH Office for the year of 2018 indicates that the Moratuwa Moratuwa MC area has been experiencing high rate of diseases, such as leprosy, dengue and tuberculosis. These diseases seem to be localized, for example the Moratumulla and Lunawa areas have recorded more leprosy-infected patients, the Moratumulla, Rawathawaththa and Katubedda areas recorded high rate of dengue patients and the Rawathawaththa and Egodaunya areas recorded more tuberculosis patients. The table no 2.3 on the spread of patients in the Moratuwa MC area depicts the details recorded during the time period from 2015 to 2017.

Disease	2015	2016	2017	Vulnerable Areas
Dengue	812	1,177	2,597	Moratumulla, Rwathawaththa, Katubedda
Tuberculosis	54	76	61	Rawathawaththa, Egodaunya
Leprosy	78	91	89	Moratumulla, Lunawa

Table 2.3 : Geographical Spread of the Diseases in the MMC area

Source : Moratuwa, MOH Office, 2018

b) Education Facilities

According to 2012 census data, 26% of total population of Moratuwa Municipal Council area are recorded as schooling population and 21,000 students are distributed into 31 schools in Moratuwa as stated by the Western Province Educational Office Annual Report of 2013. The following table depicts the school categorization of Moratuwa Municipal Council.

School Category	No of Schools
National Schools	2
1 AB Schools	2
1 C Schools	3
Secondary Schools	15
Tertiary Schools	9
Total	31

Table 2.4 : School Categorization of Moratuwa Municipal Council

Source : Western Province Educational Office, 2013

Pre-Kindergarten Development Centers - According to the report on "Resource Profile" there are 124 Pre-Kindergarten Schools functioning in the Moratuwa MC area. There is an emerging trend of establishing more international schools in the Moratuwa MC area providing education facilities for the students of standards from kindergarten and above.

Higher Educational Institutions - The University of Moratuwa, established in 1978, has been evolved to the current status with an organizational structure consisting of 04 faculties with a capacity of handling 8,000 students according to the records of the 2013-2014. This University had a staff of 1,200 members including both academic and non-academic staff. The annual student intake of this university recorded an increase of 75% in the last decade and it is likely to be increasing this trend further in the future.

CHAPTER 02 Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context

The Moratuwa MC area accommodates many non-Governmental higher educational institutions providing more job-oriented skill training programs. These institutions are established and run by private institutions; namely Sri Lanka Industrial Board, Arthur C. Clerk Centre, Handicraft Higher Education Centre, Brandix Apparel Technological Science Education Centre, National Design Centre, German Technical Training Centre and Industrial Engineering Training Centre. The Annexure 4 provides more details on the higher education facilities in the Moratuwa MC area.

c) Crimes and Control of Drug Addiction in the MORATUWA MC Area.

Year	No of Crimes	Vulnerable Area	Complains on Drug	Vulnerable Area
2013	552	Koralawella Lunawa Idama Modara Katubedda Laxshapathiya	2,030	Lunawa Rathu Kurusa Watta Katubedda Koralawella
2014	362		1,933	
2015	338		1,241	
2016	333		1,191	
2017 November	232		1,110	

Table 2.5 : Complains Reported on Crimes and Drugs During the Period from 2013 to 2017
Source : Records of the Police Station, Moratuwa, 2018.

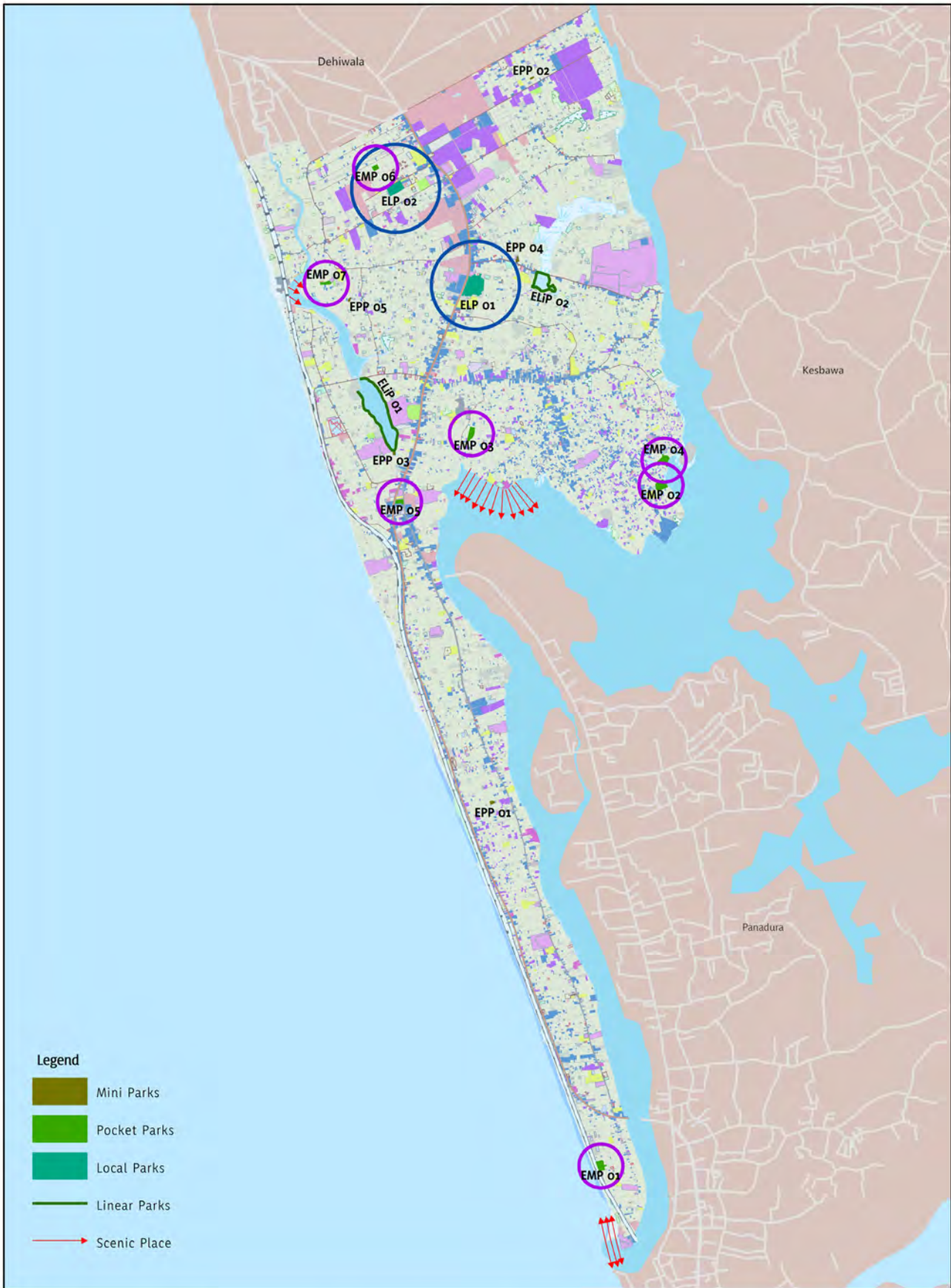
According to the Police reports, more crime and drug addiction related complaints were recorded from the areas surrounding the GS Divisions of Lunawa, Koralawella, Modara, Katubedda, Idama, Laxshapathiya and Redcrosswaththa. The Table 2.5 provides more details of the crimes and drug addictions reported in the Moratuwa MC area.

d) Public Outdoor Entertainment Facilities

The entertainment facilities are concerning as direct entertainment facilities and indirect entertainment facilities and the land extents dedicated for the direct entertainment facilities are listed below in table no.2.6 and map no. 2.6.

Type of park	Code of Park	GN Division	Extent (Hectares)
Existing Pocket Parks (EPP)	EPP 01	Koralawella South	0.11
	EPP 02	Borupone	0.06
	EPP 03	Uyana South	0.08
	EPP 04	Katubedda	0.09
	EPP 05	Lakshapathiya central	0.05
Existing pocket Parks			0.39
Existing Mini Parks (EMP)	EMP 01	Egoda Uyana South	0.6
	EMP 02	Idibedda East	0.8
	EMP 03	Kadolana	0.6
	EMP 04	Willorawatta West	0.6
	EMP 05	Moratuwatta North	0.3
	EMP 06	Kaldelmulla	0.2
	EMP 07	Lakshapatiya Central	0.3
Existing Mini parks			3.4
Existing Local Parks	ELP 01	Rawathwatta East	1.6
	ELP 02	Soyzapura South	2.4
Existing Local Parks			4.0
Existing Linear Parks	ELiP 01	Walkway around Lunawa Lagoon	0.74
	ELiP 02	Katubedda Walkway	0.35
Existing Linear Parks			1.09
Total			8.88

Table 2.6 : Types of Urban Parks in MMC
Source : Urban Development Authority, 2018



Parks & Playgrounds - 2019
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
 January 2019

Source: Field Survey Development Plan Moratuwa (2019-2030) Prepared By: Landscape Division

Map 2.6 : Distribution of Urban Parks in MMC

Source : Urban Development Authority 2018

2.2.2.4. Environmental Sector

As stated previously, the Moratuwa MC Area is endowed with environmental resources unique to Moratuwa. It is also evident that the Moratuwa MC area has many natural disaster-prone areas that need to be identified for the purposes of the current development plan.

a) *Environmental Resources*

The Moratuwa Town, being located in the Low-Country Wet Zone, receives an annual rainfall of more than 2,000 mm during both seasons of climate. The figure no 2.10 depicts the wetlands surrounding the Moratuwa area while the figure no 2.11 depicting the locations of water bodies.

The Bolgoda Lake, that runs south-bound along the east boundary demarcating the Eastern Moratuwa MC Boundary, has been a significant geographical feature influencing the environment to sustainably maintain the bio-diversity. The Northern part of the river that forms the Bolgoda Lake is called "Weras Ganga (River), the central part where the lake is located called "Bolgoda Lake" as it assumed the features of a lake while the Southern part that ends up at the estuary is called "Panadura Ganga"

The embankment of the Bolgoda Lake runs via 21 GN Divisions over a total length of approximately 20 km, forming an elongated water front with a capability of sustaining rich bio-diversity along the river environment.

The second significant water body that featured the Moratuwa MC area is the "Lunawa Lagoon" with a total length of 6 Km with a significant water front area and occupying an area of 0.3 SqKm. This lagoon area forms the largest wetland in the Moratuwa MC area.

The second largest wetland that exists in association with the Bolgoda Lake forming a water front is the Katubedda wetland, which has an area of 0.2 sqKm with a length of 4 Km.

The picturesque beach that runs along the Western boundary of the Moratuwa MC has a total length of 10.5 Km

CHAPTER 02
Preliminary Study

Planning and
Situational Context

Moratuwa in
Today's Context

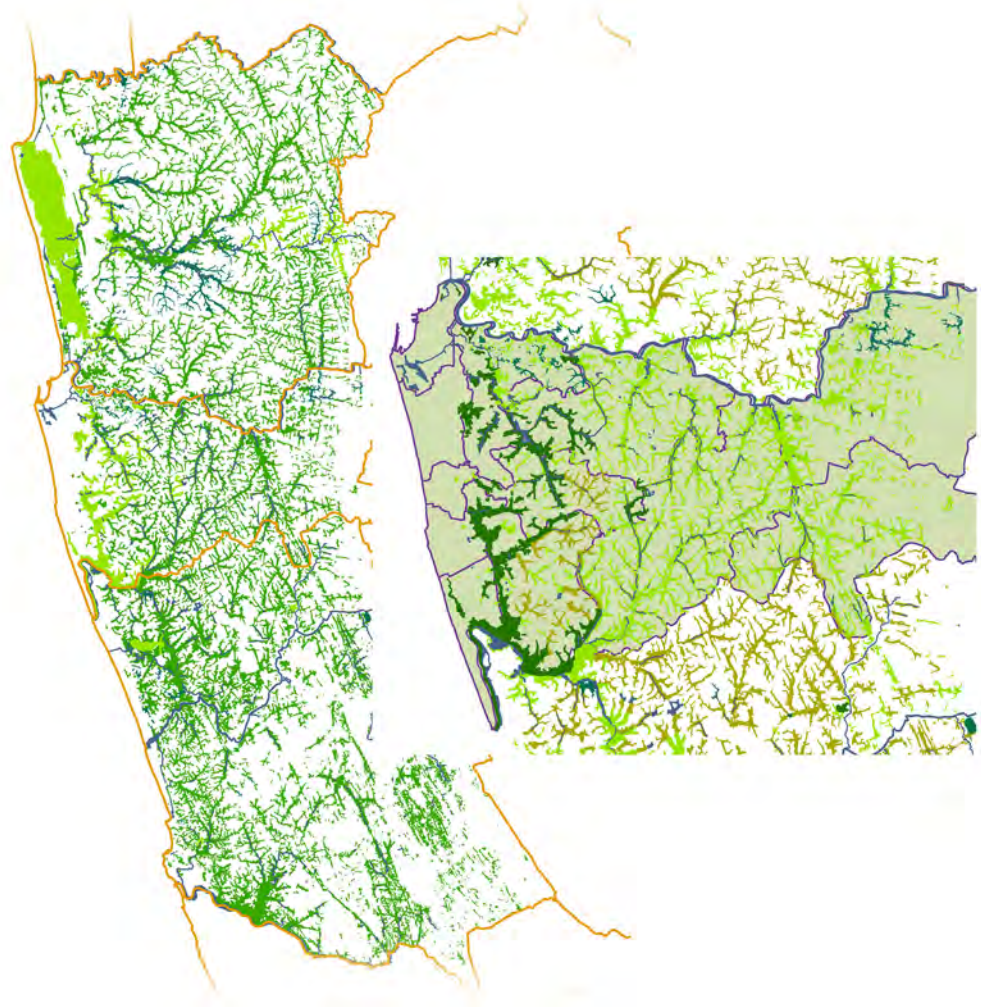


Figure 2.11 : Wetlands in the District of Colombo and Moratuwa MC Area
Source : Urban Development Authority, 2018



Figure 2.12 : Hydrological System in Moratuwa

Source : Urban Development Authority, 2018

b) Natural Disasters

The narrow strip of land extending in between the Bolgoda Lake and the Sea Beach from Korlawella to Egodaunya with an unobstructed exposure to the intermittent cyclonic storms and sea erosion recurring owing to the global warming are causing a danger in reducing the land area. The Tsunami that has experienced in 2004 inflicted a severe damage to approximately 5,050 housing units in the area covered by 15 GS Divisions. These housing units were damaged either partly or completely. The storm water flooding is a more frequent occurrence in this area as the storm water discharge into the water bodies is not efficient enough.

CHAPTER 02
 Preliminary Study

Planning and
 Situational Context

Previous Planning Attempts

2.2.3. Previous Planning Attempts

The Urban Development Authority produced a Greater Colombo Urban Area Structure Plan in 1998 for Western Province of Sri Lanka (vide figure no 2.13), where an urban hierarchical order was introduced to guide the future development of urban centres in the Western Province. Accordingly, this structure plan required to develop the City of Colombo as a national centre at the top of the hierarchy while developing the Moratuwa, Dehiwela, Kaluthara, Negombo and Gampaha as the provincial centres and Horana, Mathugama, Beruwela, Biyagama and Ja-Ela as Urban Centres.

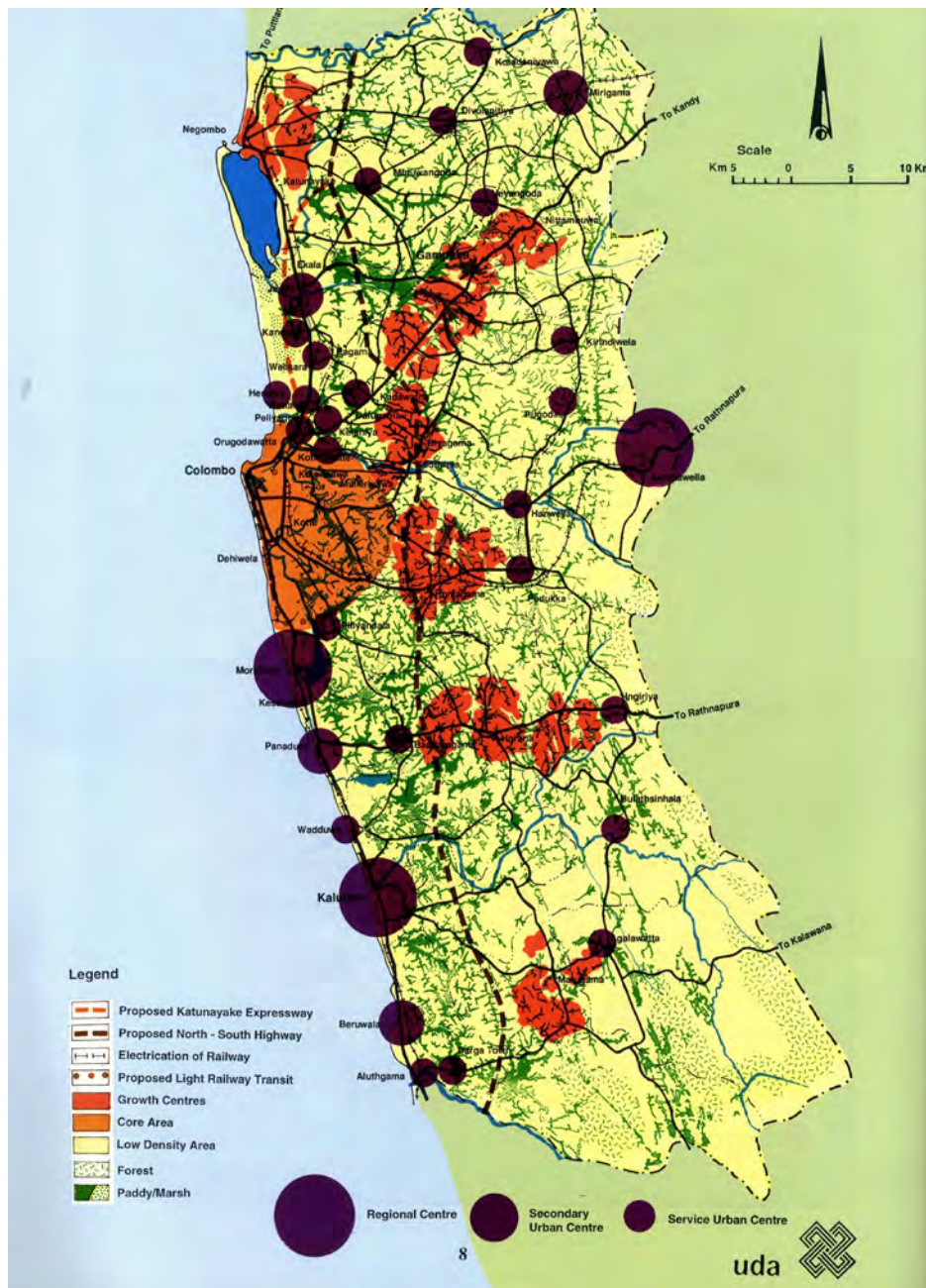


Figure 2.13 : Greater Colombo Urban Area Structure Plan-1998
 Source : Urban Development Authority, 2018

CHAPTER 02 Preliminary Study

Planning and
Situational Context

Previous Planning Attempts

The Greater Colombo Urban Area Development Structure Plan (vide Figure no 2.14) structured the Colombo Urban Area in to 6 urban zones, in this plan the Moratuwa Town which is situated with close proximity to the core urban area of the City of Colombo in between the tourist resort areas spanning from Negombo to Aluthgama, falls within the high-density zone.

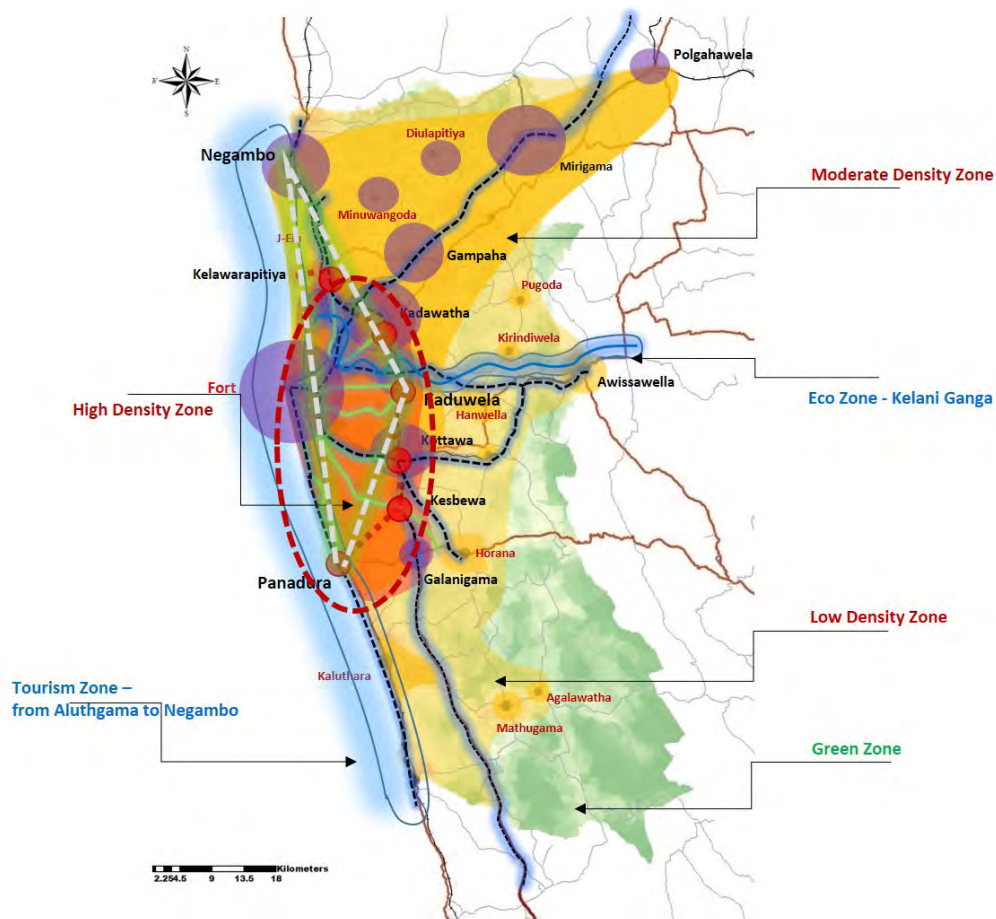


Figure 2.14 : Western Province Megapolis Plan - 2030
Source : Urban Development Authority, 2016

The National Physical Development Structure Plan, prepared by the Department of National Physical Planning with a vision being projected through 2030, (Vide figure no 2.15) identified the Moratuwa town within the high-density urban zone of the Western Province and also within the economic zone of the spatial structure plan-2050 prepared by the same department for future development. (vide figure no 2.16). This vision has been formed for Moratuwa town by the National Government Agencies showing the path for the future development in the national context.

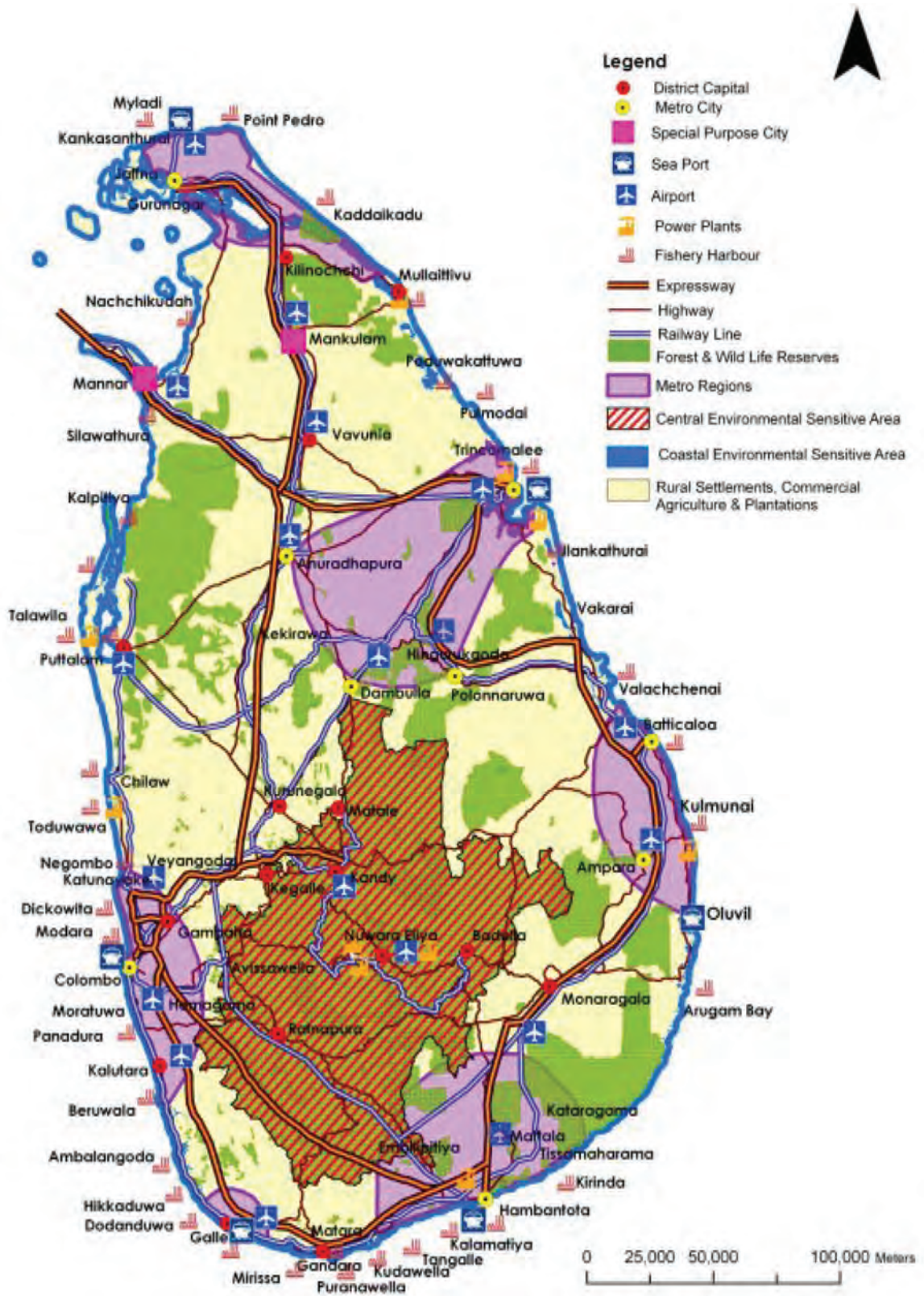


Figure 2.15 : National Physical Structure Plan – 2030
 Source : Department of National Physical Planning, 2016

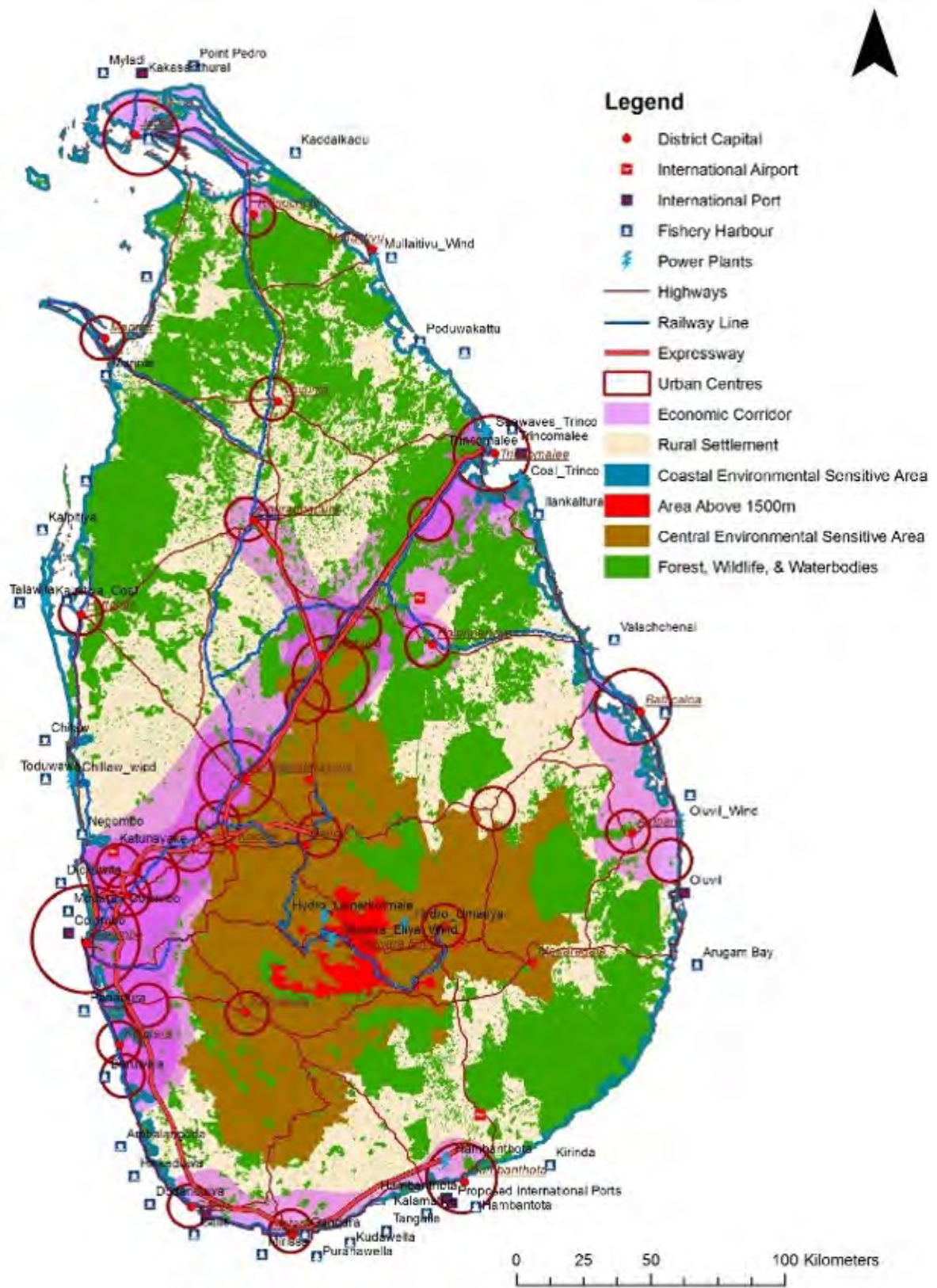


Figure 2.16 : Proposed Spatial Structure Plan – 2050
 Source : Department of national Physical Planning, 2016

CHAPTER 02

Preliminary Study

Boundary Delineation of Planning Area.

Identification of Planning Area

Planning Boundary

2.3. Boundary Delineation of Planning Area

Delimitation of the Moratuwa planning area was undertaken on the basis of the emerging new development trends, as stated under 2.2.2, encompassing the Moratuwa area and the socio-economic, physical and environmental considerations.

2.3.1. Identification of Planning Area

The Moratuwa Municipal Council area, with a 23.4 Sqkm of land area, Moratuwa Divisional Secretariat Division and the Moratuwa Electorate Commensurate each other in terms of functional and administrative boundaries. On that basis, the area falling within the Moratuwa Municipal Council's boundaries has been defined as the planning active area for the purpose of this development plan preparation.

2.3.2. Planning Boundary

The planning area is bounded on the North by the Rathmalana Divisional Secretariat Division, on the East by the Bolgoda River, on the south by the Panadura area and the Bolgoda river within the Kaluthara Administrative District and on the West by the sea beach covering an area consisting of 42 numbers of GS Divisions. The Planning Area is depicted in the map no 2.6.



Planning Boundary- 2019
Moratuwa Municipal Council

0 0.35 0.7 1.4 2.1 2.8 Kilometers

Urban Development Authority
 December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 2.7 : Planning Boundaries of the Moratuwa Municipal Council Area

Source : Urban Development Authority, 2018

03

CHAPTER



Need of a Development Plan

CHAPTER 03
Need of the
Development Plan

Introduction

Identification of Problems

3.1. Introduction

The focus of the chapter is to identify the necessity of a development plan for Moratuwa town. The previous development plan 2005–2020, which is currently in force, is approaching the end of its effective planning period, it is one of the reasons that clarify the need of new development plan should be in place to continue the development process undisturbed.

Further, while carrying forward the positive trends created by the previous plan unhindered, the ineffective trends of that plan need to be corrected and the emerging new trends previously not seen also need to be brought under the new strategies in the context of the new development plan.

The necessity of a new development plan has been established with a view of conserving the natural resources of the area while making use of them for the development of the Moratuwa creating a better socio-economic and physical environment for the people.

3.2. Identification of Problems

The problems of the area, as stated under chapter 1.2, were identified through the consultative process that was undertaken during the initial planning stages involving the stakeholders and then analyzing the primary and secondary data gathered by the planning team. The problems so filtered through the said process were arranged in a hierarchical order depending on the severity of each problem. The table no 3.1 appended below encapsulates the problems so identified.

<i>Priority no</i>	<i>Problems</i>	<i>Description</i>
01	<i>Underutilization of Potential in the process of development</i>	<ul style="list-style-type: none"> i. <i>Picturesque beach, Bolgoda River and Lunawa Lagoon, with no easy access for the public</i> ii. <i>Underutilization of high-value lands in the town centre</i>
02	<i>Encroachment of environmentally sensitive (conservation) areas by the low-income families for unauthorized construction of housing</i>	<ul style="list-style-type: none"> i. <i>Pollution of sensitive environmental areas surrounding the settlements</i> ii. <i>Social issues</i> iii. <i>Health-related issues</i>

Table 3.1 : Problem Identification
Source : Urban Development Authority, 2018

3.2.1. Underutilization of Potential in the Process of Development

a) Picturesque beach, Bolgoda River and Lunawa Lagoon, with no easy access for the public

The Moratuwa MC area, as already observed, has been surrounded by the Bolgoda Lake on the East and the South, by the picturesque beach on the West extending from Korawalwella to Egodaunya with a narrow width of ranging between 500-800 Meters, is the only town situated uniquely endowed with such lovely water bodies in the vicinity of the City of Colombo. With all these features characterized by the water bodies the Moratuwa town has a great potential and opportunity to develop as a water-front town.

CHAPTER 03 Need of the Development Plan

Identification of Problems

Underutilization of
Potential in the Process
of Development



Figure 3.1 : Bolgoda River

Image Courtesy : Top left, www.flickr.com. Photographer Nathali Zoysa-Photograph Top Right; www.flickr.com ; Photographer Saman Perera-Photograph Below; www.flickr.com ; Photographer Channa Senarathna.

The natural water bodies surrounded with a rich habitat is not integrated with the development of the settlement in the Moratuwa planning area as there is no proper accessibility being provided to the public to enjoy the natural beauty of this environmental resource. As a result of this disintegration this habitat is gradually becoming derelict.



Figure 3.2 : Sea Angulana Beach
Image Courtesy : www.flickr.com Photographer Thisal Kaluarachchi



Figure 3.3 : Lunawa Lagoon
Image Courtesy : Top Left, www.flickr.com Photographer Melshiran. Top Right, Urban Development Authority. Left Below, Middle and the Right by www.flickr.com, Photographer Nishan.

b) Underutilization of high-value lands in the town centre.

As already stated, the Moratuwa MC Area spanning over a land area of 23.4 sqkm, has been restricted by conservation areas surrounding it, limiting the lands available for developments. In this context, the particularly, the state-owned lands in the town centre with potential for high-return commercial, or financial developments and for public leisure activity developments are not appropriately managed. This misuse of valuable lands in the town centre has been identified as one of the major issues in the physical development of the Moratuwa town.

Following are some of the glaring examples that prove the state of valuable land misuse.

- The land belonging to the Sri Lanka Railways Department facing the Main Galle Road. (vide figure no 3.4)
- Archeologically significant historical building—currently being occupied by the Police Station— and its open land area with an extent of 3.5 Acres. (vide figure no 3.5)
- Lands occupied by the industries, stores and ware houses in areas adjoining Rathmalana, namely Borupona and Maligawa Road (vide figure no 3.6)



*Figure 3.4 : The Land owned by the Department of Railway
Image Courtesy : Urban Development Authority, 2017*

CHAPTER 03 Need of the Development Plan

Identification of Problems

Underutilization of
Potential in the Process
of Development

Such lands are encroached by those who are engaged in carpentry works and fishing activities. Today these areas have become full of unauthorized constructions, especially for housing and small-scale workshops. This situation has created a pressing issue in the context of the physical development of the Moratuwa Town. At the public consultative meeting held on 11th December 2017, it was transpired that there are about 1,500 unauthorized families living in the reservations of Bolgoda River, Railways and along the coastal belt while another approximately 1,000 families encroached and living in state – owned lands at Dandenyawatta, Samarakoonwatta, Pittaniyawatta and Batarywatta. The figure no 3.7 depicts the coastal reservations and the Railway Reservations encroached and undertaken unauthorized constructions therein by the low-income families.



*Figure 3.7: The Unauthorized Constructions in the Coastal Reservations and the Railway Reservations.
Image Courtesy : The Urban Development Authority, 2017*

a) Pollution of sensitive environmental areas surrounding the settlements

In areas where low-income settlements are located are constructed with housing units haphazardly and densely with no proper accessibility and drainage facilities. As a result, most of the solid wastes and the liquid wastes generated in these settlements are discharged in to the water bodies, which led to the accumulation of wastes in water bodies causing a threat of large-scale environmental pollution over the time. It has been evidence that the mangroves habitat that forms a rich environment to maintaining a healthy biodiversity in the locality has been severely damaged in the process of clearing areas for house building. The natural water habitat has been affected in the process.

CHAPTER 03 Need of the Development Plan

Identification of Problems

Encroachment of environmentally sensitive (conservation) areas by the low-income families for unauthorized construction of housing

Further, adding to the issue, the timber dust particles generated by the saw mills are commonly used to reclaim the wetlands and water bodies to gain more buildable lands without any authority and that the fine dusts, which are accumulated in heaps are burnt near the water bodies causing soil erosion and destroying the environment of certain species.

b) Social Issues

As discussed under the 2.2.2.3 (d), high rate of crimes and drug addictions are reported in areas where low-income settlements are located. These settlement areas provide a best suitable physical environment for the crimes and drug addictions to grow as the access to such areas are provided through narrow allies created by haphazard unauthorized constructions and snaking through isolated areas.

c) Health-related Issues

The low-income settlements exist without proper physical and social infrastructure facilities, in the environmentally polluted localities where epidemic diseases are spreading at a pace. This health issues were discussed under the 2.2.2.3 (b) where it was observed that tuberculosis, leprosy, dengue and skin diseases are reported mostly from areas associated with low-income settlement areas. The other social behavioral issues observed has been that the people affected by such diseases are not willing to receive treatments and try to stay hide the settlement area itself avoiding authorities causing spread of the disease at a pace.

Under the section no 3.2.1. it was discussed that the development potentials that exist in the Moratuwa planning area have not been made use of in the development process, and as such it has become a compelling issue to address the problems associated with the low-income settlements encroaching the environmentally sensitive areas under the new development plan.

Under these circumstances the necessities of updating the current development plan to be effective through 2019-2030, which is currently in force, adopting a strategically framed planning process integrating emerging new trends for the improvement of the socio-economic and environmental conditions of the residents.

The development plan 2019-2030 will be prepared with the aim of updating the current development plan with a focus on addressing the issues associated with the encroachment of sensitive environmental areas and opening up water fronts where environmental development potentials lie to be accessible by the public.

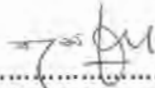


Part II



**APPROVAL OF THE DEVELOPMENT PLAN FOR THE MORATUWA MUNICIPAL
COUNCIL AREA**

I, Patali Champika Ranawaka, Minister of Megapolis and Western Development do hereby approve the Development Plan for the Moratuwa Municipal Council Area having considered the recommendation made by the Board of Management of the Urban Development Authority on 28th June 2019 by virtue of the powers vested in me under Section 8F of the Urban Development Authority (Amendment) Act, No. 4 of 1982.


.....
Patali Champika Ranawaka,
Minister of Megapolis and Western Development.

Ministry of Megapolis and Western Development,
17th and 18th Floors,
"Suhurupaya",
Sri Subhuthipura Road,
Battaramulla.

Date: 28th June, 2019



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The Gazette of the Democratic Socialist Republic of Sri Lanka

EXTRAORDINARY

අංක 2129/94 - 2019 ජූනි මස 28 වැනි සිකුරාදා - 2019.06.28

No. 2129/94 - FRIDAY, JUNE 28, 2019

(Published by Authority)

PART I : SECTION (I) — GENERAL

Government Notifications

NOTICE OF APPROVAL OF THE DEVELOPMENT PLAN FOR THE CAPITAL CITY COMPRISING OF SRI JAYEWARDENEPURA KOTTE MUNICIPAL COUNCIL, KADUWELA MUNICIPAL COUNCIL, MAHARAGAMA URBAN COUNCIL, KOTIKAWATTA - MULLERIYAWA PRADEHSHIYA SABHA AREAS

NOTICE is hereby given to the General Public of the Democratic Socialist Republic of Sri Lanka under Section 8G of the Urban Development Authority Law, No. 41 of 1978 as amended from time to time that I, Patali Champika Ranawaka, the Minister in charge of the subject of Megapolis & Western Development, by virtue of the powers vested in me under Section 8F of the said law, had approved the development plan on the 28th day of June, 2019 for the capital city comprising of Sri Jayewardenepura Kotte Municipal Council, Kaduwela Municipal Council, Maharagama Urban Council, Kotikawatta - Mulleriyawa Pradeshiya Sabha Areas, prepared under Section 8A of the said Law.

PATALI CHAMPIKA RANAWAKA,
Minister of Megapolis and Western Development.

28th June 2019.

Approval of the Development Plan for the Capital City comprising of Sri Jayewardenepura Kotte Municipal Council, Kaduwela Municipal Council, Maharagama Urban Council, Kotikawatta - Mulleriyawa Pradeshiya Sabha Areas

Public are hereby informed that the Development Plan prepared under Section 8A of the Urban Development Authority (Amendment) Act, No. 4 of 1982, for the Capital City comprising of Sri Jayewardenepura Kotte Municipal Council, Kaduwela Municipal Council, Maharagama Urban Council, Kotikawatta - Mulleriyawa Pradeshiya Sabha Areas have

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PART I : SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA 28.06.2019

been approved on 28th June 2019, by Hon. Patali Champika Ranawaka, Minister of Megapolis and Western Development by virtue of powers vested on him under Section 8 “F” of the said Amendment Act.

DR. JAGATH MUNASINGHE,
Chairman,
Urban Development Authority.

28th June 2019.

07 - 4553/1

**APPROVAL OF THE DEVELOPMENT PLAN FOR THE COLOMBO COMMERCIAL CITY AREA
COMPRISING OF COLOMBO MUNICIPAL COUNCIL, DEHIWALA - MOUNT LAVINIA MUNICIPAL
COUNCIL, KOLONNAWA URBAN COUNCIL, BORALESGAMUWA URBAN COUNCIL, PELIYAGODA
URBAN COUNCIL, WATTALA - MABOLA URBAN COUNCIL, WATTALA PRADESHIYA SABHA
AND KELANIYA PRADESHIYA SABHA AREAS**

NOTICE is hereby given to the General Public of the Democratic Socialist Republic of Sri Lanka under Section 8G of the Urban Development Authority Law, No. 41 of 1978 as amended from time to time that I, Patali Champika Ranawaka, the Minister in charge of the subject of Megapolis & Western Development, by virtue of the powers vested in me under Section 8F of the said law, had approved the development plan on the 28th day of June, 2019 for the Colombo Commercial City Area comprising of Colombo Municipal Council, Dehiwala - Mount Lavinia Municipal Council, Kolonnawa Urban Council, Boralessgamuwa Urban Council, Peliyagoda Urban Council, Wattala - Mabola Urban Council, Wattala Pradeshiya Sabha and Kelaniya Pradeshiya Sabha Areas, prepared under Section 8A of the said Law.

PATALI CHAMPIKA RANAWAKA,
Minister of Megapolis and Western Development.

28th June 2019.

**Approval of the Development Plan for the Colombo Commercial City Area comprising of Colombo
Municipal Council, Dehiwala - Mount Lavinia Municipal Council, Kolonnawa Urban Council,
Boralessgamuwa Urban Council, Peliyagoda Urban Council, Wattala - Mabola Urban Council, Wattala
Pradeshiya Sabha and Kelaniya Pradeshiya Sabha Areas**

Public are hereby informed that the Development Plan prepared under Section 8A of the Urban Development Authority (Amendment) Act, No. 4 of 1982, for the Colombo Commercial City Area comprising of Colombo Municipal Council, Dehiwala - Mount Lavinia Municipal Council, Kolonnawa Urban Council, Boralessgamuwa Urban Council, Peliyagoda Urban Council, Wattala - Mabola Urban Council, Wattala Pradeshiya Sabha and Kelaniya Pradeshiya Sabha Areas have been approved on 28th June 2019, by Hon. Patali Champika Ranawaka, Minister of Megapolis and Western Development by virtue of powers vested on him under Section 8 “F” of the said Amendment Act.

DR. JAGATH MUNASINGHE,
Chairman,
Urban Development Authority.

28th June 2019.

07 - 4553/2

NOTICE OF APPROVAL OF THE DEVELOPMENT PLAN FOR THE MORATWUA MUNICIPAL COUNCIL AREA

NOTICE is hereby given to the General Public of the Democratic Socialist Republic of Sri Lanka under Section 8G of the Urban Development Authority Law, No. 41 of 1978 as amended from time to time that I, Patali Champika Ranawaka, the Minister in charge of the subject of Megapolis & Western Development, by virtue of the powers vested in me under Section 8F of the said law, had approved the development plan on the 28th day of June, 2019 for the Moratuwa Municipal Council Area, prepared under Section 8A of the said Law.

PATALI CHAMPIKA RANAWAKA,
Minister of Megapolis and Western Development.

28th June 2019.

Approval of the Development Plan for the Moratuwa Municipal Council Area

Public are hereby informed that the Development Plan prepared under Section 8A of the Urban Development Authority (Amendment) Act, No. 4 of 1982, for the Moratuwa Municipal Council Area has been approved on 28th June 2019, by Hon. Patali Champika Ranawaka, Minister of Megapolis and Western Development by virtue of powers vested on him under Section 8 "F" of the said Amendment Act.

DR. JAGATH MUNASINGHE,
Chairman,
Urban Development Authority.

28th June 2019.

07 - 4553/3

NOTICE OF APPROVAL OF THE DEVELOPMENT PLAN FOR THE KALUTARA URBAN DEVELOPMENT AREA COMPRISING OF KALUTARA URBAN COUNCIL AND KALUTARA PRADESHIYA SABHA AREAS

NOTICE is hereby given to the General Public of the Democratic Socialist Republic of Sri Lanka under Section 8G of the Urban Development Authority Law, No. 41 of 1978 as amended from time to time that I, Patali Champika Ranawaka, the Minister in charge of the subject of Megapolis & Western Development, by virtue of the powers vested in me under Section 8F of the said law, had approved the development plan on the 28th day of June, 2019 for the Kalutara Urban Development area comprising of Kalutara Urban Council and Kalutara Pradeshiya Sabha Areas, prepared under Section 8A of the said Law.

PATALI CHAMPIKA RANAWAKA,
Minister of Megapolis and Western Development.

28th June 2019.

Approval of the Development Plan for the Kalutara Urban Development Area comprising of Kalutara Urban Council and Kalutara Pradeshiya Sabha Areas

Public are hereby informed that the Development Plan prepared under Section 8A of the Urban Development Authority (Amendment) Act, No. 4 of 1982, for the Kalutara Urban Development area comprising of Kalutara Urban Council

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PART I : SEC. (I) - GAZETTE EXTRAORDINARY OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA 28.06.2019

and Kalutara Pradeshiya Sabha Areas have been approved on 28th June 2019, by Hon. Patali Champika Ranawaka, Minister of Megapolis and Western Development by virtue of powers vested on him under Section 8 “F” of the said Amendment Act.

DR. JAGATH MUNASINGHE,
Chairman,
Urban Development Authority.

28th June 2019.

07 - 4553/4

NOTICE OF APPROVAL OF THE DEVELOPMENT PLAN FOR THE BERUWALA URBAN DEVELOPMENT AREA COMPRISING OF BERUWALA URBAN COUNCIL AND BERUWALA PRADESHIYA SABHA AREAS

NOTICE is hereby given to the General Public of the Democratic Socialist Republic of Sri Lanka under Section 8G of the Urban Development Authority Law, No. 41 of 1978 as amended from time to time that I, Patali Champika Ranawaka, the Minister in charge of the subject of Megapolis & Western Development, by virtue of the powers vested in me under Section 8F of the said law, had approved the development plan on the 28th day of June, 2019 for the Beruwala Urban Development area comprising of Beruwala Urban Council and Beruwala Pradeshiya Sabha Areas, prepared under Section 8A of the said Law.

PATALI CHAMPIKA RANAWAKA,
Minister of Megapolis and Western Development.

28th June 2019.

Approval of the Development Plan for the Beruwala Urban Development Area comprising of Beruwala Urban Council and Beruwala Pradeshiya Sabha Areas

Public are hereby informed that the Development Plan prepared under Section 8A of the Urban Development Authority (Amendment) Act, No. 4 of 1982, for the Beruwala Urban Development area comprising of Beruwala Urban Council and Beruwala Pradeshiya Sabha Areas, have been approved on 28th June 2019, by Hon. Patali Champika Ranawaka, Minister of Megapolis and Western Development by virtue of powers vested on him under Section 8 “F” of the said Amendment Act.

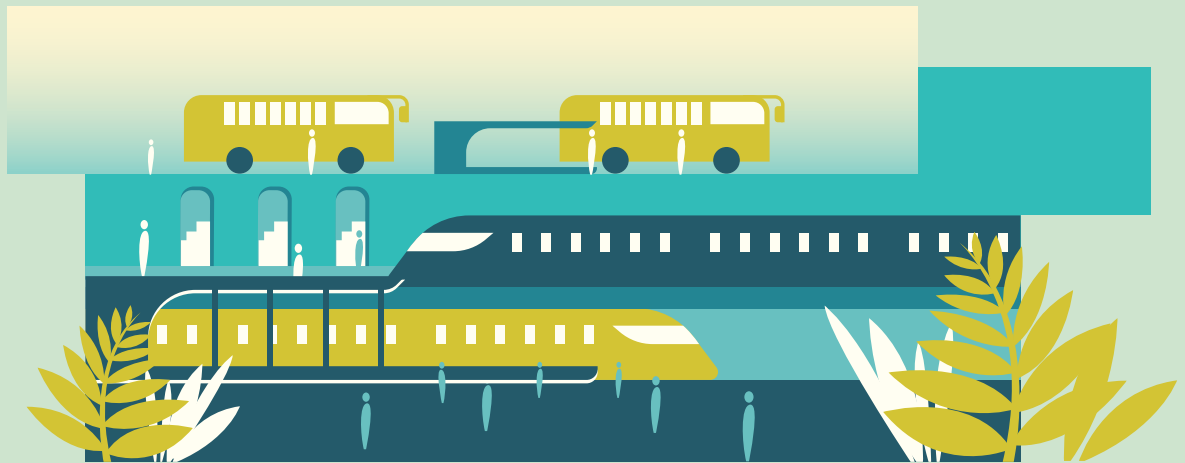
DR. JAGATH MUNASINGHE,
Chairman,
Urban Development Authority.

28th June 2019.

07 - 4553/5

04

Chapter



Framework of the Development Plan

Chapter 04
Framework of the
Development plan

Vision of the
Development Plan

4.1. Vision of the Development Plan



“The Aqua Garden on Western Edge”

4.2. Vision Statement

In forming the vision that guides the development of Moratuwa town as a planned city, strategic location of the city, development trends, available resources and other relevant factors were taken in to consideration. In this process, the methodology followed is depicted in the following diagram. (Vide figure no 4:1)



Figure 4.1 : Potential Sectors to Reach Vision

“Western Edge”

The name “western edge” was accorded to denote the fact that the Moratuwa Municipal Council (Moratuwa MC) is the gateway to Colombo when preceding from the South while it is also forming the Western frontier of the Colombo Administrative District.

“Aqua”

The unique characteristic of the Moratuwa MC is that it is surrounded by water bodies on three sides, Bolgoda Lake on the East and the South and the Sea on the West with an area of 30 Hectares. The character is further enhanced by the Lunawa Lagoon and the widely spread canal network. Moratuwa MC is correspondingly harbours 20 hectares of both wetlands and mash. In total the water areas in the Moratuwa MC constitutes approximately 19% of the total land area. Under these circumstances the Moratuwa MC deserves the “aqua” name, meaning that this town is rich of water resources.

“Garden”

The development plan envisages protecting and conserving the wetlands, where living species find their habitat, in the Moratuwa MC area for the betterment of the residents. With a view of denoting this vision the “Garden” was adopted in the vision statement.

Chapter 04
Framework of the
Development Plan

Goals of the
Development Plan

Objectives of the
Development Plan

4.3. Goals of the Development Plan

The following three Goals have been formulated to guide the development process in order to reach the vision of the development plan.

- Goal 01 A City Nourishing with Water
- Goal 02 A City with Tourism Attraction
- Goal 03 Sufficient Infrastructure to Meet the Needs of the City

4.4 Objectives of the Development Plan

- Goal 01 A City Nourishing with Water
 - Objectives
 - 1. 100% Conservation of water sources – Bolgoda Lake, Lunawa Lagoon, beach and all wetlands in Moratuwa MC by the year 2025
 - 2. Declaration of the Lunawa Lagoon as an “ Environmental Protection Area”

Chapter 04 Framework of the Development plan

Objectives of the Development Plan

Goal

02

A City with Tourism Attraction

Objectives

1. Development of 160 hectares of lands bordering Bolgoda Lake, Lunawa Lagoon and beach for both active and passive open areas for attraction of tourists by the year 2025
2. Development of all lands located as water-fronts by 2030 to promote tourism industry.

Goal

03

Sufficient Infrastructure to Meet the Needs of the City

Objectives

1. Establishment of an integrated road network by 2030, 37 km long roads will be developed
2. Development of housing schemes in planning wise- selected sites to provide alternative housing for 2500 families living in state-owned lands by 2030 and release such lands for better utilization.
3. Frame a set of furniture industry friendly-development regulations and establishment of a use zone dedicated to this industry with a view of promoting it.

05

Chapter



SWOT Analysis

Chapter 05
SWOT Analysis

Encapsulated SWOT analysis

5.1. Encapsulated SWOT analysis

The SWOT analysis was adopted in analyzing the physical, economic, social, and environmental sectors to identify in advance the strengths, weaknesses, opportunities and the threats that can emerge in the development process during the plan implementation period, which could help planning the city with provisions to guide the development process unhindered towards achieving the objective of developing the Moratuwa MC as a planned city. Accordingly, the chapter 5.1 and 5.2 have been devoted to focus on the presentation of the summary of the SWOT analysis and its analytical details respectively.

5.1.1. Encapsulated SWOT Analysis Towards Preserving the “A City Nourishing with Water”

S

- 19% of the land area of 23.4 sqkm of the Moratuwa MC is water-based resources.
- Bolgodal lake, being considered as the Largest fresh water lake in the country falls in the Moratuwa MC area.
- Existence of wetlands enriched with a high rate of bio-diversity.
- Existence of right environmental conditions for growth of Mangroves in the environment of Bolgoda Lake, Lagoon and the Beach.

W

- Haphazard land encroachment, filling and unauthorized constructions in environmentally sensitive areas.
- Discharge of industrial effluents in to water bodies and surrounding areas.
- Non declaration of Lunawa Lagoon area as an environment protection zone.
- Depletion of mangrove habitat in Bolgoda Lake, Lunawa Lagoon and in the beach areas.

O

- Declaration of Bolgoda Lake and its surroundings as a Conservation Area under the Act no 47 of 1980.

T

- Rising sea level as a result of global warming .

5.1.2. “Encapsulated SWOT Analysis Towards “A City with Tourism Attraction”

S

- *The Moratuwa MC belongs to the Greater Colombo Tourism Resort Zone which is the 4th most tourist attractive zone of the country and in addition Moratuwa is located in between two tourist attraction cities namely; Dehiwala-Mount Lavinia MC on North and the Panadura on South, is an enormous strength for development.*
- *Moratuwa MC being bounded by picturesque water bodies assuming sub-urban characteristics is developing as commercial focal point in the locality.*
- *The traditional Furniture Industry in the Moratuwa Moratuwa MC area .*

W

- *Harnessing the potential of the picturesque water bodies endowed by the Moratuwa MC area for the advantage of the tourism development is constrained by the inaccessibility owing to the haphazard physical developments that causes pollution to such environments*

O

- *The Magapolis Western Region Master Plan in 2016 recommends to develop the Moratuwa within the tourism resort zone for long-term development as a tourist city*

T

5.1.3. Encapsulated SWOT analysis for the objective of “Sufficient Infrastructure to Meet the Needs of the City”

S

- *The Galle Road is one of the seven corridors that provides main access to the City of Colombo and it radiates an internal road network to provide access to the interior developments.*
- *The Moratuwa railway stations functioning as the centre of four other domestic railway stations.*

W

- *Lack of sufficient open spaces for the residents of the Moratuwa MC.*
- *Lack of public car parking facilities in the city.*
- *Shortage of houses and existence of underserved settlements.*

O

- *Proposed Multimodal Transport Centre Project and the extension of the proposed Marine-Drive Road up to Moratuwa town. Proposed Light Rail Transit project by the Megapolis Transport Plan.*
- *Proposed Housing Schemes at Dandenyawatta, Samaragoonwatta, Pittaniyawatta and Batarywatta*

T

- *Height restrictions imposed by the Department of Civil Aviation.*

5.2. Detail SWOT Analysis

5.2.1. Goal 01

Analysis in the Context of the “A City Nourishing with Water”



5.2.1.1. Strengths | Goal 01

- a. 19% of the land area of 23.4 sqkm of the Moratuwa MC is water-based resources

The Moratuwa MC has 19% of its land area under natural water bodies, the Table no 5.1 depicts the details of extents of such water bodies and the wetlands as % of its total land area.

Category	% of total land area
Lagoon	1.60%
Wetlands and Marshy lands	1.90%
Rivers	15.50%
Total	19%

Table 5.1 : Distribution of Natural Water Bodies and Composition of their Extents as a Percentage of the Total Land Area of the MMC | **Source :** Urban Development Authority-2018

- b. Bolgoda lake, being considered as the Largest fresh water lake in the country falls in the Moratuwa MC area.

The Bolgoda wetland, considered to be the largest inland wetland in the Country, is consisting of Bolgoda Wetland, Weras Ganga (River), Bolgoda Ganga (River), Panadura Ganga (River) and Bolgoda lake. The Bolgoda lake has distinguished characteristics, which led to identify the lake in two parts, namely Northern Bolgoda lake and the Southern Bolgoda Lake. The entire Bolgoda Lake spread over an area of 400sqkm which has a large water detention capacity. The Bolgoda River is not an isolated water body, it forms a part of a river system which includes Diyawanna River and the Thalangama wetlands. These water bodies play a significant role in discharging the storm water from the wetlands during the flood seasons. The Figure 5.1 depicts the water bodies and their integrated water floor system.

The Bolgoda wetland enhances the environmental character and it helps in a significant way by retaining storm water, cooling the temperature of the environment, managing the flood and drou through its water retention ability, sustaining the bio-diversity, creation of a good breeding ground for the inland fish and thereby promoting the inland fisheries industry, filtration of polluted water, maintenance of underground water table to sustain the vegetation, and maintaininga balance in the environment. (Sri Lanka Water Partnership (SLWP), 2016)



Figure 5.1 : Bolgoda Lake's catchment area
 Source: : Japan International Cooperation Agency, 2003

The catchment area of the Bolgoda Lake extends over an area of 394 sqkm, of which the Northern part is identified as the Weras ganga (River) catchment area with an area of 55.5 sqkm consisting of seven sub catchment areas, namely Nugegoda-Raththanapitiya, Bolgoda chanel, Boralasgamuwa North, Boralasgamuwa South, Maha Ela, Thambowila and Rathmalana-Moratuwa. Out of these sub catchments, Rathmalana-Moratuwa sub catchment area, with an area of 8.1 sqkm, is falling within the Moratuwa MC area. The Figure No 5.1 depicts the detailed characteristics of the Bolgoda lake's catchment area.

c. Existence of wetlands enriched with a high rate of bio-diversity.

The Lunawa lagoon is surrounded with an environment which is providing a safe and fertile grounds for diverse living species and vegetation with a higher density, specially around the Lunawa Lagoon which provides a safe and appropriate habitat for the migratory and non-migratory birds. It has been reported that there are 75 bird varieties living around the Lunawa Lagoon (Thushara, 2009). The Table No 5.2 depicts that the wetlands around the Lunawa lagoon nurtures living species with a high density which add to the environmental beauty of the lagoon environment of the Moratuwa MC area.

<i>Living species and vegetation varieties around the Bolgoda lake.</i>	
<i>Vegetation varieties</i>	Lotus, Kekatiya, Water Hyacinth, Lilies, Water berry, Thulhiriya, Aththa, Bokutu, Bimthambaru bamboo, Arica nut, Lunuwila, Mara tree, Sælvīnīyā, Habarala species, mangroves, Kumbuk, Kirala and Other
<i>Bird species</i>	Kingfisher, maina, Hook species, Swan species, Species of hawk, Duck species, crow and bat species <i>Anserini, Tyrannidae, Gruidae, Hirundinidae, Numenius, Phalacrocoracidae, Gallinulachloropus, Lonchuraatricapilla,</i>
<i>Other aquatic living species</i>	Fish varieties <i>Esomusthermoicos, Channaorientalis, Clariasbrachysoma, Aplocheilusdayi</i> Uterine species <i>Otocryptisweigmanni, Cyndrophismaculatus, Lycodonosmanhilli, Oligodonsublineatus, Xenocrophisperrimus</i> Mammalian species <i>Trachypithecusvetulus</i> Amphibian species <i>Bufoatukoralei, Ranagracilis, Polypedatuscruciger</i> Rare species <i>Loris tardigradus, Pelecanusphilippensis, Prionailurusviverrinus, Lutralutra and Crocodyluspalustris</i>

Table 5.2 : Living Species and Vegetation Varieties in the Area around the Bolgoda Lake Area

Source: : Central Environment Authority-2016

d. Existence of Right Environmental Conditions for Growth of Mangroves in the Environment of Bolgoda Lake, Lagoon and the Beach.

The name "Mangrove" was borrowed from Spanish and Portuguese by the English, which is in Sinhala, call it "Kadolana" or "Kadolwaguru (marshy)". The Mangroves habitat spreads hugging the water sources and part of its roots stand under the water while the rest stand out of the water. Mangrove habitat adds to beauty of geographical character, creating a most appropriate environment for the fish breeding. Mangrove are growing

Chapter 05 SWOT Analysis

Detail SWOT Analysis

Goal 01

in large numbers forming shrubs; commonly visible in areas closer to sea or river mouths and along the beaches. Mangrove has a wonderful ability to convert itself to the changing temperature, saltiness in the water and the extreme conditions of humidity.

The Mangrove habitat is widely spread along the Western Beach, with large patches at Bolgoda Lake, Lunawa and Negombo lagoons. The table 5.3 depicts 20 special mangroves varieties, the Moratuwa MC offered them with most appropriate environmental conditions around the Bolgoda Lake and the Lunawa Lagoon areas. (Wild Life Conservation Department-2017)

Verity	Scientific name	Singhala names in common
Pteridaceae	<i>Acrostichum speciosum</i>	Weralla
Myrsinaceae Primulaceae	<i>Aegiceras corniculatum</i>	Heen gas
Acanthaceae	<i>Avicennia alba</i>	Madagas
Acanthaceae	<i>Avicennia marina</i>	Mandamadagas
Acanthaceae	<i>Avicennia</i>	Manda
Rhizophoraceae	<i>Bruguiera gymnorrhiza</i>	Sirikanda
Rhizophoraceae	<i>Bruguiera sexangula</i>	Malkadol
Malpighiales	<i>Ceriops tagal</i>	Rathugas, Punkada
Euphorbiaceae	<i>Excoecaria agallocha</i>	ThelaKiriya, Thela
Sterculaceae	<i>Heritiera littoralis</i>	Atuna
Combretaceae	<i>Lumnitzera littorea</i>	Beriya
Combretaceae	<i>Lumnitzera racemosa</i>	Beriya
Rubiaceae	<i>Morinda citrifolia</i>	Ahu
Arecaceae	<i>Nypa fruticans</i>	Ginpol
Pandanaceae	<i>Pandanus tectorius</i>	Mudukeyya
Rhizophoraceae	<i>Rhizophora apiculata</i>	Kadol
Rhizophoraceae	<i>Rhizophora mucronat</i>	Maha Kadol
Lythraceae	<i>Sonneratia alba</i>	Kirala
Lythraceae	<i>Sonneratia caseolaris</i>	Kirilla, Honda Kirilla
Meliaceae	<i>Xylocarpus granatum</i>	Mutti Kadol

Table 5.3 : 20 Species of Mangroves that can Grow in Bolgoda Lake and the Lunawa Lagoon Area

Source : Wild Life Conservation Department-2017



5.2.1.2. Weaknesses | Goal 01

- a. *Haphazard land encroachment, filling and unauthorized constructions in environmental sensitive areas.*

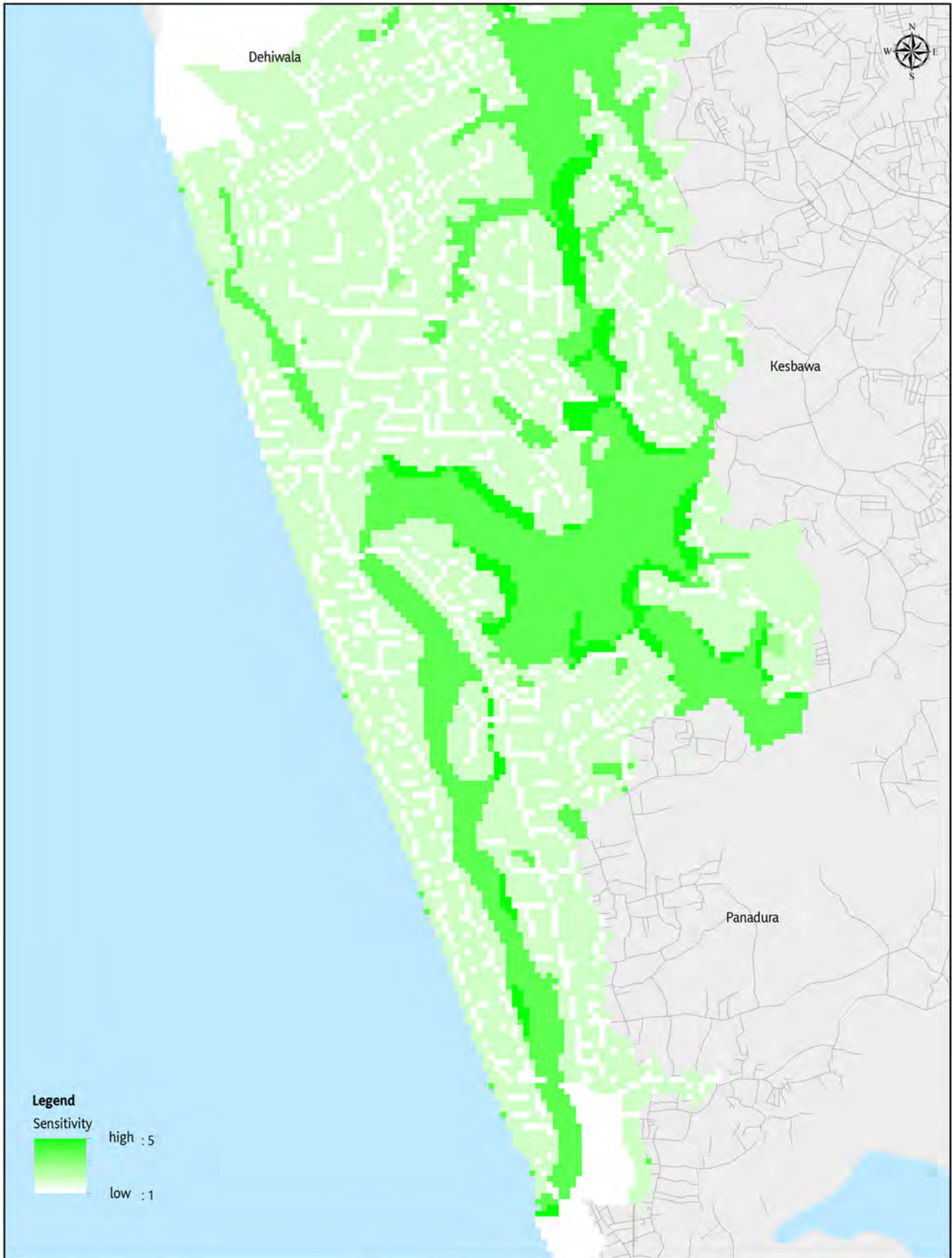
The water bodies network, vegetation cover and their relationship with the contours were studied in detail and analyze the environmental sensitivity, which is depicted in the Annexure 5. The map no 5.1 demonstrates the environmental sensitivity analysis. It has been established that the most environmentally sensitive areas around the Bolgoda Lake and the Lagoon area which are depicted in green, where most of the unauthorized filling and constructions are rampant.

The Central Environmental Authority carried out a survey together with the Civil Engineering Faculty of the Open University in 2013 on the wetland encroachments- namely" Investigation of Illegal Encroachment and Land Filling in the Bolgoda Environment Protection area, Colombo", according to the findings of above survey 0.0756 sqkm of sensitive wetlands had been reclaimed while 0.0077 sqkm were encroached by the people. The survey also highlighted that comparatively the impact of wetland encroachments in the areas of Moratuwa, Rathmalana, Panadura and Kesbewa are higher than that of the Divisional Secretariat Divisional areas of Bandaragama and Kaluthara. (Kumudinee. N.M.U. Athapaththu B.C.L.-2013)

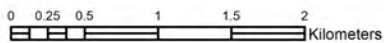
The figure no 5.2, 5.3 and the 5.4 depict the results of the survey carried out by the Urban Development Authority through the study of Google Maps on the unauthorized filling and construction in the sensitive wetlands in this area over the past 10 years. It indicates that there is a notable increase in the unauthorized filling of wetlands and construction in such filled lands



Figure 5.2 : *Unauthorized Reclamation of Lands Surrounding Area of the Maduru Doowa (Island)*
Source : Google Earth, 2018



Sensitivity Analysis- 2018
Moratuwa Municipal Council



Urban Development Authority
 December 2018

Source: Urban Development Authority

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 5.1 : Moratuwa Environmental Sensitivity Analysis -2018

Source : Urban Development Authority-2018



Figure 5.3 : Unauthorized Reclamation of Wetland at Katubedda

Source : Google Earth,2019



Figure 5.4 : Unauthorized Constructions in Railway Reservations and the Coastal Reservations in the Koralawella Area.

Source : Google Earth,2019

b. Discharge of industrial effluents in to water bodies and surrounding areas

There are 511 registered industrial establishments in operation in the Moratuwa MC area, of which 122 industrial establishments have been categorized by the Central Environmental Authority as most polluting industries, 70 establishments fall in to the B category of medium polluting industries and 305 industrial establishments categorized as non-polluting industries. The figure no 5.5 depicts the spatial distribution of industries in the Moratuwa MC area.

The industries in operation in the Moratuwa MC area discharge their wastes, mostly in to the wetlands or water bodies. If such land areas are far away from the industries then such wastes are discharged in to the open drains or channels which finally end up at either in a water body or in a wetland. However the environmental standards enforced by the Central Environment Authority (CEA) require-according to the Gazette notification no 2008/01 issued on National Environment (protection and standard) regulations and the Gazette no 1534/18 dated 2008.02.01 issued on standards on waste water discharged in to the environment- the waste water released in to the environment should comply with the standards specified in the said Gazette notifications. Accordingly, the waste water that is released in to a water source should not exceed the level of the dilution level of 8 times that of the water in the water source.

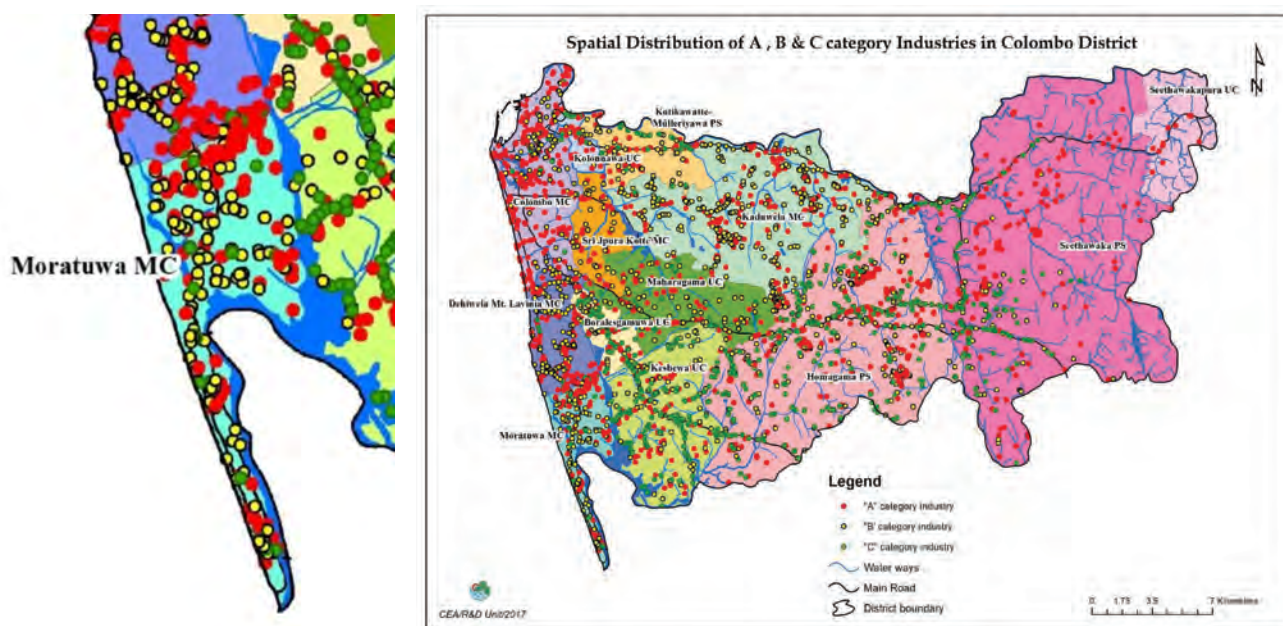


Figure 5.5 : Spatial Distribution of Industrial Establishments Coming Under the Pollution Level Categories of A, B, and C | Source : Central Environment Authority-2016

Dr. Sepala Samarasekara studied the water sample of the Bolgoda Lake and the results were published in his paper on "Socio Ecological Review of Bolgoda Lake in Sri Lanka, 2017" His findings are listed in the Table no 5.4 and the conclusion he had drawn are included in the Annexure O6.

	Temperature	pH Value	Chemical Oxygen Demand (COD)	Biological Oxygen Demand (BOD)	Total Suspended Solids	Total Dissolve Solids	Total Dissolve Nitrogen value	Dissolve Oxygen	Conductivity
Unit	Celsius		Mg per liter						Mill volts
Standard Value		6.0-8.5	250	3-5	50	25-250		3	
Kospalya Bank	29.9	7.5	200	7	10	228	N.I.	7.9	20
Koralawella Bank	29.8	8	600	22	555	9028	5.6	5.3	20
Koralawella Centre	29.7	8	600	21	553	12484	5.6	6.6	30
Pahala Indibedda bank	31.4	7.9	200	8	47	4404	N.I.	6.7	20
Kadalana centre	29.9	8.3	400	12	217	4848	2.8	9.2	30
Kadalana Bank	31.3	7.8	100	14	310	5024	N.I.	4.3	20
Willorawatta Centre	30	8.3	200	4	47	980	N.I.	9.5	10

- The values indicated in yellow represent the observed values deviated from the standard values.
- N.I.: Not Identified.

Table 5.4 : Results of the Bolgoda Lake Water Sample Study.
Source : Dr. Samarasekara S.- 2017

c. *Lunawa Lagoon not having been declared as an Environment Protection Zone.*

The analysis of bio-diversity of the Lunawa lagoon area presented under the SWOT analysis in chapter 5.2.1.1 it was observed that a high rate of living species and vegetation varieties are present including environmental character of aquatic significant have been identified. However, the area has not yet been declared as a conservation area, which has been identified as a weakness.

d. *The mangrove community in Bolgoda lake & surroundings, Lunawa lagoon and the beach areas is under the threat of depletion.*

As already examined under the chapter 5.2.1.1, the beach area, Bolgoda Lake and the Lagoon area are enriched with the right environmental conditions for the mangroves to grow sustainably, but vegetation cover is undergoing a threat of depletion due to indiscipline activities of the humans and the weaknesses of the Law enforcement authorities.

Causes of mangrove depletion and its impact:

- i. Prawn cultivation in the Bolgoda lake: The residents of the local area around the Bolgodal Lake and the River use water in the Lake to cultivate prawns. This practice released fungal waters, prawns' wastes, the farms' food wastes and the chemical wastes which are spread throughout the lake waters during the rainy period. This process causes the depletion of the Mangroves cover gradually over the time..
- ii. Discharge of industrial wastes, both solid and liquid, and the saw dusts generated from the timber-based industries. The wastes coming from the industries are making their deposition in the Mangroves habitat, which disrupts the oxygen intake of the Mangroves. This process, in the long-run, retards the growth rate of the vegetation of the Mangroves. The industrial liquid wastes in the lake can change the chemical composition of the lake water and make such water unsuitable for the aquatic living species as well as the human beings. This may be the main cause of high incidence of typhoid patients reported in the surrounding areas. Furthermore, the situation can reduce the breeding capability of the living species in the lake and thereby destroying the balance of the bio-diversity.
- iii. Reclamation of the wetland around the lake for commercial purposes and the removal of the Mangroves vegetation: This process removes large patches of Mangroves vegetation within a short period of time and such areas will never be replenished for the Mangroves to grow in order to maintain their sustainability as such land areas are then used for construction purposes. As a result, the regeneration ability of the Mangroves vegetation will be permanently destroyed.

Chapter 05
SWOT Analysis

Detail SWOT Analysis

Goal 01



5.2.1.3. Opportunities | Goal 01

a. Declaration of Bolgoda Lake and its surroundings as a conservation area under the Act no 47 of 1980

The declaration of the Bolgoda Lake as a Environment Protection Area under the Section 24 (c) and (d) of the Act No 47 of 1980 offers an opportunity within the legal context supporting the reach of the Goal of creating an “A City Nourishing with Water”. The Central Environment Authority, accordingly, enforces a 60 Meter wide protected reservation along the enbankment of the lake that borders the Southern and Eastern boundaries of the Moratuwa MC.

The Figure No 5.6 depicts the Bolgoda River that runs across 84 Gramasewa Niladharee Divisions, (GS) of which 21 GS Divisions are falling within the Moratuwa MC area and that the 60 Mtr wide protected reservation maintained by the Central Environment Authority along the enbankment of the river.

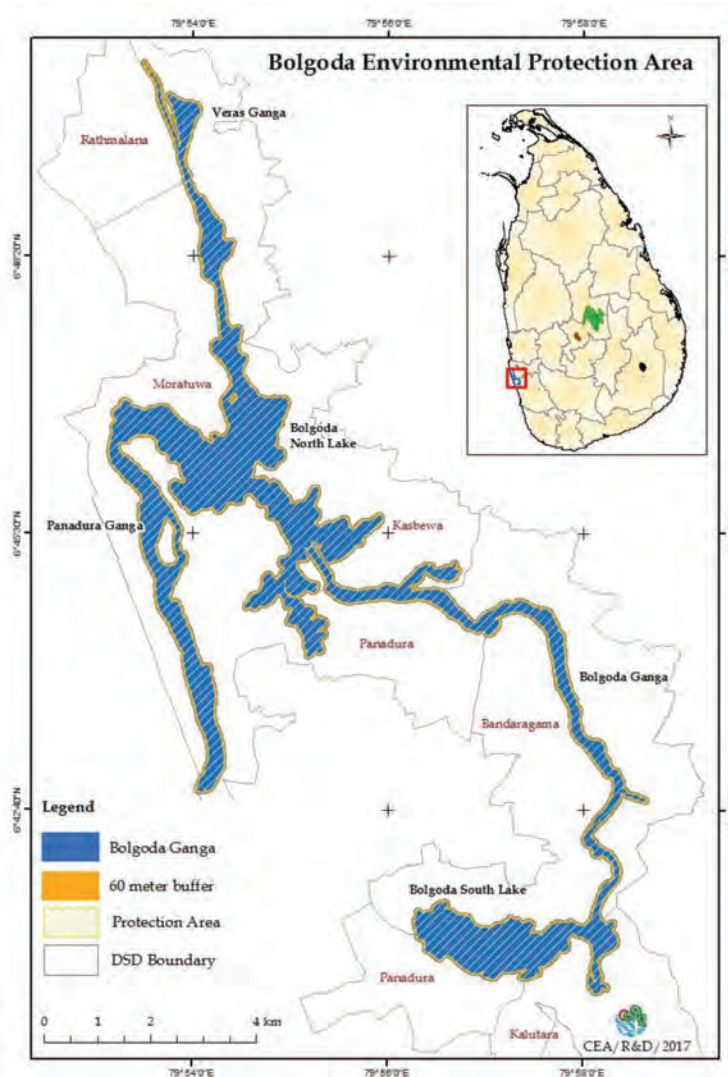


Figure 5.6 :
Bolgoda Environmental
Protected Area | Source :
Central Environment
Authority-2017



5.2.1.4. Threats | Goal 01

Chapter 05 SWOT Analysis

Detail SWOT Analysis

Goal 01

a. *Rising sea water level as a result of global warming.*

United Nation's Environmental Project published the report on "Inter-Governmental Panel on Climatic Change (IPCC)" prepared by the World Climate Organization and the International Board on Scientific organizations in 2007. The report provides scientific and statistical basis to enable the member countries to compute the impact of the sea water rise as a result of global warming. With the aid of the data contained in the report, the Coast Conservation and Coastal Resource Management Department, under the supervision of the Centre for Disaster Mangement, computed the impact of the sea water rise and the possible areas that may have the threat of going under water over the time line of 25 years, 50 years, 75 years and 100 years. The exercise was undertaken in the year 2012 by the Coast Conservation and Coastal Resource Management Department. Accordingly, the areas which are more likely to affect by the sea level rise are indicated in two maps as Paper 66 and 73 which is attached to the Annexure No 7

The conclusions drawn from the study of these two maps are appended below;

- i. There is a possibility that the Moratuwa coastal protected reservation area can go under water within the next 25 years from now due to the sea water rise.
- ii. During the next 100 year- time period the adjoining wetlands of the Lunawa Lagoon and the Bolgoda River can go under water as identified by the Authorities.
- iii. The narrow strip of land extending from Koralawella to Egod Uyana is under eminent danger of being submerged due to the rising of the sea water level.

Chapter 05
SWOT Analysis

Detail SWOT Analysis

Goal 02

5.2.2. Goal 02

Analysis in the context of the “A City with Tourism Attraction”



5.2.2.1. Strengths | Goal 02

- a. *The Moratuwa MC belongs to the Greater Colombo Tourism Resort Zone which is the 4th most tourist attractive zone of the country and in addition Moratuwa is located in between two tourist attraction cities namely; Dehiwala-Mount Lavinia MC on North and the Panadura on South, is an enormous strength for development.*

The open economic policy has been paving the way for fast development of non-traditional economic sectors in Sri Lanka, such as tourism, apparel industry and agricultural Processed-products. These sectors were developed with an eye on the export market, in order to increase the export earnings. In the light of the economic policy, the economic sectors that can contribute to the national income were analyzed with a view of identifying the most prospective sector that has the strength of supporting this economic policy through increasing the National Income of the Country. Accordingly, the tourism industry has been identified as having the potential of earning much needed foreign resources to the Country.

As already stated, the geographical setting of the Moratuwa MC area provides an enormous strength for development of the tourism industry. The Moratuwa MC area is situated with close proximity to the Colombo, which is the fourth largest tourist resort area in the Country, and in between two most active tourist areas of Panadura and Dehiwala-Mount Lavinia. The Annual Report – 2017 Sri Lanka Tourism Development Authority, identified seven tourist resort zones in the national context, namely, Colombo City (1-14), Greater Colombo Zone, Southern Coastal belt, Eastern Coastal belt, Up-Country area, Historical Cities and the Northern area. The Moratuwa town falls within the Greater Colombo Zone (this zone extends from Moratuwa up to Colombo and From Negombo to Colombo) Vide Figure no 07.

As far as the tourist accommodation capacity of the tourism Zones are concerned, the Greater Colombo Zone has 13.74% of the total capacity, which accounts for 22.62% in the Colombo City limits. Accordingly, the total capacity of the Greater Colombo area and the adjoining areas can be estimated to be 36.36% of the total capacity. The proportion of the tourists stay in Colombo out of the total arriving to the country has been recorded as 73.14% while it occupies the 4th place in the hierarchical order of the facilities being provided to the tourists. The table 5.5 confirms that in terms of tourists staying in Colombo and the facilities provided to them, the Colombo assumes the 4th place of the ranking. (Sri Lanka Tourism Development Authority-2017)

Chapter 05
SWOT Analysis

Detail SWOT Analysis

Goal 02

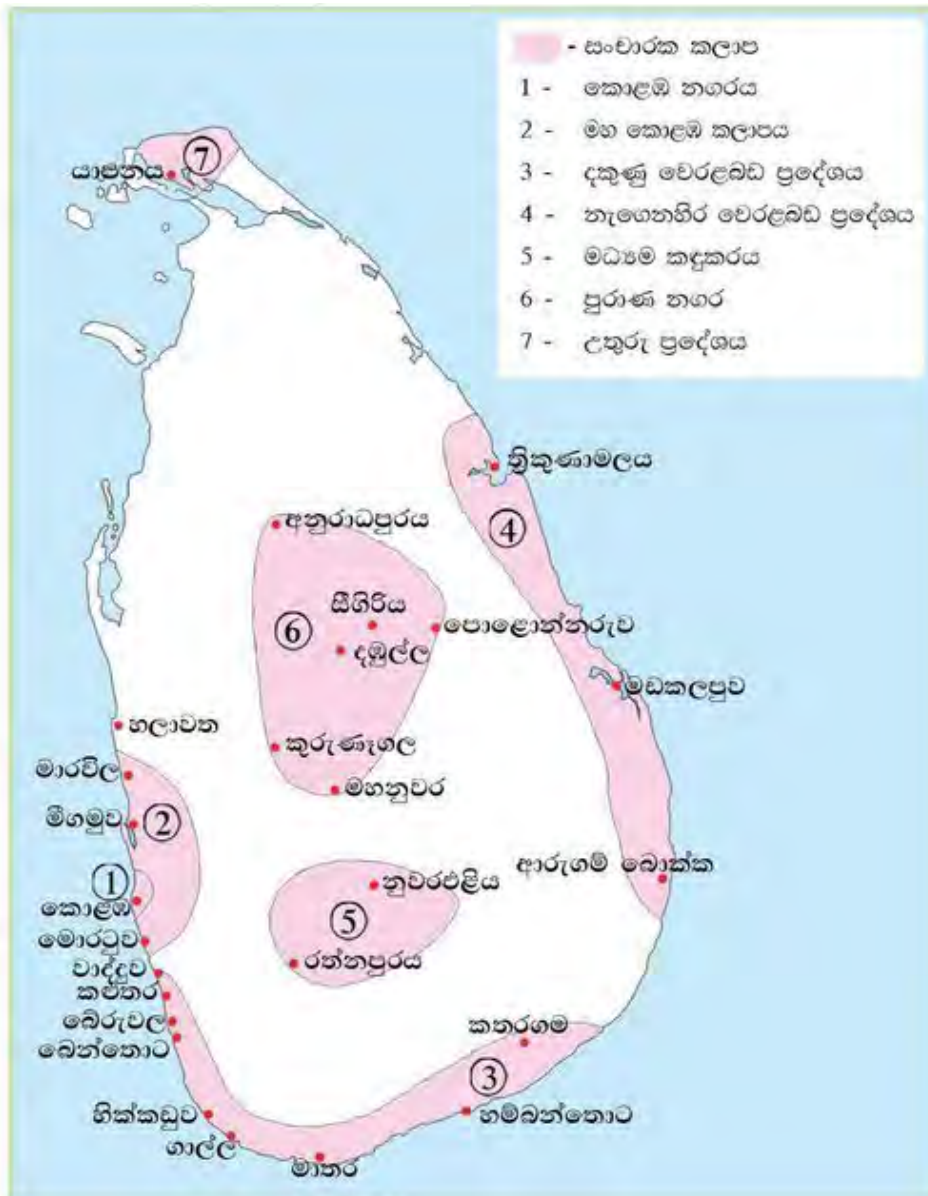


Figure 5.7 : Sri Lanka Tourism Zones
Source : Sri Lanka National Maps-2007

Chapter 05
SWOT Analysis

Detail SWOT Analysis

Goal 02

<i>Tourist resort</i>	<i>Accommodation capacity</i>	<i>Tourists stay as a %</i>
<i>Colombo City (Colombo 1-14)</i>	22.62%	75.31%
<i>Greater Colombo Zone</i>	13.74%	73.14%
<i>Southern Coastal belt</i>	35.23%	72.38%
<i>Eastern Coastal belt</i>	4.82%	72.95%
<i>Central Upcountry</i>	5.78%	73.55%
<i>Historical Cities</i>	17.11%	73.85%
<i>Northern Area</i>	0.70%	70.98%

Table 5.5 : *Accommodation Capacity of Tourism Zones and the Number of Tourists Stay*
Source : *Sri Lanka Tourism Development Authority, 2017*

Dehiwala Mount Lavenia and the Panadura Town which border the Moratuwa on the North and the South respectively are emerging as main tourism towns attracting more visitors. These two tourist attractions are emerging due to the fast-developing modern shopping facilities, star grade hotels and condominium residencies that change the sky line of those towns in the recent past. The Zoo at Dehiwala, which attracts approximately 1,400, 000 visitors per annum and the picturesque beach which offers exiting experiences to the tourists are other tourist-attracting establishments that can sustain the growth in the long-run. The collective impact of these characters of the area keeps on attracting the tourists continuously spilling some of the activities in to the Moratuwa area that can boost the tourism development in the Moratuwa as well.

Though the tourist attraction of Moratuwa is currently weak, there is an ample possibility of setting up of the right conditions by making use of the influence of two tourism magnets, namely Panadura and Dehiwala Mount Lavenia, situated on the South and the North of the Moratuwa MC area respectively.

b. Moratuwa MC being bounded by picturesque water bodies assuming sub-urban characteristics is developing as a commercial focal point in the locality

Moratuwa town being bordered by water bodies on three sides. The administrative boundaries of the Moratuwa Moratuwa MC area follow the natural boundaries of three water bodies, the sea on the west while the Bolgoda Lake on the east and the south.

As far as the natural setting of the Moratuwa MC area is concerned, its exposure to the water bodies is very extensive and only a limited length of its boundaries is facing the Dehiwala Mount Lavinia MC on the North. The water facing boundaries of the town account for 40 km in total length and water body exposure setting together with the picturesque environment is compelling undertaking the development as a water front city which would be loved by the tourists in the future.

Development as a focal point of the commercial activities with the sub-urban characteristics

Chapter 05 SWOT Analysis

Detail SWOT Analysis

Goal 02

The historical evidences revealed that the emerged of prime cities in the South-Asian Countries have been strongly supported by the road network development, which facilitated the commercial trades since the beginning of the 19th Century. Further, the human activities followed the development and the land use around such prime cities determined accordingly. The first city that has been developed following this organic trend is the City of Colombo. (Rimer, 1998). When the Colombo city was developed to its maximum threshold in terms of population growth, the surrounding land areas were subjected to urban sprawl as a result of population moving out of the Colombo City and settling down in sub-urban areas. Under these circumstances, the sub-urban towns of Colombo, such as Dehiwala Mount, Lavinia, Moratuwa, Panadura, Maharagama and so on merged fast and started playing significant roles in shaping the urban character of the sub-urban areas.

The growth of sub-urban areas offered a better opportunity to the medium-scale businesses that could not survive in the city of Colombo, in the face of appreciating land and built-space values, while there was an emerging demand for the services within the context of newly developing sub-urban town centres. Many businesses, such as trade centres, shops, holiday bungalows, tourism services, Cinema Halls, furniture shops etc. (Kottegoda S.B.B, 2015) started thriving in the newly developing sub-urban centres. As such, the Moratuwa Town is becoming an ideal physical environment to attract the tourism activities in to it.

In consideration of the facts already examined relating to development of Moratuwa, the Moratuwa town is an attractive place in terms of economic, social and environmental factors to develop the tourism industry by also making use of the influence of the two-adjointing resort centres merging on the North and the South.

c. The traditional furniture industry in the Moratuwa MC area.

The uniqueness of the Moratuwa town has been traditionally acquired by it through the development of the furniture industry, which has been a specialized industry with sustainable linkages with most of the urban centres in the Country. Today furniture industry has become the main lively hood of the residents. Moratumulla, Indibedda, Kadalana, Willorawatta and Koralawella are the most specialized areas in the Moratuwa MC area for furniture industry. This furniture industry, started as a traditional industry, and today it has been developed to a stage where most of the furniture industries and the furniture designing profession in the area are modernized with high-tech technologies and machineries. (Moratuwa Municipal Council, 2017)

The industry is now capable of turning out 64,000 furniture items per month by using hard timber and soft timber. The usage of hard timber has been recorded as 83% of the total timber used and the balance 17% of the timber are soft timber. (Amarasekara T.A.D.S. and Jayapala M.S.) In this backdrop the furniture industry could be made use of as a tool in developing the tourism industry in the Moratuwa MC area.

Chapter 05
SWOT Analysis



5.2.2.2. Weaknesses | Goal 02

Detail SWOT Analysis

Goal 02

- a. *Harnessing the potential of the picturesque water bodies endowed by the Moratuwa MC area for the advantage of the tourism development is constrained by the inaccessibility owing to the haphazard physical developments that causes pollution to such environments*

Moratuwa is almost surrounded with water bodies, which have a high degree of biodiversity but facing a severe threat of destroying it due to the increasing pollution level in the water unhindered. The environmental beauty is also threatened by this process and the beauty is gradually faded away accordingly weakening the tourism development effort. The furniture industries and the unauthorized housing developments right up the Bolgoda Lake embankment deny the access to the lake preventing the tourists enjoying the environmental beauty. The best examples in this regard are Moratumulla and Indibadda, where the furniture industries being expanded up to the embankment of the Bolgoda Lake. Lack of wide roads to provide access to the embankments is another constrain that prevent public having access to the embankments.

The railway track that runs parallel to the beach, demarcates the beach on the land side, and the land area that lies between the rail track and the beach is an official reservation of the Railway Authorities, which cannot be used for any other purposes other than those of the Railway's. However, the reservation land strip has been encroached by the low-income families and denies the access to the beach. Although a nice beach is endowed by the Moratuwa Town it cannot be enjoyed by the public due to the constrain.

The Lunawa Lagoon has become the waste water pit in the locality for some times. The UDA initiated a development program to arrest the ongoing pollution process and then surrounding lands of the lagoon were converted to a public leisure park with facilities for the public to do jogging and walking for physical fitnesses. However, the flow of waste water in to the Lagoon water could not be permanently arrested by the development program initiated and as a result the waste water continues to flow in to the Lagoon increasing the pollution level gradually to a level where it was. The water ways connected with the lagoon still continue to carry waste water from the locality to the lagoon and cause the pollution to the lake waters.



5.2.2.3. Opportunities. | Goal 02

- a. *The Western Region Megapolis Plan in 2016 recommends to develop the Moratuwa within the tourism resort zone for long-term development as a tourist city.*

The Western Province Megapolis Development Plan-2016 divided the Western Province in to seven development zones (vide Figure no 2.14). The Moratuwa town has been identified in the plan as a town coming within the high-density development zone which extends from Negombo to Aluthgama, where the town to be developed as a sub-centre within the Colombo suburban area.

5.2.3. Goal 03

Analysis in the context of the 'Sufficient Infrastructure to Meet the Needs of the City'



5.2.3.1. Strengths | Goal 03

- a. *The Galle road is one of the seven corridors that provides main access to the city of Colombo and it radiates an internal road network to provide access to the interior developments.*

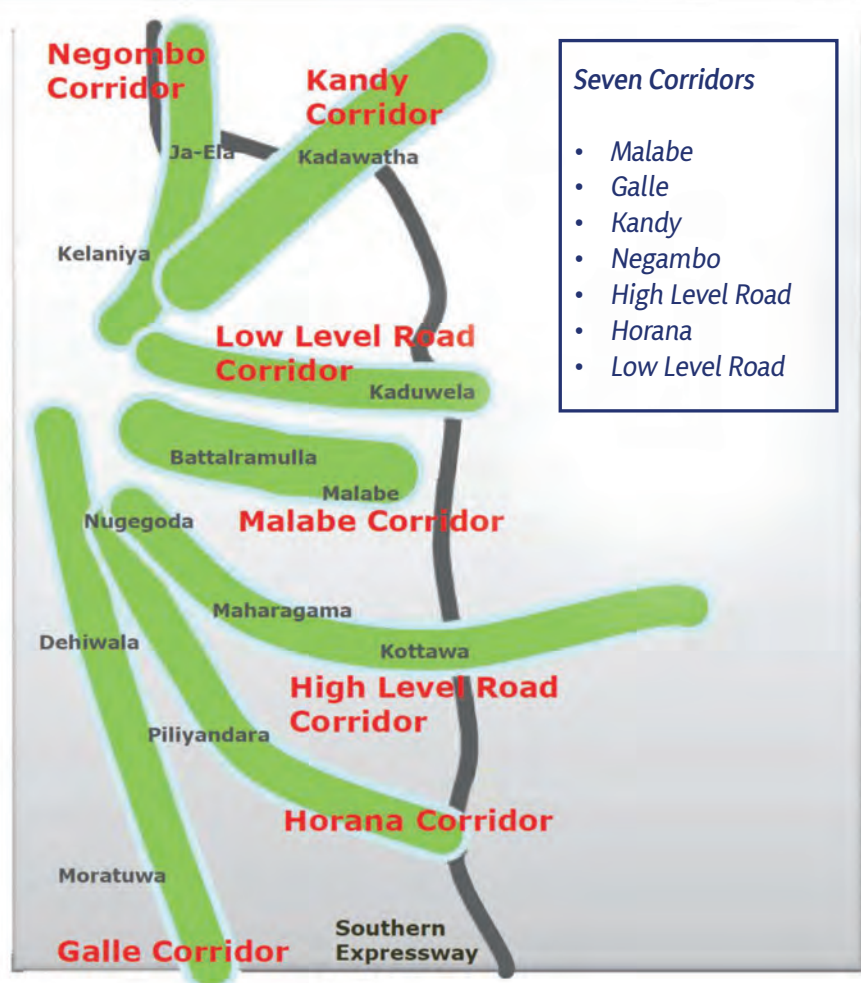
The 9 km long Galle Corridor runs through the city of Moratuwa and according to the ComTrans study of 2014 the Fig. 5.8, it is the third Corridor Out of Colombo's seven major Corridors to Colombo. It is expected that in 2013, 298,000 passengers will be traveling through the Galle Corridor and expected to increase to 447,500 from 2035 daily.

The spatial integrated development analysis of the Moratuwa town (map no 5.2) indicated that most of the areas of the Moratuwa MC assume high and medium values, implying that the physical development on the land space is integrated better due to the better spread of internal road network. The road network has the ability to spread the multiple development activities faster throughout the Moratuwa MC area.

Chapter 05
SWOT Analysis

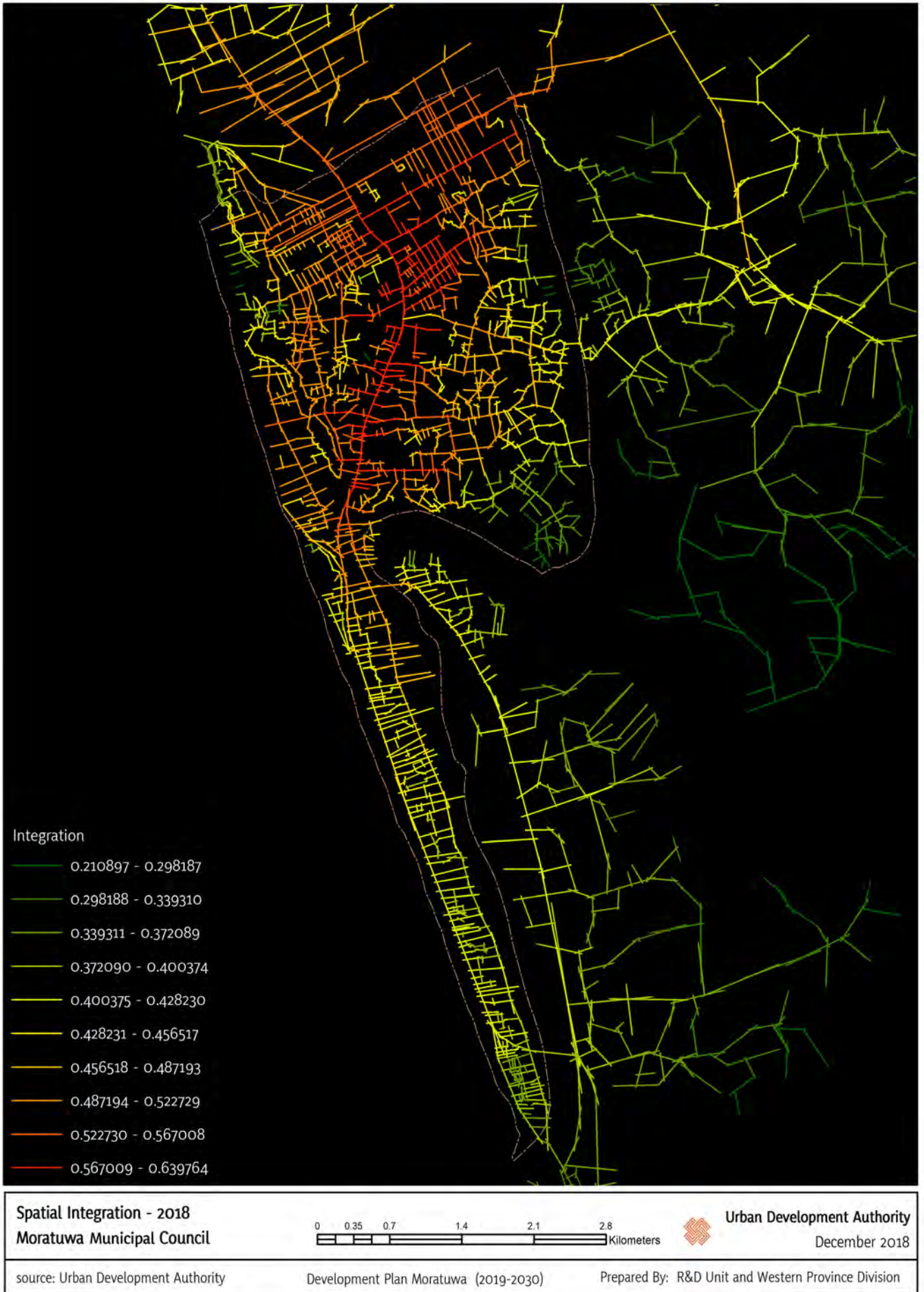
Detail SWOT Analysis

Goal 03



Source: CoMTrans Study Team

Figure 5.8 : Main Access Corridors to the City of Colombo
Source : ComTrans Study Report-2014



Map 5.2 : Spatial Integration Analysis-2018

Source : Urban Development Authority,2018

Chapter 05
SWOT Analysis

Detail SWOT Analysis

Goal 03

b. The Moratuwa railway stations functioning as the center of four other domestic railway stations.

The railway station at the Moratuwa town functions as the centre of four other stations located in Angulana, Korawalwella, Lunawa and Egodaulyana. The figure no 5.9 depicts the details of the railway facilities and their spatial distribution.

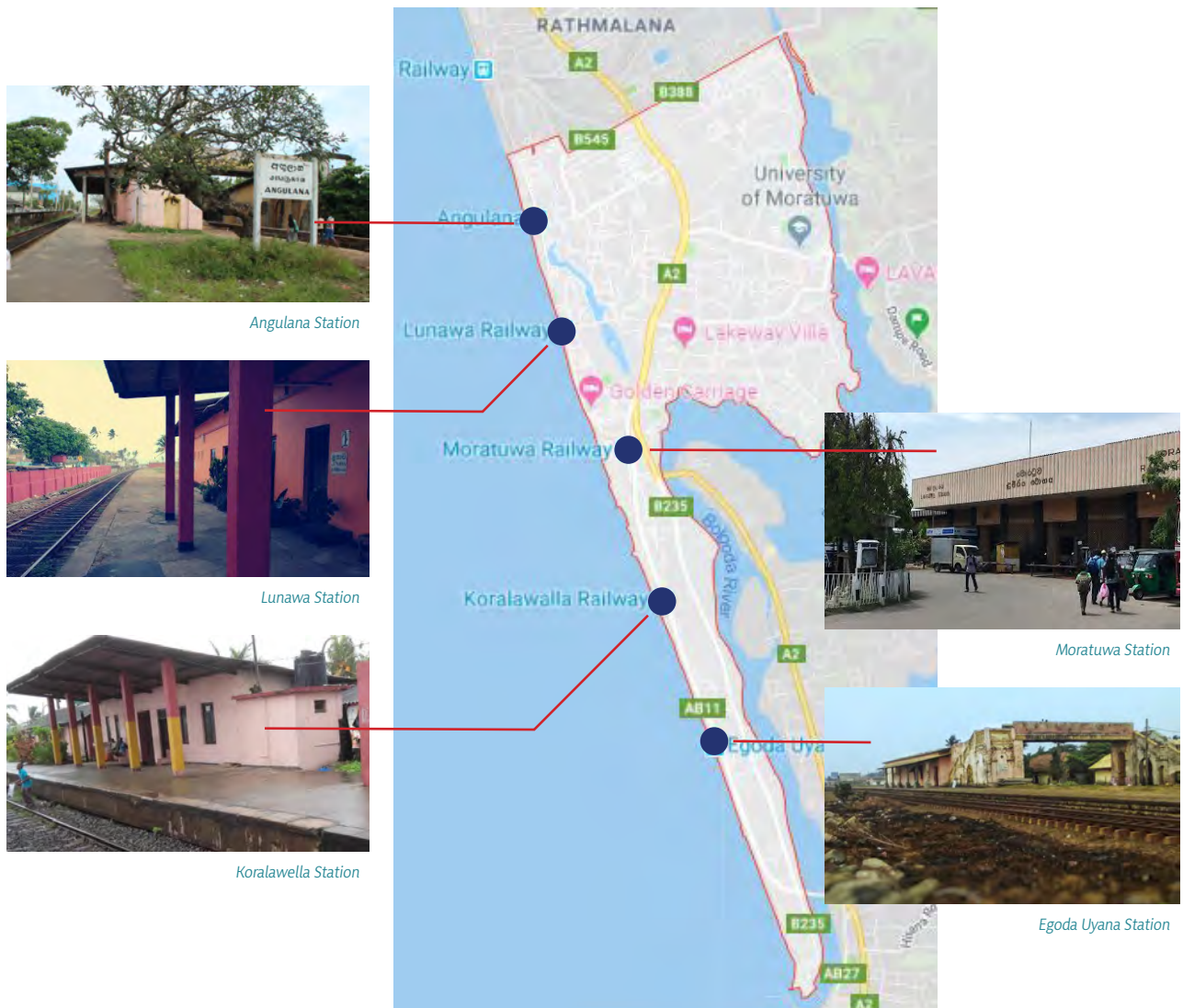


Figure 5.9 : Moratuwa Railway Stations
Source: : Google Maps and the Urban Development Authority -2018

The train service as a mode of transport is fast becoming popular as it is faster than bus service in reaching the destination. The stations located at Korawalwella, Lunawa, Egodaulyana and Moratuwa, are being used for short distance travelling and goods transport. Goods transport by train is emerging as a new trend in the Moratuwa area.



5.2.3.2. Weaknesses | Goal 03

a. *Lack of sufficient open spaces for the residents of the Moratuwa MC.*

The Moratuwa MC area has a population of 167,000 according to the census enumerated in 2012. The population growth is taking place exerting a pressure on the available infrastructure networks. The open spaces are a vital component as far as the social infrastructure is concerned. The accepted standard of open spaces in the context of Sri Lanka is 1.4 hectares per 1000 people, which is a minimum requirement, but currently available is only 6 hectares in total to the entire Moratuwa MC population, which is an extremely low figure and cannot be accepted by any standard.

b. *Lack of public parking facilities in the town*

Parking multiple vehicles along the main roads within the town centre area is a common sight during the day time. The visitor summing to the town for various services are compelled to park their vehicles along the roads. Though the development regulations require provision of car parks within the new developments according to the regulatory requirements, it is not sufficient to meet the total need of the town. As such the need for sufficient car parking areas within the town's central area has been felt for a long time. This lack of carparking facilities has become one of the main issues in the town centre.

c. *Shortage of houses and existence of underserved settlements*

According to the estimates based on the data enumerated by the Census 2012, there is a housing backlog of 375 housing units. The low-income houses, approximately 2,500 in number, are mostly concentrated in Dandeniya, Bataryawatta, Pittaniyawatta, and Samarakoonwatta. These housing units mostly constructed in the lands owned by the government, the lands are falling within the reservations to be maintained for the railways, beach and water bodies. These housing units do not have the basic infrastructure facilities needed for human habitation.

Chapter 05
SWOT Analysis



5.2.3.3. Opportunities | Goal 03

Detail SWOT Analysis

Goal 03

- a. Proposed Multi-Modal Transport Centre project and the extension of the proposed Marine Drive up to the Moratuwa.

Proposed Multi-Modal Transport Centre.

The Moratuwa being located on one of the main access roads to the city of Colombo maintains strong linkages with the towns of Maharagama, Panadura and Piliyandala in additions to the strong integration with the city of Colombo. The floating population is currently increasing due to the nationally significant educational institutions, that are functioning in the area and many other such establishments including industries are located attracting people in to the area during the day time. This influx of floating population in the Moratuwa MC area gives rise to the need of an efficient transport system.

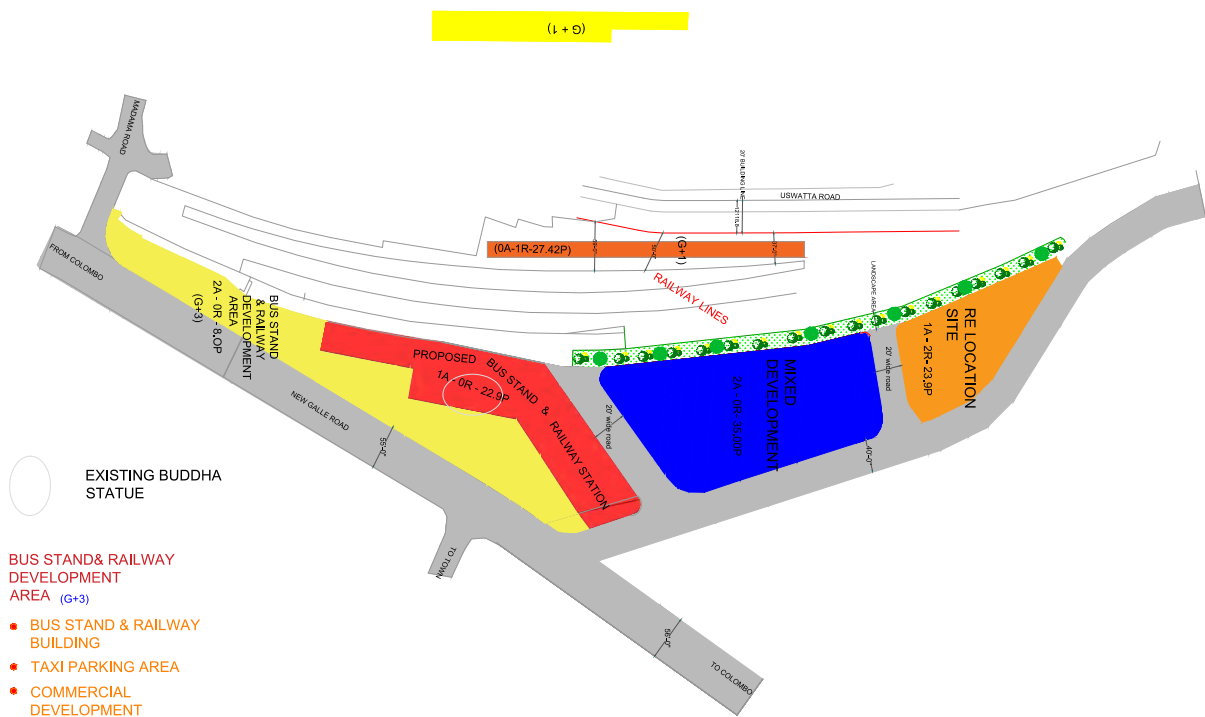


Figure 5.10 : Proposed Multi-Modal Centre Plan
Source : Urban Development Authority, 2018

The proposed Metro System has been planned to run via Moratuwa town where current Public Bus Stand and the Railway Station are functioning side by side in an integration fashion. As already discussed, railway is becoming very popular among the general public and trend could be accelerated along with the implementation of the proposed Metro system. Therefore, a proposal has been made to establish a multi-modal transport centre at the Moratuwa town within an 8acre land of the CGR adjoining the current railway station premises. (Figure no 5.10)

Extension of Proposed Marine Drive up to the Moratuwa Town

The Road Development Authority planned to develop the Marine Drive running from Colombo to be extended up to the Moratuwa MC and connect with the Purranappu Mawatha. This road will facilitate the through traffic from and to Colombo traffic to use this road faster saving time and easing the current traffic conjection along the Galle road.

b. Proposed Light Rail Transport System Project (LRT)

The proposed LRT system has been planned to include three packages under three colours, namely 'Red Line','Green Line' and 'Blue Line'. The 'Green Line' will start from Kelaniya and runs via Dematagoda, Boralla, Narahenpita, Nugegoda Piliyandala, and will terminate at Moratuwa at the Multimodal Transport Centre. This LRT will have stops on the way at the Moratuwa University, Katubedda and Rawathawatta before meeting the Moratuwa Multimodal Transport Centre.

c. Proposed housing schemes at Dandeniya, Samarakoonwatta, Pittaniya and Batarywatta

The multi-storied housing schemes at these areas have been proposed by the UDA in view of providing better housing with infrastructure facilities for the low income families living in the low income settlements, currently occupying the state owned lands. These housing projects will be implemented as urban regenerative projects where the balance land after the housing schemes are developed will be released for mixed developments projects.

Chapter 05
SWOT Analysis

Detail SWOT Analysis

Goal 03



5.3.3.4. Threats | Goal 03

a. *Height restrictions imposed by the Department of Civil Aviation*

The Rathmalana Airport is located with close proximity to the Moratuwa MC area near the Northern boundary of the Moratuwa MC. The height of buildings that are falling within the flying path of the run way are restricted and controlled according to the standards enforced by the Civil Aviation Authority. This height restrictions cannot be violated under any circumstances and all the new buildings proposed within the area under flying routes of the air port should comply with the standard heights enforced by Authority.

06

Chapter



Development Plan

Chapter 06
Development Plan

Concept Plan

6.1. Concept Plan

The Concept plan explains the expected development of the Moratuwa MC by the year 2030 under the vision of the development plan that can be reached through the goals and the objectives set out in the said plan following the indepth analysis of making use of the advantageous of emerging development trends, natural resources, tourism attractions and geographical location of the Moratuwa MC in the region.

In the study of the impact of the emrging development trend of the Moratuwa MC area, special attention was focused on the future state of the development, that is multi modal transport plan, which includes the Moratuwa town centre to be developed as the first order junction node while the Katubedda, Boruponeand Rawathawatta as the second order junctions identified for development. Further, Angulana, and Moratuwa New Bridge Junctions were identified as the third order junctions for planned development. Examination of the cerrent development trend also led to identify a few number of residential centres for development in the plan.

As seen elsewhere in the plan, the Concept plan considers that the Moratuwa MC area is surrounded by unique environmental features of three water bodies, namely Bolgoda Lake on the East and the South and the Sea on the West while Lunawa Lagoon, which characterizes the internal environment with an extent of 30 hectares, is supported and enriched by 20 hectares of wetlands and astuaries covering most part of the planning area. Having taken the natural charecter of the Moratuwa MC area in to consideration, the development plan envisged developing the Moratuwa MC area as a water enriched garden city, facilitating the tourism development in the area with a view of providing better environment for the people to experience.

Opening the water bodiesfor the public, hither to enclosed by the haphazard developments, to enjoy and experience the natural beauty, development of accesses, walking tracks, beach garden developments and beautification and proper management of wetlands and water bodies are expected to facil:itate succeeding the objectives of the development plan and would lay the basis for a long term sustainable development. Further, the Galle Road, that runs through the Moratuwa MC area provides a reliable and stable basis to develop a by road network that can provide access to almost all the parts of the Moratuwa MC area.

The Concept Plan appended below as figure no 6.1 was formed with a view of utilizing the maximum potetials offered by the environmental resources under a strict conservation policies supporting the development of the tourism industry. The tourism sector is expected to act as a catalyst of the local economic development making the Moratuwa MC area as a self-sufficient city.



Figure 6.1 : Moratuwa Concept Plan
Source : Urban Development Authority, 2018

6.2. Proposed Land Use Plan

Development Plan envisages making the Moratuwa MC area a vibrant economic centre making use of the water and wetland rich environmental resources as a tool to create a healthy urban environment in the Moratuwa MC. With the above aim in mind the Development Plan 2019–2030 is presented.

A hierarchy of economically active junctions within the Moratuwa MC area were formed through identification of development trends that are emerging with a view of making use of them for sustainable development of the Moratuwa town. The Moratuwa town was selected as the first order junction and the Borupona, Katubedda and Rawathawatta Junctions were selected as the second order junctions in the hierarchy for long term development. The third order junctions in the hierarchical order are the junctions known as Moratuwa New Bridge, and Angulana Junctions. Further a few number of residential clusters located at junctions were also identified for development under the plan.

Expected Urban Form

The Development Plan 2019–2030 envisages formulating a urban form based on water bodies and lands having water fronts. The water fronts will be developed with varying densities combined with greeneries preserving the natural habitat prevailing in such areas. The building densities in lands, with water fronts, situated along the beach and extending towards the land side, will be implemented with varying densities as depicted in the figure no 6.2. Incremental skyline, starting from the beach towards the land side, was decided taking in to consideration the fact that the western beach is exposed to the blowing of the Sea breeze, which should not be disturbed by the buildings at the entrance and be allowed it travel in to the town area and farther to cool down the environment. Under the above mentioned natural environmental behavior the building density will be low at the beach area and increases towards the land area while vegetation cover in the beach area will be increased at a higher degree of density.

The Lunawa Lagoon area towards the East is free of potential natural disasters and more suitable for residential developments. The area has infrastructure facilities with a pleasing environment, as such the area can be developed with a high density residential buildings. Proposed high density development will be spreading towards the town centre with higher concentration of commercial and financial uses focusing the Galle Road. The Town centre will be the most densely developing centre where transport facilities will be congregated and other infrastructure facilities will also be provided. The lands fronting the Katubedda wetlands will be developed with a medium density standard as a mix land use area in consideration of the fact that the area is more frequently subjected to natural disasters originating from Bolgoda Lake.

The building constructions in the water front will be permitted subject to height limits and will be directed to undertake such constructions facing the water fronts. The water frontage will also be landscaped with a vision of facilitating the tourism industry and facilities will be provided to support the water based entertainment and recreational facilities including tourist hotels.

The Development Plan 2019–2030 has identified 6 land use zones, with a view of facilitating reaching the goals and objectives of the plan. These 6 land use zones are depicted in the map no 6.1 appended below.

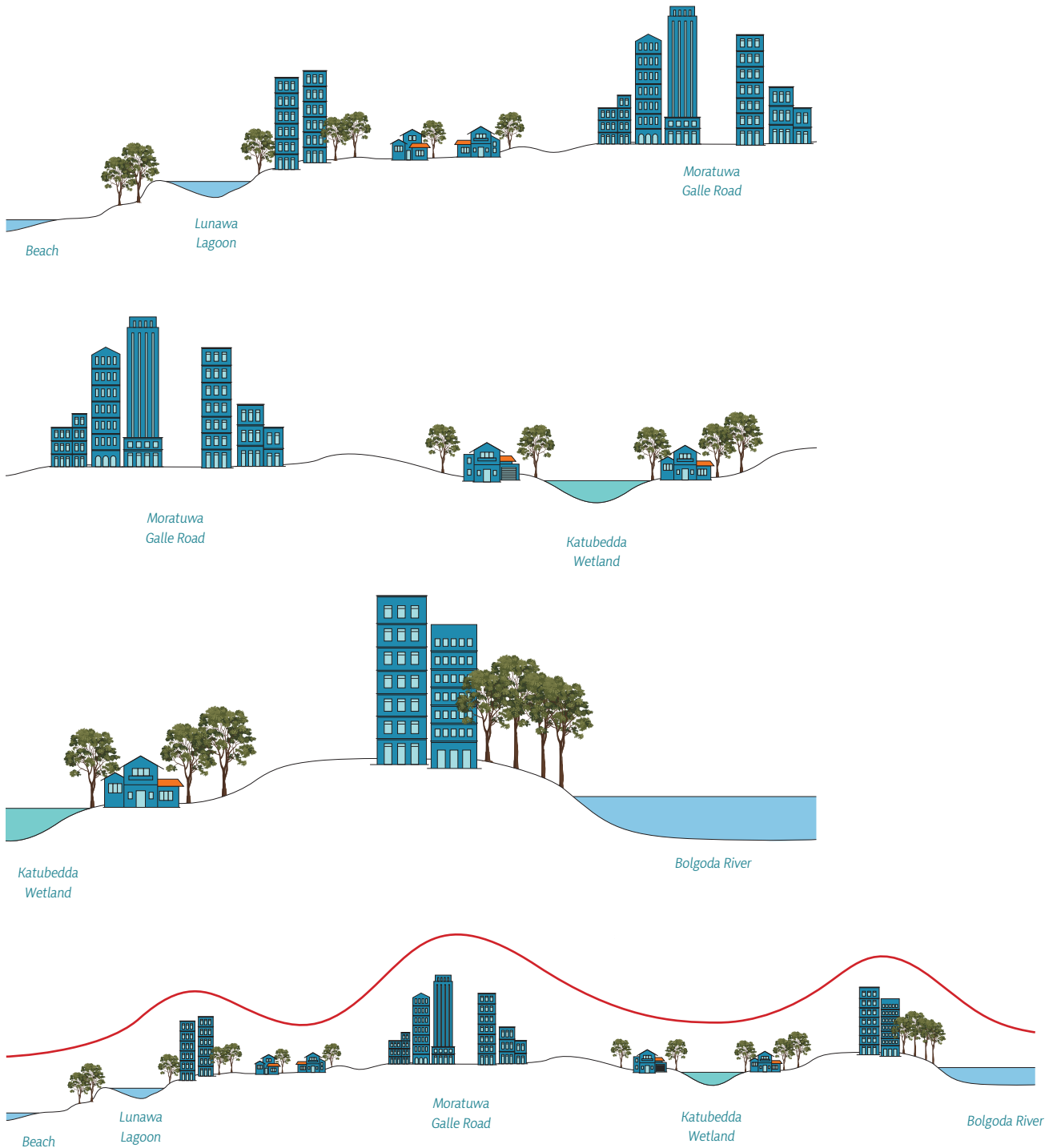
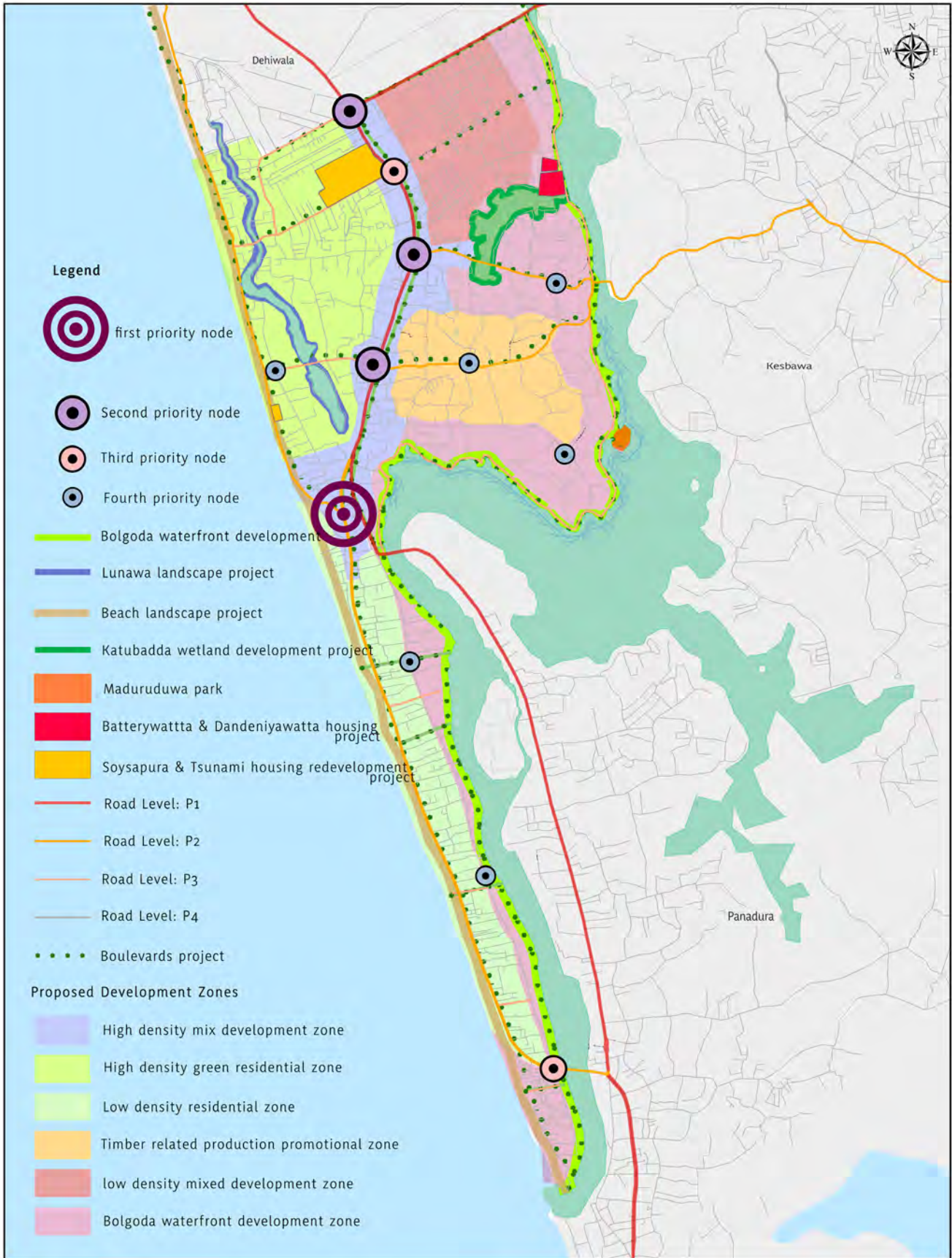


Figure 6.2 : Cross Section of the Proposed Urban Framework
Source : Urban Development Authority, 2018



The Plan - 2030
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
December 2018

Source: Urban Development Authority

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 6.1 : Proposed Land Use Plan -2030

Source : Urban Development Authority, 2018

6.3. Infrastructure Facilities Development Strategic Plan

6.3.1. Service Management Plan

The main purpose of service management plan is to provide necessary infrastructure services to the population that would be predicted to be served in the year of 2030 in the Moratuwa MC area. The infrastructure facilities required for the future population were assessed quantitatively following the examination of the current level of services available for the current population and determination of the backlog prevails currently. Under the examination of currently available services, health facilities, education and other social infrastructure services such as recreation, commercial, banks, postal services were considered. The map no 6.2 depicts the details of the service management plan of the Moratuwa MC.

6.3.1.1. Health Facilities

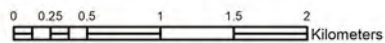
De Soysa Hospital located in the Moratuwa MC area is a District Hospital according to the Health Ministry's classification of Hospitals in the Country. Therefore, it was assumed that the service area of the Hospital covers an area of 5 Km radius from the location of the Hospital. According to the service area, entire Moratuwa MC area is covered except for the areas of Katukurunda South, which is situated at the Southern boundary of the Moratuwa MC area, Egodauyana North, Egodauyana South, and Egodauyana Middle. The areas which are not covered by the hospital will be covered under the Panadura Government Hospital. (Vide Map No 6.3)

As discussed under the Paragraph 2.2.2.3, (e), the Lunawa Ayurveda Hospital has the capacity to serve the population living in the area of 7 km radius from the location of this hospital. As such it is reasonable to assume that the Ayurveda hospital has the capacity to service the entire Moratuwa MC area in terms of health facilities.

In the light of the needs of the future population in the Moratuwa MC area, it has been proposed under the Development Plan to upgrade the De Soysa Hospital from the current level of "B" grade to the "A" Grade Hospital improving its capacity to 200 beds hospital together with other modern facilities, equipment and necessary staff.



Service Plan- 2030
Moratuwa Municipal Council



Urban Development Authority
December 2018

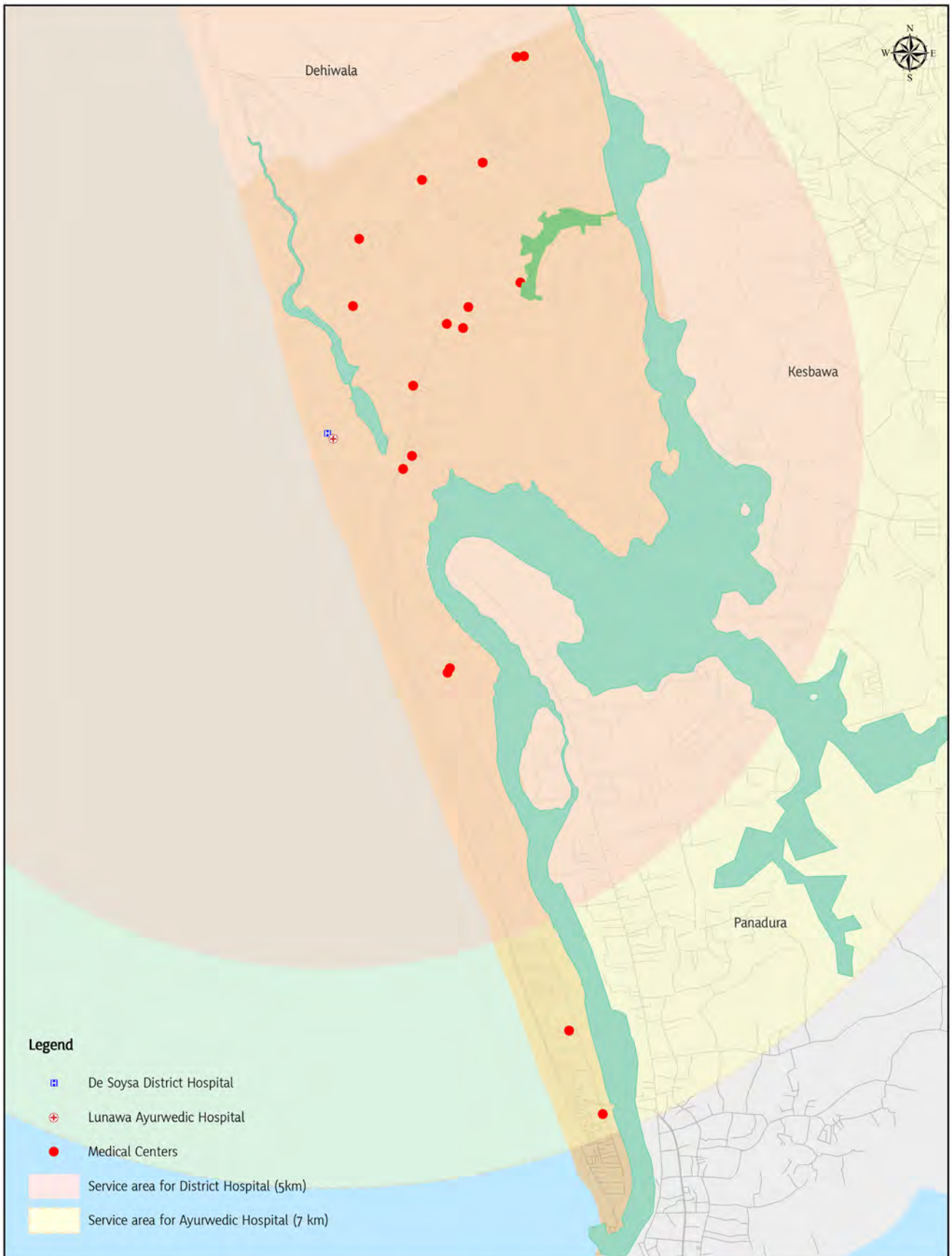
Source: Urban Development Authority

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 6.2 : Distribution of Infrastructure Services - 2019

Source : Urban Development Authority, 2018



Distribution of Health Facilities and Coverage - 2018
Moratuwa Municipal Council

Urban Development Authority
 December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 6.3 : Areas Serviced by the Health Facilities- 2019

Source : Urban Development Authority, 2018

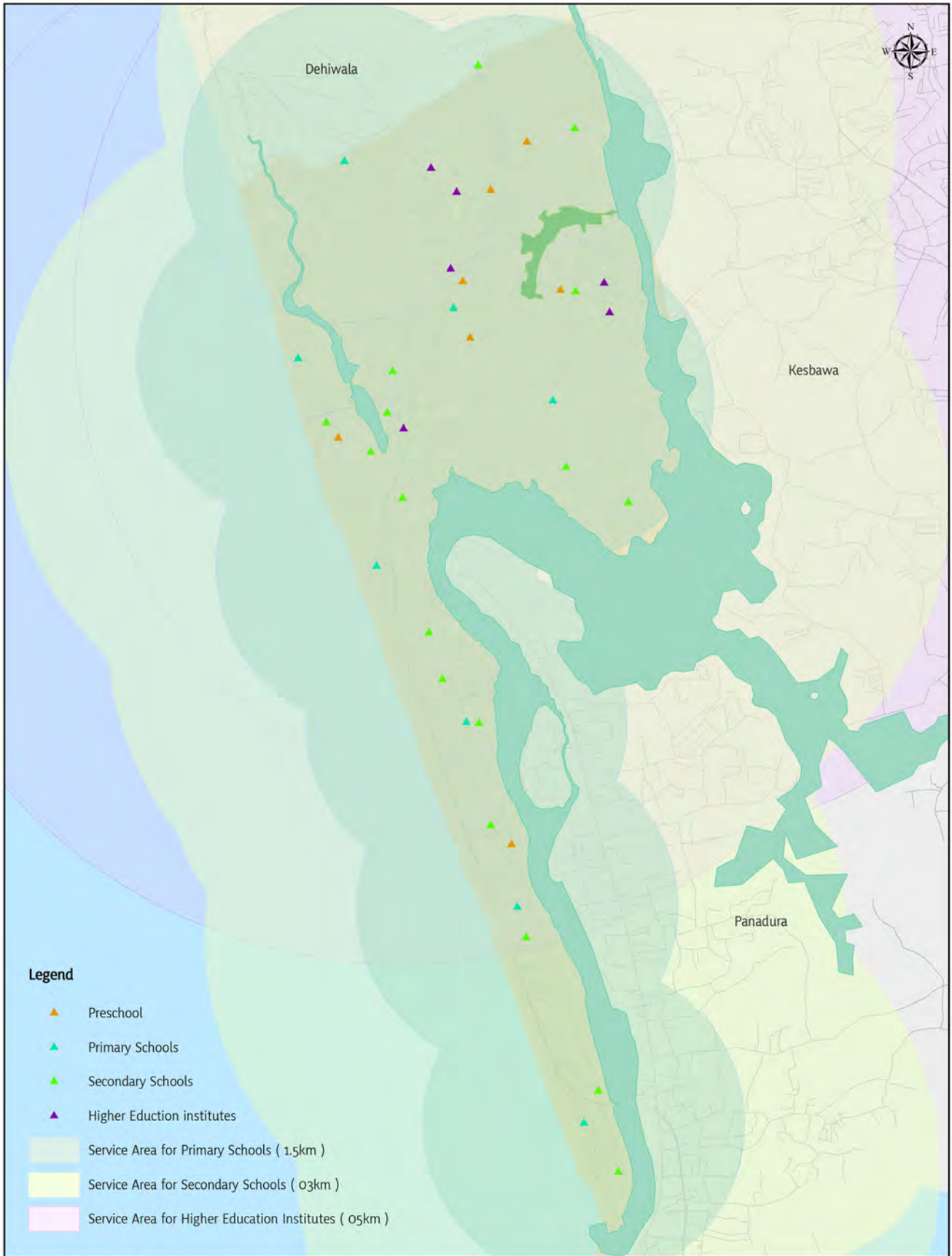
Chapter 06 Development Plan

Infrastructure Facilities Development Strategic Plan

Service Management Plan

6.3.1.2. Education Facilities

According to the classification of schools in the Island, the Moratuwa MC area has primary schools and secondary schools with the capacity to provide their services to the people living over an area falling within the service area of each school. Further there are many higher education institutions which are located in the planning area with a capacity to provide their services over a wider area than the schools. Depending on the standards applied by the education authorities, the schools, namely primary schools and secondary schools were assumed to cover an area falling within a radius of 1.5 km, 3km, and 3 km respectively. the higher education institutions were assumed to have the service area of 5 km radius from the current location of each institute. The map no 6.4 was prepared on the basis of the analytical information which depicts the areas covered by each education institute. The map guided the planning team to assume that the increased population by 2030 will have sufficient educational institutions located in the Moratuwa MC area to meet the needs arising from such increased population.



Distribution of Education Facilities and Coverage - 2018
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
 December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 6.4 : Distribution of Educational Institutes -2019

Source : Urban Development Authority, 2018

Chapter 06 Development Plan

Infrastructure Facilities
Development Strategic Plan

Service Management Plan

6.3.1.3. Urban Settlement Development Plan

Objectives of the Plan

The aim of urban settlement development plan is to develop and provide adequate infrastructure facilities, and spacious housing units in a better physical environment for the population forecast to be in the Moratuwa MC area by 2030..

Scope of the Plan

The Development Plan 2019–2030 has a legally effective planning period of 12 years, but the benefits of the plan will be realized over a longer period than the planning period, according to the estimates it could be extended until 2040.

Development Plan 2019–2030 will provide guidelines to manage the housing densities within the Planning Area with specific provisions for controlling the building densities strictly in wetlands surrounding the water retention areas, sensitive environment areas and in protected areas.

Under the plan 2500 under-serviced housing units have been identified for replacement with serviced housing schemes. For this purpose, new housing projects have been proposed under the plan, the details of this proposal are depicted in the map no 6.5.

(The "SP" stand for Moratuwa Urban Settlement Development Plan)

Planning Strategies

- a. *Enforcement of land use zoning and regulations, drafted based on the planned building densities, in order to achieve the planned physical settlement framework in the Moratuwa Development Plan 2019-2030*

Moratuwa Development Plan identified 6 land use zones, of which 4 use zones have been planned for development of housing. The prominent residential zone in the Moratuwa area has been the area around the Lunawa Lagoon, where high density residential development will be promoted along with the planned development of greeneries. The areas in the vicinity of the Bolgoda Lake will be planned for condominium housing development while discouraging development or expansion of polluting industries in the areas namely Borupona, Thelawela, and Maligawa Road where lands that will be released from the polluting industries will be planned for residential development. Low-density housing developments in the areas from the Korlawella to Egodaayan will be encouraged to continue with low densities.

The residential development will not be encouraged within the Galle Road centered area of the Moratuwa town, but such areas will be more encouraged for commercial developments as a commercial zone. Currently there are areas where timber saw mills and timber based industries are functioning side by side of residential buildings which are subjected to the pollution caused by the saw dust, noise, vibration and heat emanated from the saw mills and workshops. As a result, people living in such areas are suffering from many health issues. Taking the fact in to consideration the residential development in such areas will not be encouraged under the Development Plan.

b. Utilization of State-Owned Lands for housing development.

SP01- Housing Development Schemes in Tekkawatta, Molawatta and Mahawatta. map no 6.5)

The State-Owned lands known as Tekkawatta, Molawatta and Mahawatta, which are currently under the charge of the Moratuwa Divisional Secretariat Division, have been proposed for development of housing schemes for relocation of the families living along the beach.

c. Relocation of Low-Income families without disturbing their currently engaged economic and social activities.

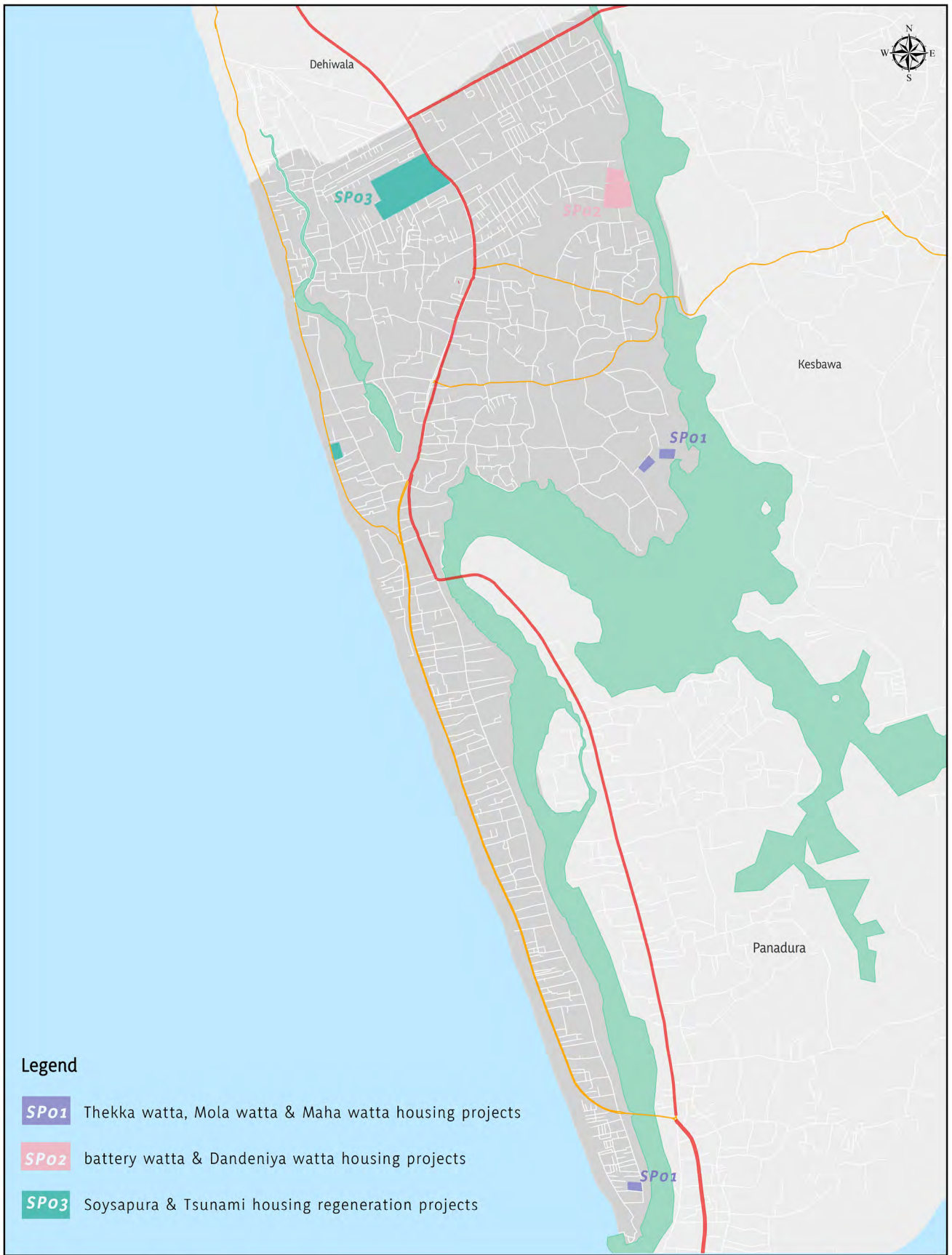
SP02- Batarywatta and Dandeniawatta housing development schemes. (map no 6.5)

It has been proposed to undertake construction of 900 housing units in the lands of Dandeniawatta and 700 housing units in the Batarywatta. After development of multi-storied housing schemes in these two lands the housing units will be used for relocation of the families living in the same lands. The lands that will be saved after planned development of the housing schemes will be utilized for mixed development purposes.

d. The existing under-utilized housing schemes will be utilized for redevelopment.

SP03- Soysapura Housing Scheme and the Tsunami Housing Scheme (Map No 6.5)

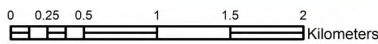
There are many low-income families provided with housing units in housing schemes implemented by many Governmental and Non-Governmental Organizations in the past, which have become underutilized by current standards and the services available having the capacity to serve more housing units and people than currently exists therein. Such housing properties have been identified for redevelopment increasing the number of housing units in each project to the maximum possible according to the services available. Accordingly, the Soysapura and the Tsunami housing schemes have been proposed under the redevelopment program.



Legend

- SP01** Thekka watta, Mola watta & Maha watta housing projects
- SP02** battery watta & Dandeniya watta housing projects
- SP03** Soysapura & Tsunami housing regeneration projects

Urban Settlement Development Plan - 2030
Moratuwa Municipal Council



Urban Development Authority
 December 2018

Source: Urban Development Authority

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 6.5 : Urban Settlement Development Plan-2030

Source : Urban Development Authority, 2018

6.3.1.4. Common Amenities

Assumptions were made as follows to decide the area of service of public and private commercial establishments, financial institutions, post offices and other facilities located in the Moratuwa MC. Financial Institutions distance of 1.5 km, public markets distance of 3 km, private markets distance of 1 km, sub main post office distance of 5 km, sub post office distance of 1 km.

The map no 6.6 depicts the service areas of each service establishment and that also leads to the conclusion that the Moratuwa has sufficient service establishments distributed over the planning area to serve the people of the Moratuwa MC area.

6.3.2. Road and Transport Plan

The increase of demand for transport services during the past decade has been witnessed. The trend seems to be motivated by the migration of more people and them settling down in sub-urban centres, increasing the circulation of people in such centres. There is also a trend being developed in the process that the public transport services could not meet the increasing demand for the services and as a result private transport services gradually came in to service. The combined impact of these services has grown in volume exceeding the road capacities that exist hitherto in the sub-urban centres creating ever increasing vehicular traffic congestions.

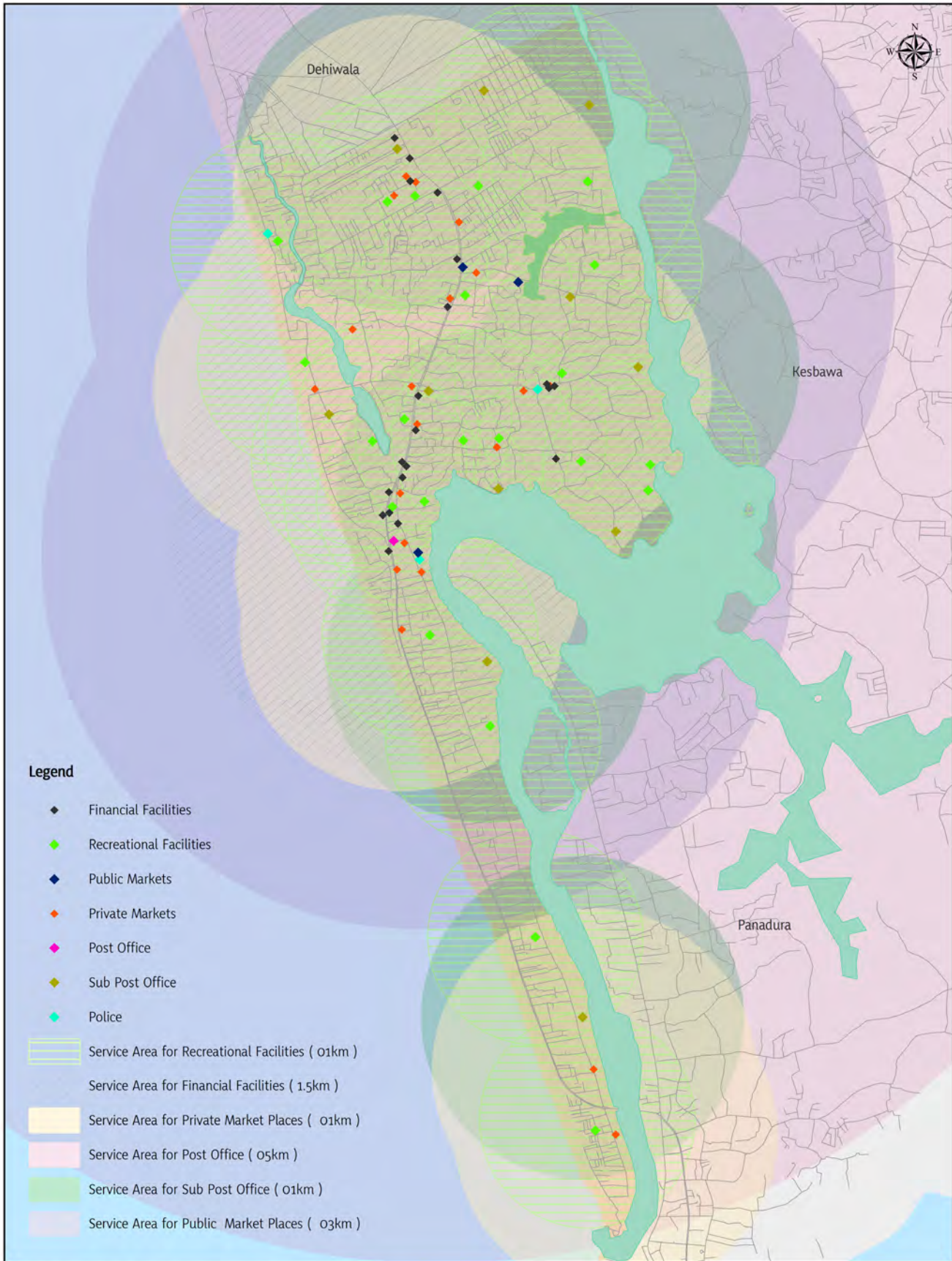
6.3.2.1. Objectives of the Plan

The goal of the plan is to streamline the transport service in the Moratuwa MC area with a focus on minimizing the traffic congestion while providing efficient transport services to enable the development of water front areas identified in the Development Plan .

6.3.2.2. Scope of the Plan

the Moratuwa MC area was undertaken based on the selection of the mode of transport by the population that has been forecast under the plan and their number of trips that could be made during the planning period of 2019–2030 in order to meeting the needs of the future population. Under the planning process, depending on the current network of the roads and their service abilities, roads have been identified on priority based on their capacity network connections and abilities to provide services to the trip destinations, such as provincial, local etc and their widths.

The studies have been undertaken on encouraging the trips that are being made between towns and on promotion of alternative public transport modes to facilitate it and concluded that town short distance travelling within towns could be made on foot or foot bicycles provided the necessary facilities are developed to make water front areas more accessible where new developments will be planned and strategies will be adopted to encourage such developments.



Distribution of Public Facilities and Coverage - 2018
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
 December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 6.6 : Distribution of Public Service Establishments

Source : Urban Development Authority, 2018

6.3.2.3. Transport Study

The paragraph 2.2.2.3. provides the details of the roads and the Railway networks and their functions in the Moratuwa MC area. The population that could be in the 2030 as forecast under the Development Plan 2019–2030 was forecast under this section and considered as the basis to predict the number of trips that could be generated by the future population in the year of 2030 as forecast

The population forecast undertaken under the Development Plan was based on the demographic information provided by two Population Censuses enumerated in 2001 and 2012. According to the forecast of population for the year 2030 the resident population in the Moratuwa MC area will be 150,000 and the day population will be approximately 87,000. This will work out to a proportion of resident population to day population of 2:1 ratio. The population annual growth rate has been -0.49% in the Moratuwa MC area, which needs to be increased to 1% with a net effect of 0.5% annual growth rate in target

Forecast of Trip volume. A trip under the study was considered a movement undertaken by a person from a point of space (origin) to another point (destination) by a mode of transport, and the total number of trips that person made so will be considered as the trip volume for analysis of the information relating to the transport. The trip volume so estimated could be used to work out a ratio between the trip volume and the land area and the outcome was considered as the trip density for analytical purposes. The Comtrans study team reported in its study report on "Urban Transport Systems Development Project for Colombo Metropolitan Region and Suburbs" the details of the study undertaken in the Moratuwa MC area. According to the data and the conclusions reached under that study the purpose of trips and the trips density by the mode of the transport and its distribution in Moratuwa MC area were studied.

The trips undertaken by the people could be prioritized as for returning to home going for employment, private trips and for educational purposes. These details are depicted in the figure No 6.3

The number of trips originated and made by different transport modes by the people in 2030 based on the forecast population were studied and the details of the results are depicted in the map No 6.7

The study reveals that there is a tendency that the people in the area closer to the rail stations at Moratuwa, Angulana and Lunawa used the train services to make long distance trips while the people in the area closer to the rail stations of Koralawella and Egodaunya use the trains to make short distance trips from Koralawella to Egodaunya. (The details of the study are provided in the Annexure No 8) The study on people who make trips by busses revealed that they take more than a minimum value of 20 trips per hectare

The areas where people show a tendency towards using more private vehicles in making their trips were revealed as Angulana North, Borupone, Moratuwa town area and Egodaunya. (Vide Annexure 9)

Chapter 06 Development Plan

Infrastructure Facilities
Development Strategic Plan

Road and Transport Plan

Classification of trips by purpose

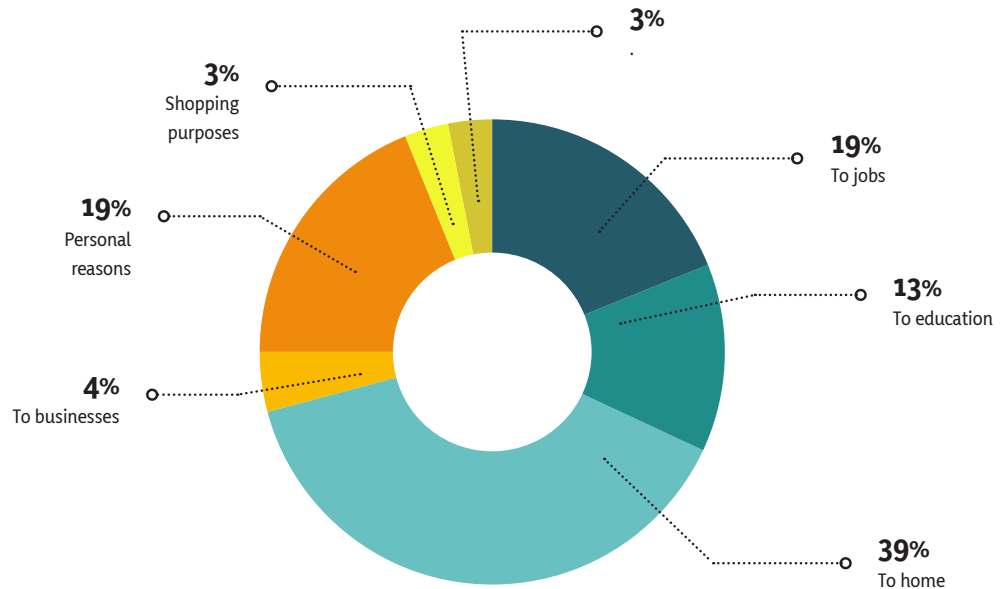


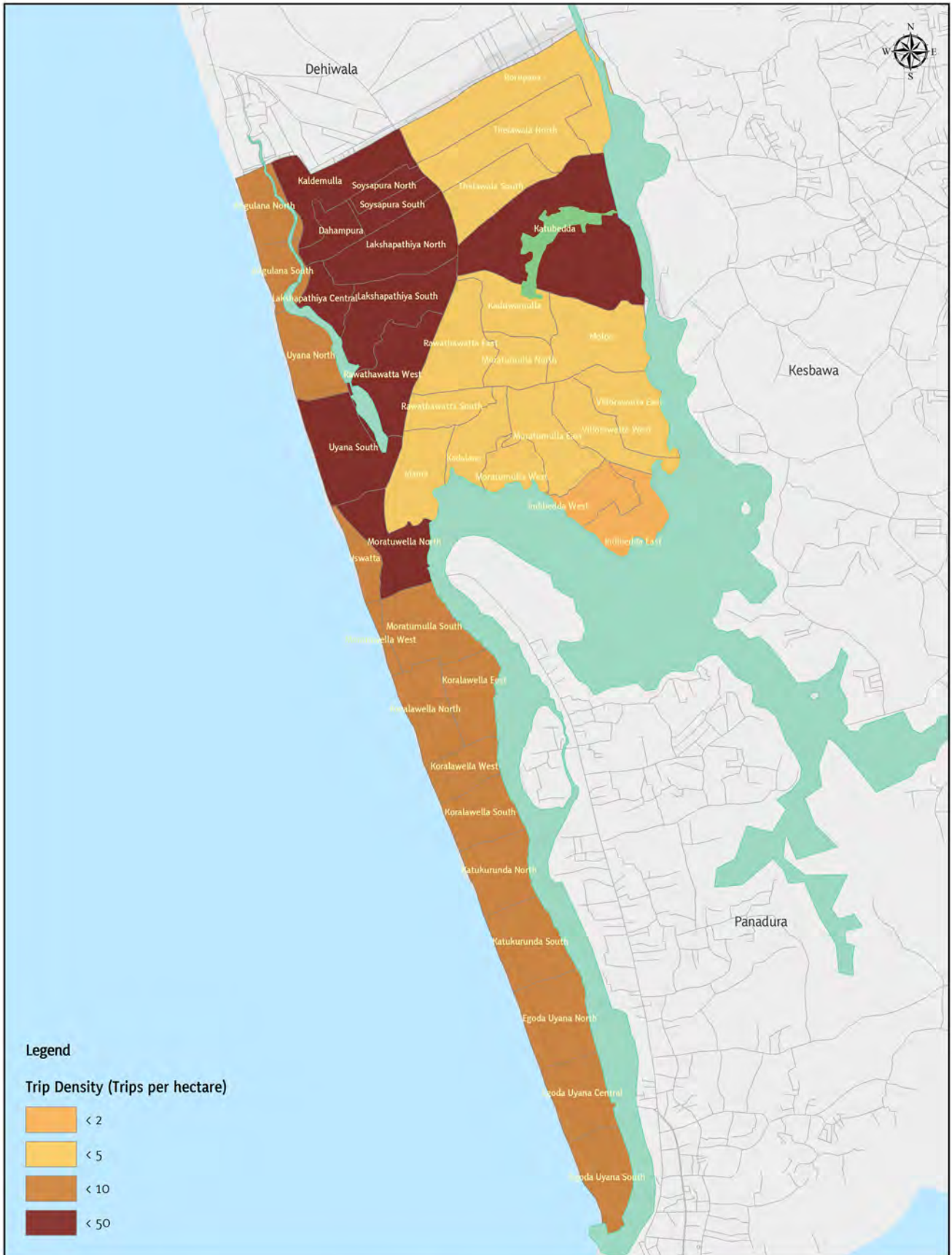
Figure 6.3 : Classification of Trips by Purpose

Source : Urban Transport Systems Development Project for Colombo Metropolitan Region and Suburbs-Report 2017

6.3.2.4. Strategies for Roads and Transport Sector Development

Three strategies have been adopted for implementation of the Road and Transport Plan prepared for the Moratuwa MC area. The details of the planned strategies are provided in the map no 6.8.

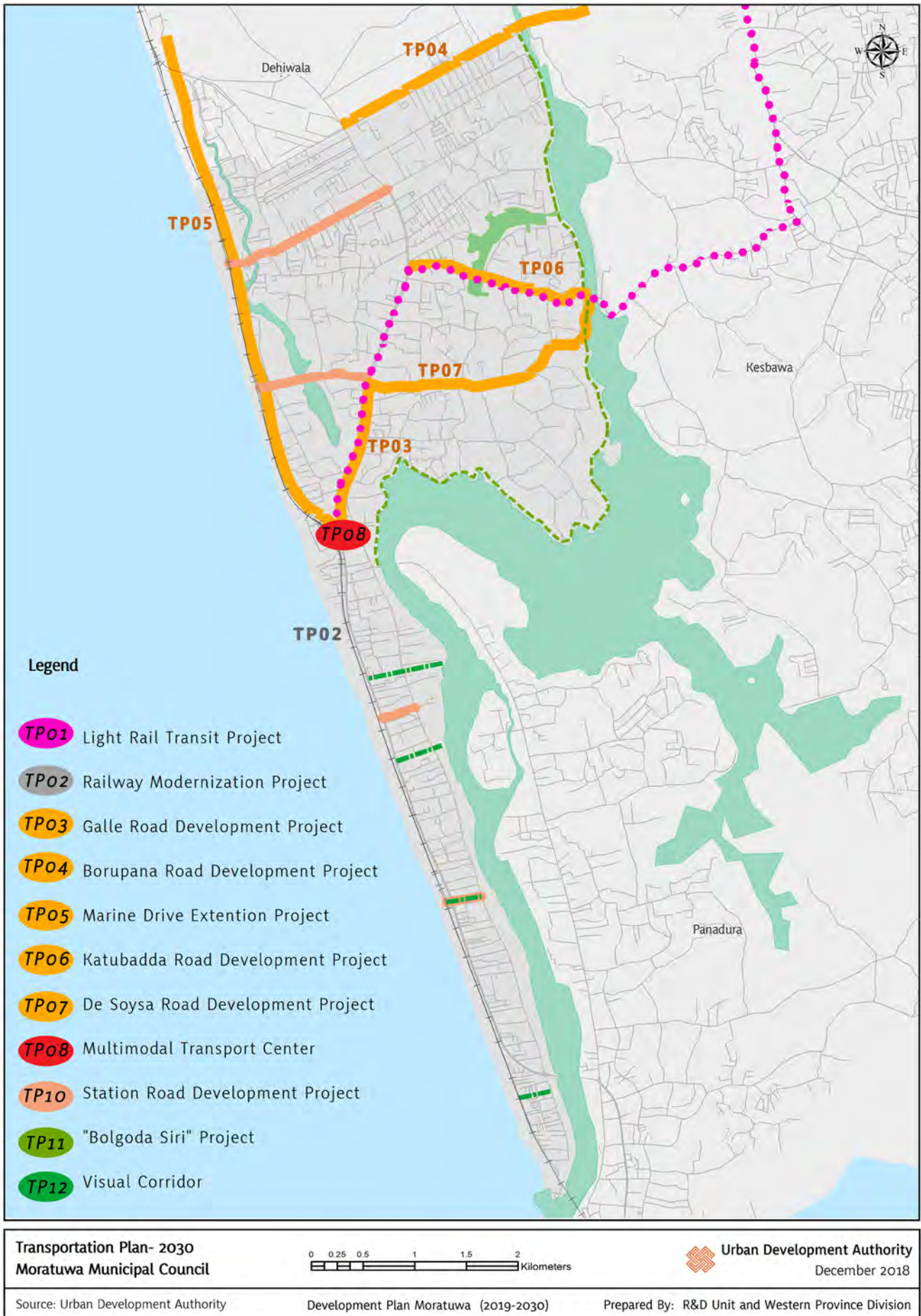
- Development of roads and the transport network connecting the Moratuwa MC area with the other Urban Centres to strengthen the linkages
- Establishment of a high-density urban framework through integrated transport network.
- Opening the water fronts for the public encouraging them to develop it.



Total Trip Generation- 2013 Moratuwa Municipal Council		Urban Development Authority December 2018
Source: ComTrans Study, 2014	Development Plan Moratuwa (2019-2030)	Prepared By: R&D Unit and Western Province Division

Map 6.7: Volume of Trips Originated within the MMC Area

Source : Urban Development Authority, 2018



Map 6.8 : Transport Plan of Moratuwa - 2030

Source : Urban Development Authority,2018

a) *Redevelopment of Local Road and the Public Transport Networks to Strengthen the linkages between the Moratuwa town and the Local Urban Centres*

The increasing rate and the intensity of urbanization in the Colombo City spills the activities in to the adjoining suburban areas, forming a series of suburban centres along the Galle Road with high intensity land uses have creating surban centres such as Kollupitiya, Wellawatta, Dehiwela, Rathmalana and Moratuwa.

The independent urban centres of Dehiwela situated on the North, Maharagama and Piliyandala on the East and panadura on the South are sustaining linkages with the Moratuwa MC area. The Boralsgamuwa, Rathmalana, Kesbewa, and Kahathuduwa have been identified as potential suburban centres that could develop significant linkages with Moratuwa MC area in the future. (figure no 6.4)

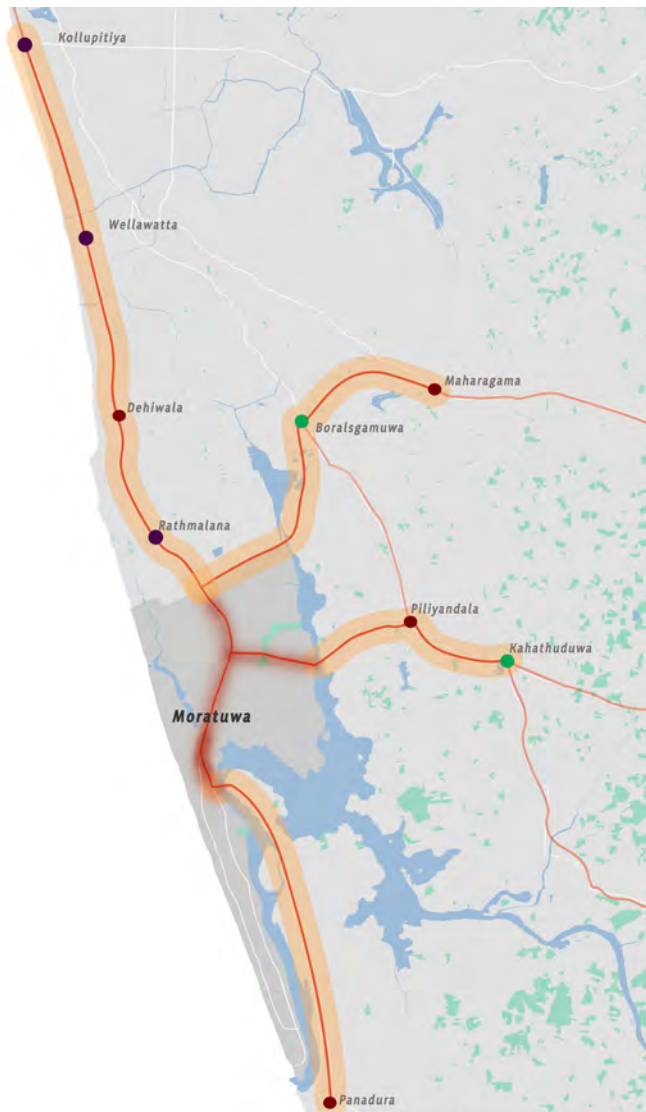


Figure 6.4 : Linkages between Moratuwa MC area and the Urban Centres in the Region
Source : Urban Development Authority, 2018

Chapter 06 Development Plan

Infrastructure Facilities Development Strategic Plan

Road and Transport Plan

The alternative transport modes that will be introduced in the future and through the road network development, the linkages between the Moratuwa MC area and the Urban Centres in the region will be strengthened.

(TP stand for the Moratuwa Transport Plan)

i. Light Rail Transport System (LRT)

According to the Western Province Megapolis Plan, the proposed LRT tracks have been planned covering most parts of the suburban areas of Colombo. One of the proposed tracks will be running from Kelaniya via Dematagoda, Boralla, Narahenpita, Nugegoda and reaches Moratuwa terminating the line at the proposed Moratuwa Multi-Modal Transport Terminal. This new system will be an elevated LRT system which includes number of stations at important locations and will be able to provide an efficient transport service for the public.

TP01- LRT service will run trains from Piliyandala via Katubedda to the Moratuwa Terminal, on the way it will have stops within the Moratuwa MC area at Moratuwa University, Katubedda, Rawathawatta, and Moratuwa Terminal. The total length of the LRT line that serves the Moratuwa area is 5 km, the details of the LRT track is provided in the figure no 6.5.

ii. Railway Development

TP02- Coastal Railway Line Modernization.

Modernization of the railway by electrification and introducing an efficient signaling system with redevelopment of the stations at Angulana, Lunawa, Korawella and Egodaunya.

iii. Road Development

TP03- Galle Road Development Project.

Development of 01km road length with six traffic lanes up to the proposed Multi Modal Center from the junction where New Galle Road joins with Old Galle road. (Cross Section of the of the road proposal is depicted in the figure no 6.5)

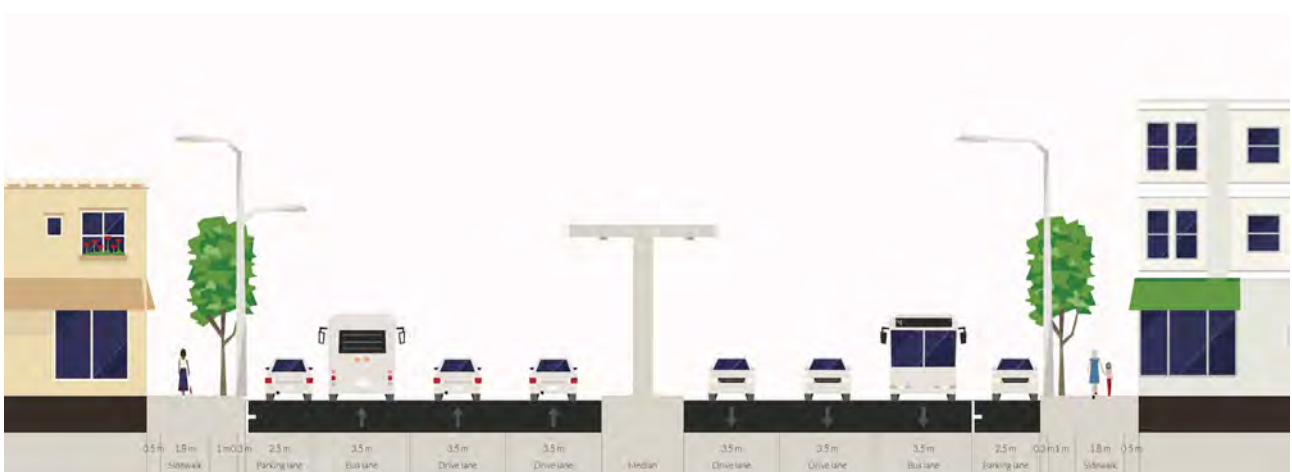


Figure 6.5 : P1 - Galle Road Cross Section
Source : Urban Development Authority, 2018

TP04- Borupona Rad Development Project.

The Comtrans Report proposes to develop a circular road linking the urban centres of Maharagama, Battaramulla, Kelaniya, Wattala, and Moratuwa. In order to enable implementation of this important road proposal a section of it can be implemented by developing the 200 m long section of the Borupone road starting from the Borupone Junction up to the Gangarama Road with provisions for accommodating 6 traffic lanes. (A cross section of the proposal is depicted in the Figure no 6.6)

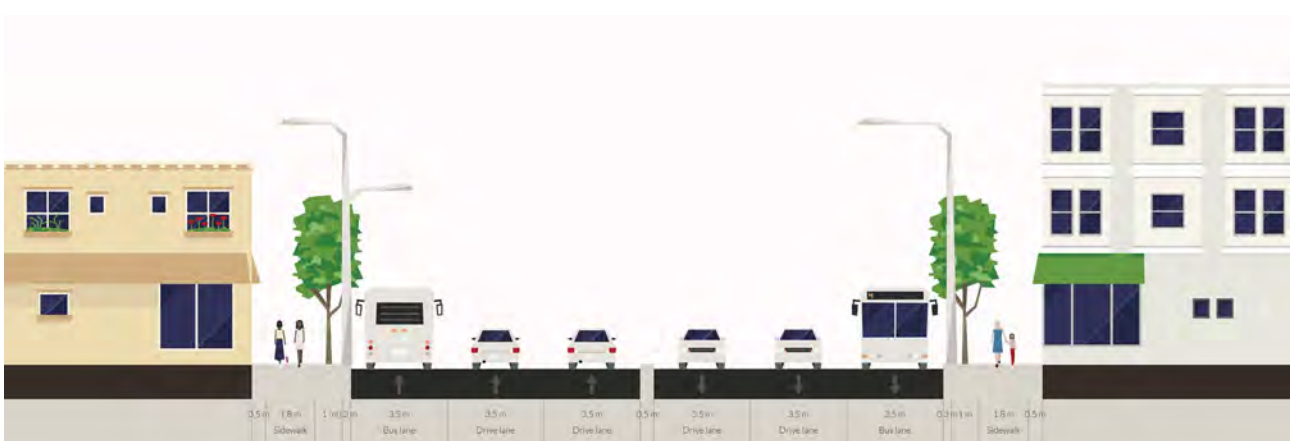


Figure 6.6 : P1 - Borupone Road Cross Section
Source : Urban Development Authority, 2018

TP05- Development and Extension of "Colombo Kramaya" Road or Marine Drive.

The Western Province Megapolis Plan proposed to extend the Kolombo Kramaya road from Dehiwela up to the Moratuwa Multi Modal Transport Terminal along the Weera Puranappu Mawatha. (A cross section of the proposal is depicted in the figure no 6.7)

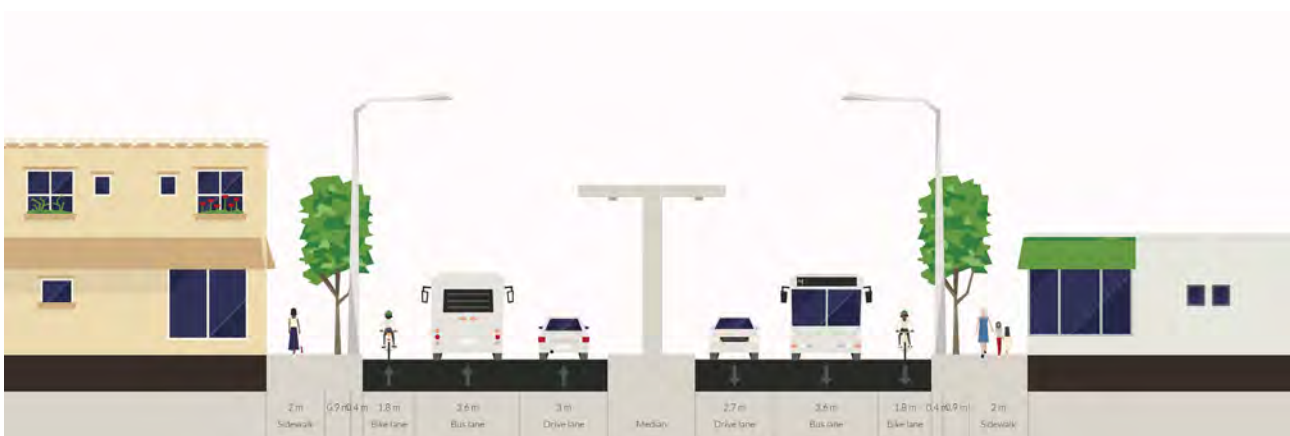


Figure 6.7 : P2- Cross Section of the Marine Drive
 Source : Urban Development Authority, 2018

TP06- Bandaranayaka Road Development Project.

The Comtrans Report proposes to develop East Circular Road through the Moratuwa Bandaranayaka Road via Piliyandala, Pannipitiya, Malambe, Bollegala, Hapugaskanda, Hunupitiya and handala. In order to facilitate the road development proposal it is proposed to widen and develop 2 km road section of the Bandaranayaka Mawatha from Katubedda Junction up to Kospalana Bridge with provision for 4 traffic lanes. (A cross section of the proposal is depicted in the figure no 6.8)

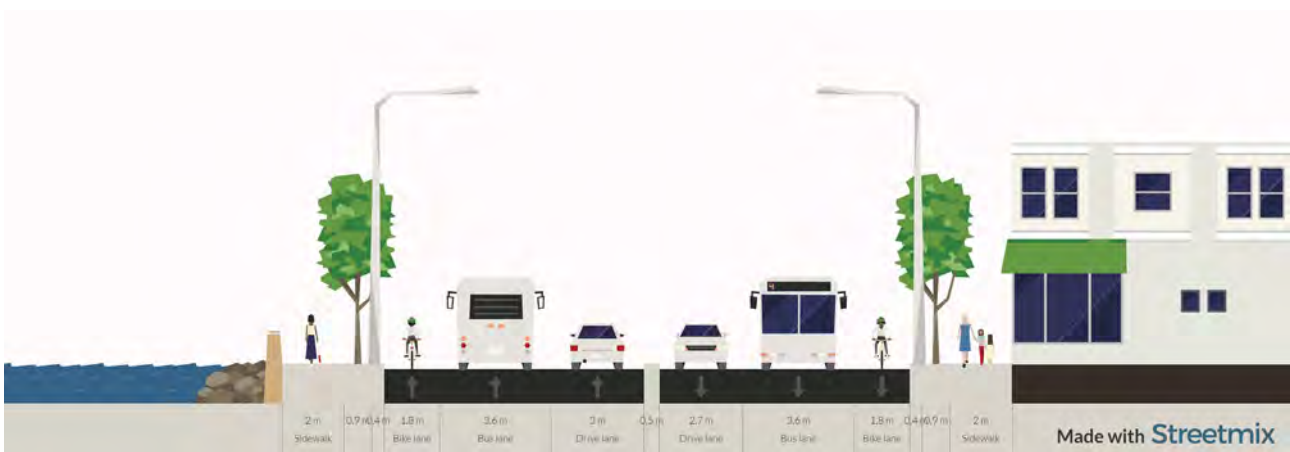


Figure 6.8 : P2- Cross Section of the Bandaranayaka Road
 Source : Urban Development Authority, 2018

TP07- De Soysa Road Development Project.

The De Soysa Mawatha is proposed for development from the Rawathawatta Junction up to the Kospalana bridge a 3 Km length as a 4-traffic lane road as it can facilitate the implementation of the proposal contained in the Comtrans Report to connect Rawathawatta junction with East Circular road through the Soysa Mawatha. (Cross Section of the proposal is depicted in the Figure No 6.9)

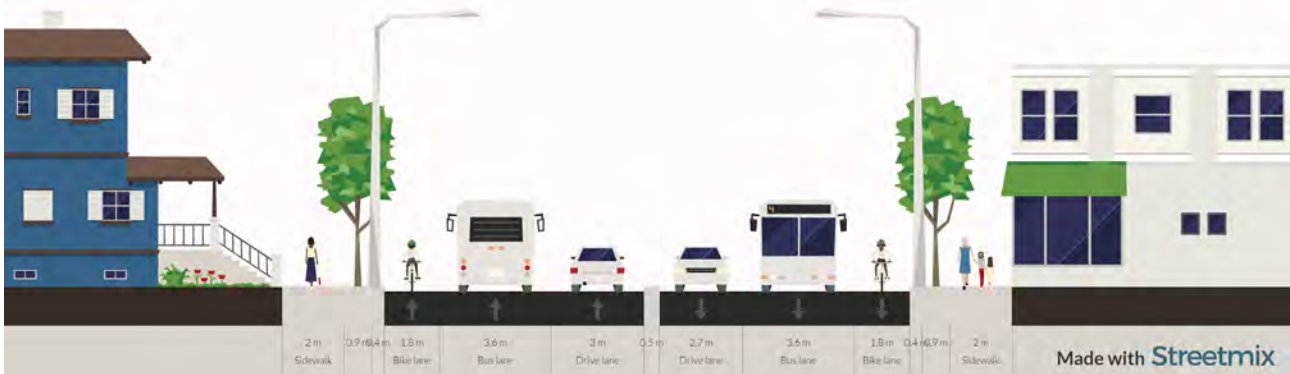


Figure 6.9 : P2 - Cross Section of the De Soysa Road
 Source : Urban Development Authority, 2018

b) Establishment of a high-density urban framework through implementation of an integrated transport network.

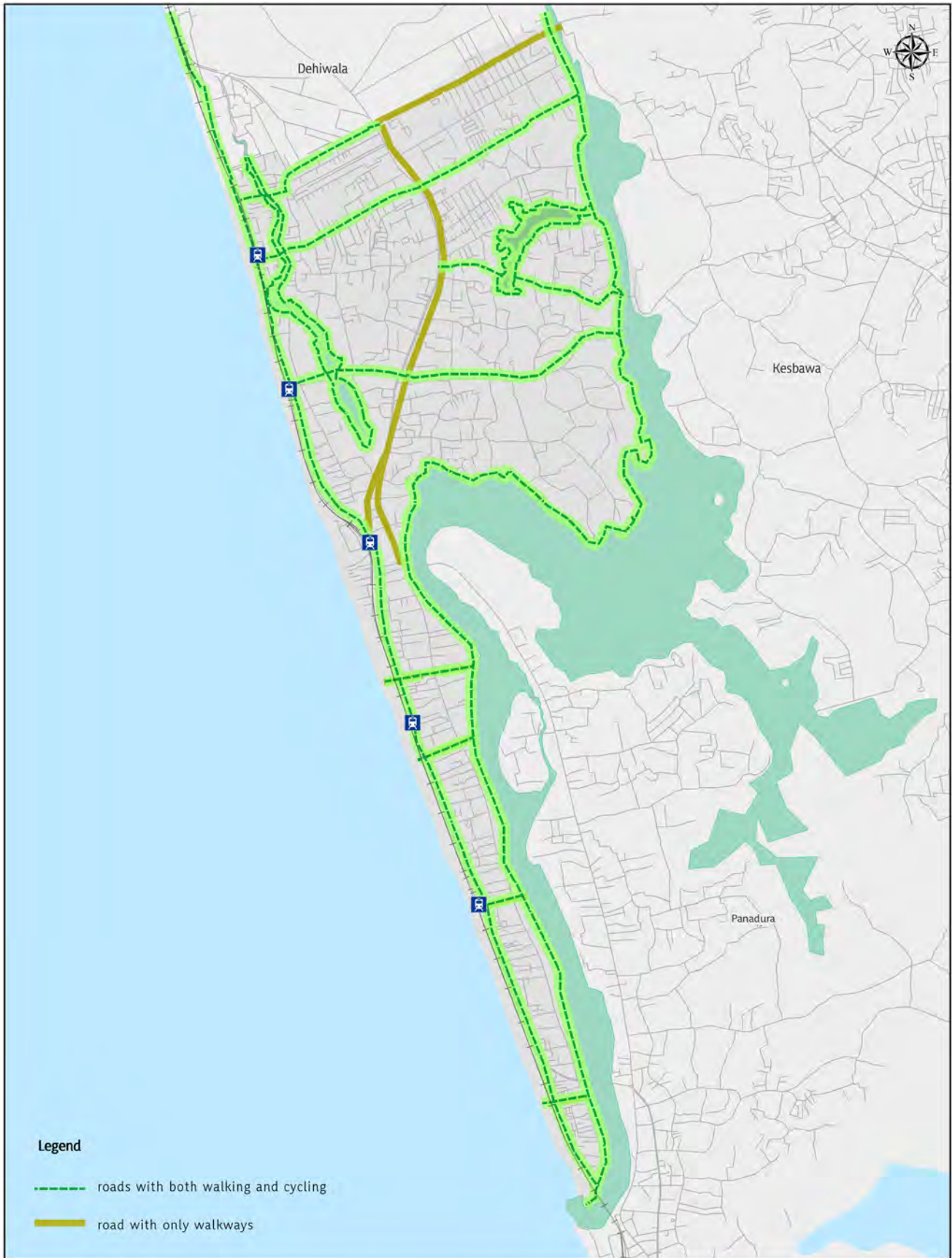
The concept of compact city or short distance city is considered to be efficient and supported by integrated transport network. Accordingly, a compact city will be aimed for development of the Moratuwa town. Keeping this in mind following proposals are made to make the Moratuwa town a compact town in the future supported by the integrated transport system.

TP08- Proposed Multi Modal Transport Centre

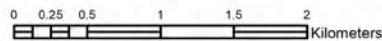
The Railway Station at the Moratuwa town Centre has a 10 Acre Land under the possession of the Railway Department. Part of the land is currently used as a public bus terminal where both private and CTB busses are parked. Centre is already functioning as an integrated centre with the railway and the bus stand. The LRT system too has been planned to come and terminates its line at this centre in the future adding an efficient facility to the centre. The terminal will also provide facilities to park cars according to the proposal.

TP09- Pavement and Bicycle Track Network (Map No. 6.9)

The compact cities are thought to be very efficient in their functions and place a very minimal impact on the environment and use of vehicles within the city will be minimal as the travelling long distances are required as the city is compact. This functional efficiency needs to be supported by the properly planned pavement and cycle track network for the convenience of the pedestrian. Use of power or fossil fuel should be minimized to curtail the environmental pollution. Therefore a network of pavements and cycle tracks covering the town centre area will be designed. The above proposal is depicted in the figure no 6.10



Walking & Cycling Network - 2030
Moratuwa Municipal Council



Urban Development Authority
 December 2018

Source: Urban Development Authority

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 6.9 : Pavement and Bicycle Track Network Proposed for the Moratuwa Town- 2030

Source : Urban Development Authority, 2018

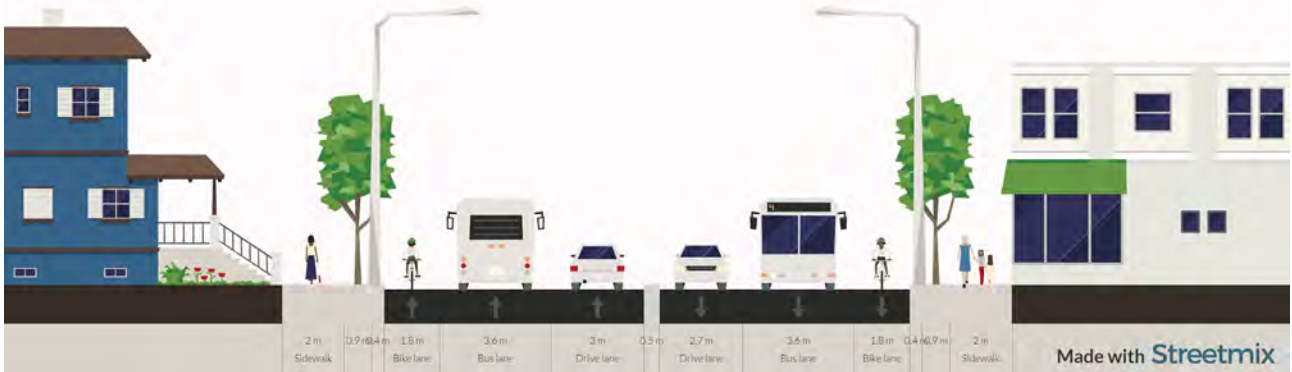


Figure 6.10 : Cross Section of P2 Roads
 Source : Urban Development Authority, 2018

TP10- Development of Access Roads to the Railway Stations.

The access roads to the railway stations in the Moratuwa MC area are branching off from the main Galle Road as depicted in the map no 6.8. The roads providing access to the Railway Stations are appended below. According to the proposal conceptualized these access roads need to be provided with two lane facility and bicycle tracks in the design helping the town to function efficiently.

- Access Road to the Koralawella Railway Station - 400 m
- Access Road to the Egoda Uyana Railway Station - 2 km
- Access Road to the Angulana Railway Station - 2 km
- Access Road to the Lunawa Railway Station - 2 km
- Access Road to the Moratuwa Railway Station - 200 m

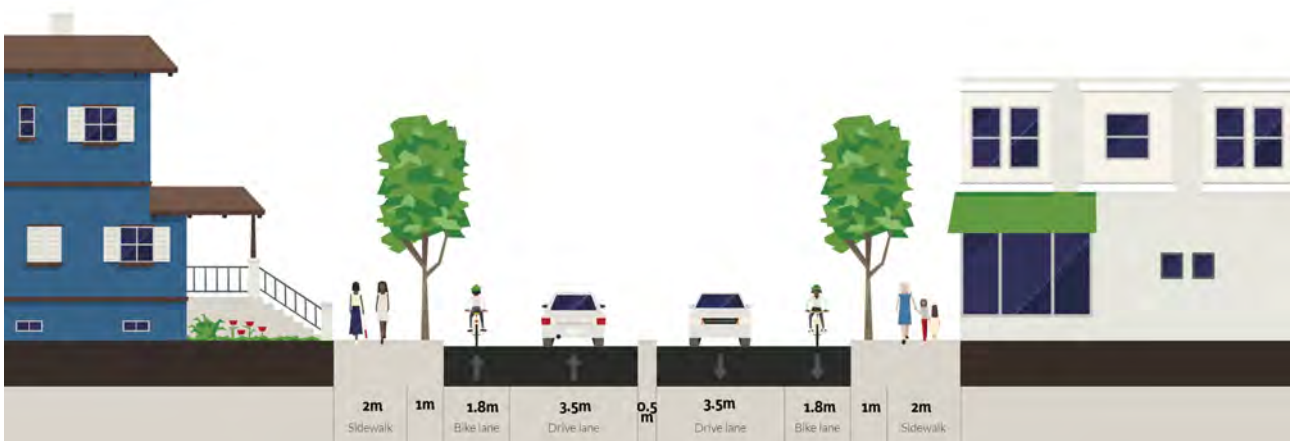


Figure 6.11 : Cross Section of P3 Roads.
 Source : Urban Development Authority, 2018

Chapter 06 Development Plan

Infrastructure Facilities
Development Strategic Plan

Road and Transport Plan

c) Open-up water fronts for the public use in order to encourage real estate developments

The main purpose of the proposal is to motivate planned development to avoid unauthorized haphazard reclamation of wetlands and to protect the water resources through conservation of wetlands and the waters in the Bolgoda lake.

TP11 Proposed Bolgoda Siri Road

Development of a 20 feet wide road from the location of the Digoralla Bridge up to the Borupona Road along the embankment of the Bolgoda Lake. (Vide Map no 6.8.)

TP12- Visual Access Corridor

The roads located between the Koralwella and Egoda Uyana roads , namely Gunowardhanaramaya Road, Samajawadeeniwahan Place, T.L.C.Peiris Mawatha, and Mahawatta roads are proposed to develop with two traffic lanes so that the Bolgoda River and the Sea Beach to be visualized. (Map no 6.8), (Cross section of the proposed project is depicted in the Figure no 6.12)

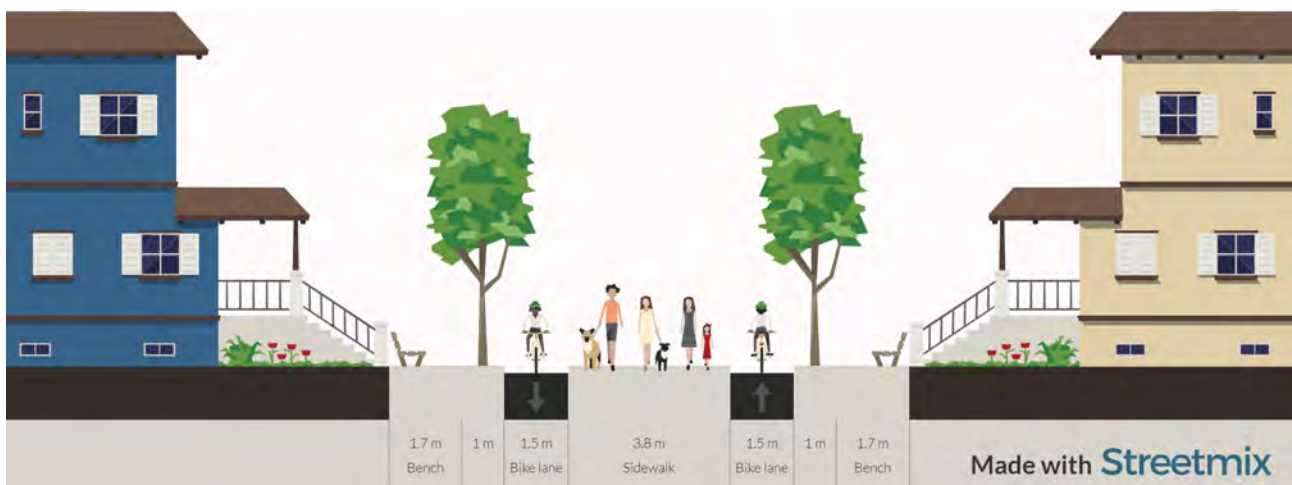


Figure 6.12 : Cross Section of Visual Access Corridors
Source : Urban Development Authority, 2018

6.3.2.5. Categorization of the Roads and Cross Sections

a) Categorization of the Roads

The roads proposed for development under the Moratuwa Development Plan 2019–2030 have been grouped under the priority status of each road. Accordingly priority number one was given P1 and diminishes to P4 according to the priority order of each road.

i. Roads proposed for development during the planning period

<i>Proposed Roads for development under the Moratuwa Development Plan 2019 - 2030</i>					
<i>Priority</i>	<i>Road characteristics</i>	<i>Identified Roads</i>	<i>no. of lanes</i>	<i>service lanes</i>	<i>proposed widths (m)</i>
<i>P1 roads</i>	<i>Roads that link with outer towns and width is 20 Ft or more</i>	<i>TP3 Road from the junction where New Galle road meets the old Galle road up to the Multi Modal Transport Centre.</i>	6	Relevant	36.6
		<i>TP4 Borupone Road from Borupone junction to Gangarama Road.</i>	6	Relevant	31.7
<i>P2Roads</i>	<i>Roads that link with outer towns and width is 20 Ft or more.</i>	<i>TP6 Bandaranayaka MW from Katubedda Junction to Kospalana Road</i>	4	Relevant	27.2
		<i>TP5 Proposed marine drive from Dehiwela to proposed Multi Modal Transport Centre through Weera Puranappu Mawatha</i>	4	Relevant	24.7
		<i>TP7 De Soysa Road from Rawathawatta Junction to Katubedda Kospalana Bridge</i>	4	Relevant	24.7
<i>P3Roadfs</i>	<i>Roads with widths more than 20 feet</i>	<i>TP11 proposed Bolgodasiri road from the Dlgorella new bridge to Borupone road along the enbankment of the Bolgoda lake.</i>	2	Relevant	17.1
	<i>Roads with widths less than 20 feet</i>	<i>TP10 Moratuwa railway station access road, from Galle road to the Moratuwa Station</i>	2	Relevant	17.1
		<i>TP10 KORalawella Railway Station Access Road, from Galle Road to the Korawella Railway</i>	2	Relevant	17.1
		<i>TP10 Egodayana Railway Station Access Road, from the Galle Road to the Egodayana Railway Station.</i>	2	Relevant	17.1
		<i>TP10 Angulana Railway Station Access Road, from the Galle Road to the Angulana Railway Station</i>	2	Relevant	17.1
		<i>TP10 Lunawa Railway Station Access Road, from the Galle Road to the Angulana Railway Station</i>	2	Relevant	17.1
		<i>TP12 Gunowardhanarama Road, from the new Galle Road up to the proposed Bolgoda walking track and the bicycle track.</i>	2	Relevant	12.2
		<i>TP12 Samajawadee Niwahan Place, from the New Galle Road to the proposed Bolgoda walking track and the bicycle track.</i>	2	Relevant	12.2
		<i>TP12 T.L.C.Peiris Road, from the New Galle Road to the proposed Bolgoda walking track and the bicycle track.</i>	2	Relevant	12.2
<i>TP12Mahawatta Mawatha, from the New Galle Road to the proposed Bolgoda walking track and the bicycle track.</i>	2	Relevant	12.2		

Table 6.1 : Road Development Priority List under the Moratuwa Development Plan 2019-2030.

Source : Urban Deveopment Authority, 2018

Chapter 06 Development Plan

Infrastructure Facilities
Development Strategic Plan

Road and Transport Plan

Water Supply Plan

The roads categorized under P1, P2 and P3 are depicted in the Table no 6.1 with the details of road widths

- The Regulations enforceable on the proposed roads—as indicated in the above table—for development under the Moratuwa Development Plan 2019–2030 are provided for under the Chapter 1 of the Volume II.
- ii. The roads not identified for development during the plan implementation period.

The roads that have not been identified for implementation during the 12 year period ahead of the planning period are grouped under the P4 Category and indicated in the Annexure 4 of the Volume II. Accordingly the Regulations enforceable on such roads are provided for under the Chapter 1 of the Volume II.

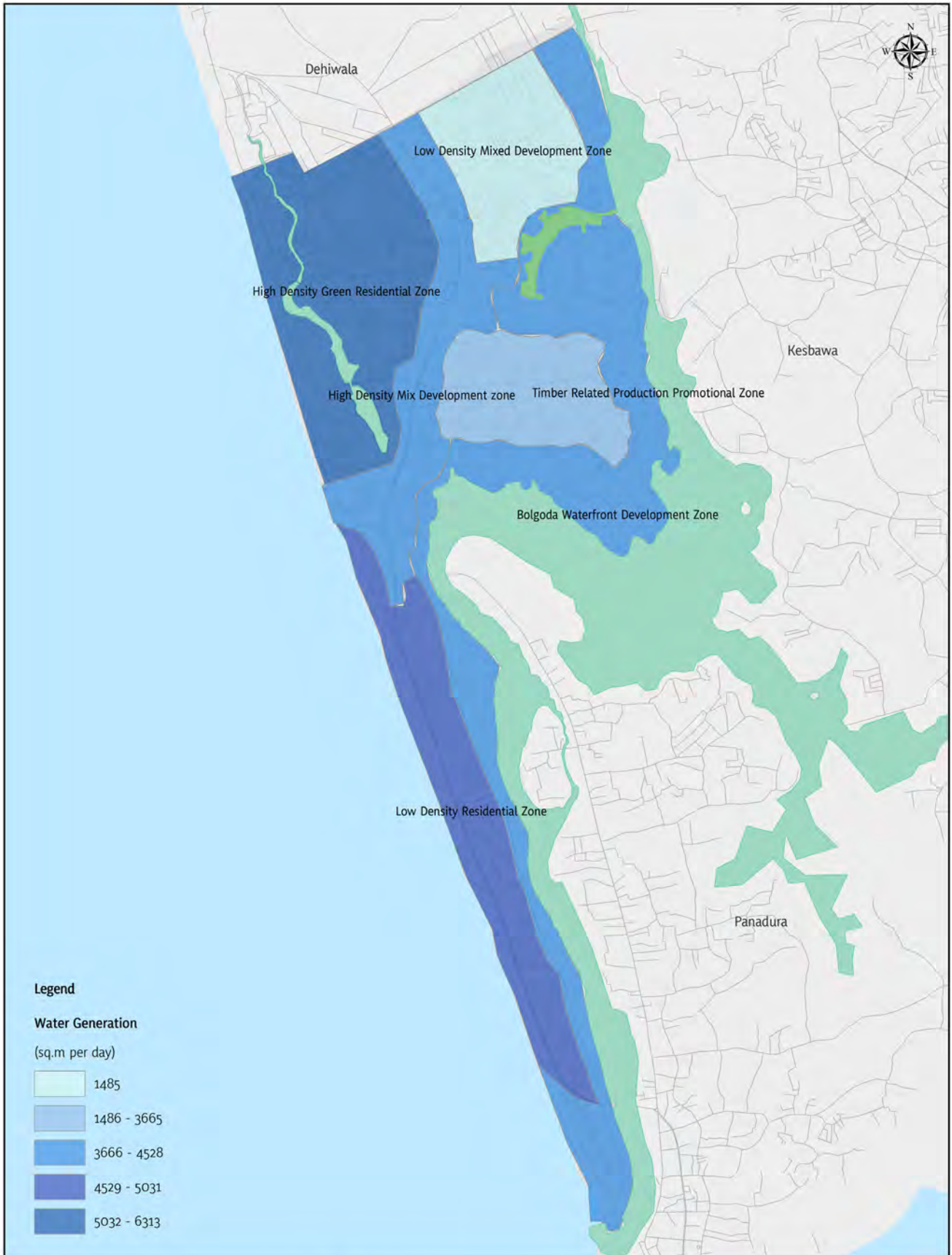
6.3.3. Water Supply Plan

A reliable water supply to the residents of Moratuwa MC is essential in approaching the Goals of the Development Plan Prepared for the planning period of 2019–2030. The plan envisages providing sufficient water for the population that has been forecast for the years 2030, on the basis of which the demand for water could be assessed and find out whether the existing water supply system can meet the need or whether it is necessary to augment the current scheme to meet the future needs. This section will focus on the methods of meeting the future water needs of the Moratuwa MC area.

a. Demand for water in 2030

The resident population of the Moratuwa MC in the year of 2030 has been forecast to be 151,000 and the people who daily come to the Moratuwa MC area for multitude purposes have been estimated to be 87,000 people. Taking this vital information into consideration the Map No 6.1 prepared to depict the estimation of the water need of the people who would be living in the Moratuwa MC in the year of 2030. The per capita water need of the residents has been accepted as 130 liters per person per day, and the same for the people who daily come to the Moratuwa MC area has been determined as 50 liters per person per day.

Accordingly the water need of Moratuwa MC per day by the year 2030 would be 25,500 Cubic Meters (cbm), of which the domestic need will be 19,600 cbm and the non-domestic need will be 5,900 cbm. The details of the water need assessment are presented in the Table No 6.2



Water Generation- 2030
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 6.10 : Total Water Demand of MMC area- 2030

Source : Urban Development Authority, 2018

Chapter 06 Development Plan

Infrastructure Facilities Development Strategic Plan

Water Supply Plan

<i>Development Zone</i>	<i>Domestic water demand (cbm/day)</i>	<i>Non-Domestic water demand (cbm/day)</i>	<i>Total water demand (cbm/day)</i>
<i>High-density mix development zone</i>	2833	1695	4528
<i>High-density greenery residential zone</i>	5296	1017	6313
<i>Medium density residential zone</i>	1089	396	1485
<i>Low density residential zone</i>	4749	283	5031
<i>Timber based industry promotion zone</i>	2535	1130	3665
<i>Bolgod water from residential development zone</i>	3071	1130	4201
<i>Total water demand (cbm/day)</i>	19573	5650	25223

Table 6.2 : Estimated Water Demand -2030

Source : Urban Development Authority-2018

The Ambathale and Kalatuwawa water purification plants with capacities of 500,000 and 60,000 cbm respectively supply water to Moratuwa MC area daily. These two plants have to supply water to the other areas as well. As such the National Water Supply and Drainage Board (NWS&DB), considering the additional water supply need arising from the increased population in the year 2030, made the following proposals for consideration.

- i. Increase capacity of the Kalatuwawa water purification plant from current capacity of 60,000 cbm to 140,000 cbm.
- ii. Increase the water retention capacity of the underground water tanks of the Kalatuwawa plant from current capacity of 4600 cbm to 20,000 cbm.
- iii. Construction of New 3 Km long water distribution lines up to Keselwatta

6.3.4. Electricity Supply Plan

One of the objectives of the Development Plan has been to provide necessary infrastructure facilities to the Moratuwa MC area. Accordingly the electricity supply plan was prepared to facilitate the coordination of the electricity supply to meet the future needs. In order to understand the characteristics of the power demand, current power consumption has been studied, The details of the study are presented in the figure no 6.10 and 6.11.

Energy Consumption Percentage

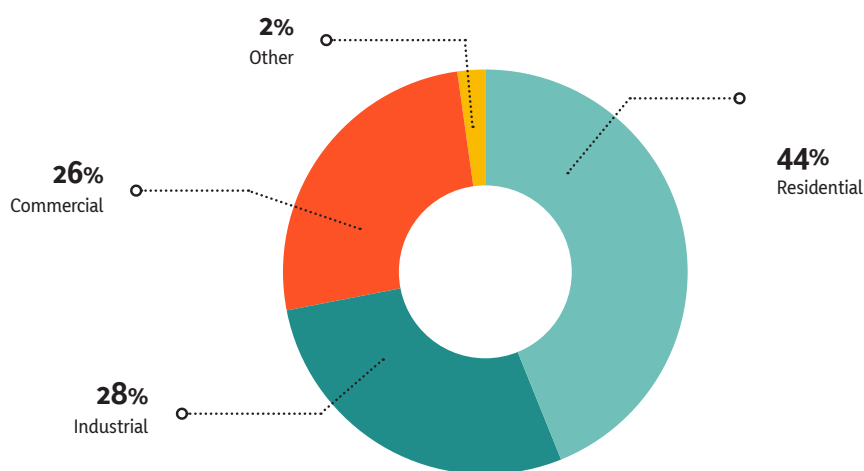


Figure 6.13 : Power Consumption-2017
Source : Urban Development Authority, 2018

Power Connection Units Percentage

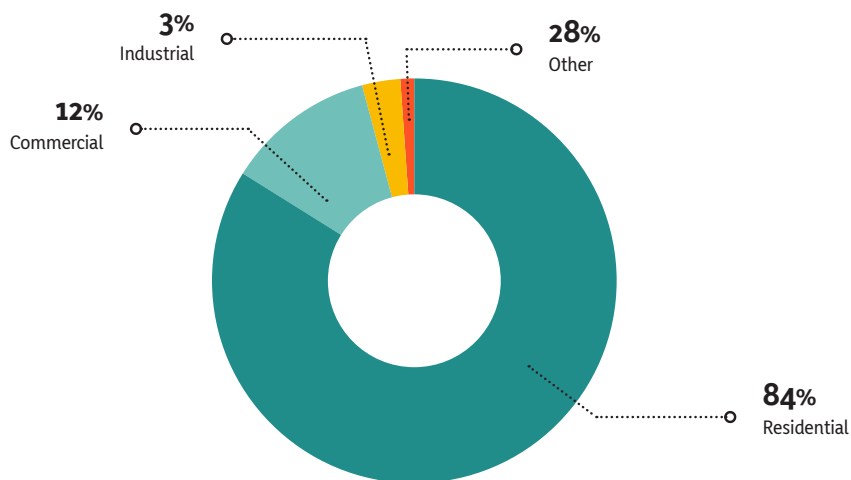


Figure 6.14 : Power Connection Units-2017
Source : Urban Development Authority, 2018

Chapter 06 Development Plan

Infrastructure Facilities Development Strategic Plan

Electricity Supply Plan

The above details reveal that the domestic power consumption constitutes 44% which is the highest among the total consumers, while other consumers' consumptions are in the descending order, industry, commerce and others. The number of power connections established by the CEB during the year 2017 was, in the descending order, domestic, commerce, industry and others. Though the number of connections established for industrial establishments were lesser than the commerce, in terms of power consumption, the industrial sector consumes much more more power comparatively.

The power distribution in the Moratuwa MC is currently implemented by the Celon Electricity Board (CEB) and the Lanka Electric Company (LECO). According to the informations available, entire Moratuwa MC is covered by the power distribution grid network and both institutes have capacity to meet the power need of the Moratuwa MC area in the year of 2030.

The Development Plan of Moratuwa MC 2019–2030 recommends measures to curtail the establishment of polluting industries within Moratuwa MC area, in effect the power consumption of the industrial sector of the Moratuwa MC area may diminish in the long run and the reduction in the power consumption can result in saving some amount of power which can be diverted to other consumers. As such the trend would further confirm that the power supplying capacity of the CEB and the LECO will be sufficient to meet the needs of Moratuwa MC area during the plan implementation period.

In the light of the above information it can be concluded that there will not be power shortage in the Moratuwa MC area by the year 2030.

6.3.5. Waste and Sewer Management Plan

The industrial establishemnts have been spread throughout the Moratuwa MC area at a higher density comparatively, generating more waste waters and discharging them in to the open chanel and drains due to lack of a proper drainage system. The fact has been identified as a drawback in the plan preparation process.

a. *Estimated Waste Water Generation by 2030*

The per capita waste water generation per day domestic ally on the basis of the forecast population has been assumed as 130 cbm by the year 2030 in the Moratuwa MC area. Accordingly, as the Table No 6.3 reveals, the total domestic waste water generation has been estimated to be 30,112 cbm by the year 2030 and other sectors- non-domestic sectors- generate 8,879 cbm. An increased volume of waste water generation could be expected from the High-Density mix development zone and the high-density ecological residential zone according to the information presented in the map no 6.11.

Chapter 06 Development Plan

Infrastructure Facilities Development Strategic Plan

Waste and Sewer Management Plan

<i>Development Zone</i>	<i>Domestic Waste Water generation (cbm/day)</i>	<i>Non-Domestic Waste Water generation(cbm/day)</i>	<i>Total Waste Water generation(cbm/day)</i>
<i>High-density mix development zone</i>	4,358	2,664	7,022
<i>High-Density Ecological Zone</i>	8,148	1,598	9,747
<i>Low-Density Mix Development Zone</i>	1,676	622	2,297
<i>Low-Density Residential Zone</i>	7,306	444	7,750
<i>Time-Based Industrial Development Zone</i>	3,899	1,776	5,675
<i>Bolgoda Water Front Area Development Zone</i>	4,724	1,776	6,500
<i>Total Waste Water Generation (cbm/day)</i>	30,112	8,879	38,990

Table 6.3 : *Estimated Waste Water Generation - 2030*

Source : *Urban Development Authority, 2018*

b. Current Waste Water Treatment Plants

The NWS & DB proposed a waste water treatment system covering the areas of Rathmalana and Moratuwa with the capacity to treat waste water and to discharge them with help of 5 pumping stations that will be established under the project. The project has the capacity to serve 23 Grama Sewa Niladhaaree Divisions as listed below. Moratumulla North, Rawathawatta West, Rawathawatta South, Rawathawatta East, Uyana South, Uyana North, Molpe, Kaduwamulla, Lakshapathiya Central, Lakshapathiya South, Lakshapathiya North, Angulana North, Angulana South, Moratuwella North, Idama, Soysapura South, Soysapura North, Dahampura, Thelawela South, Thelawela North, Kaldemulla, Borupona, Katubadda.

Project has been planned to implement in two stages. The Stage one has already been implemented with a capacity to treat 7000 cbm of waste water generated in the areas of Moratuwa and Rathmalana. However the planned capacity of the Stage one of this scheme is 17,000 cbm of waste water, which implies that further capacity increase to treat 10,000 cbm of waste water is in the pipe line under the stage one of the scheme.

Chapter 06 Development Plan

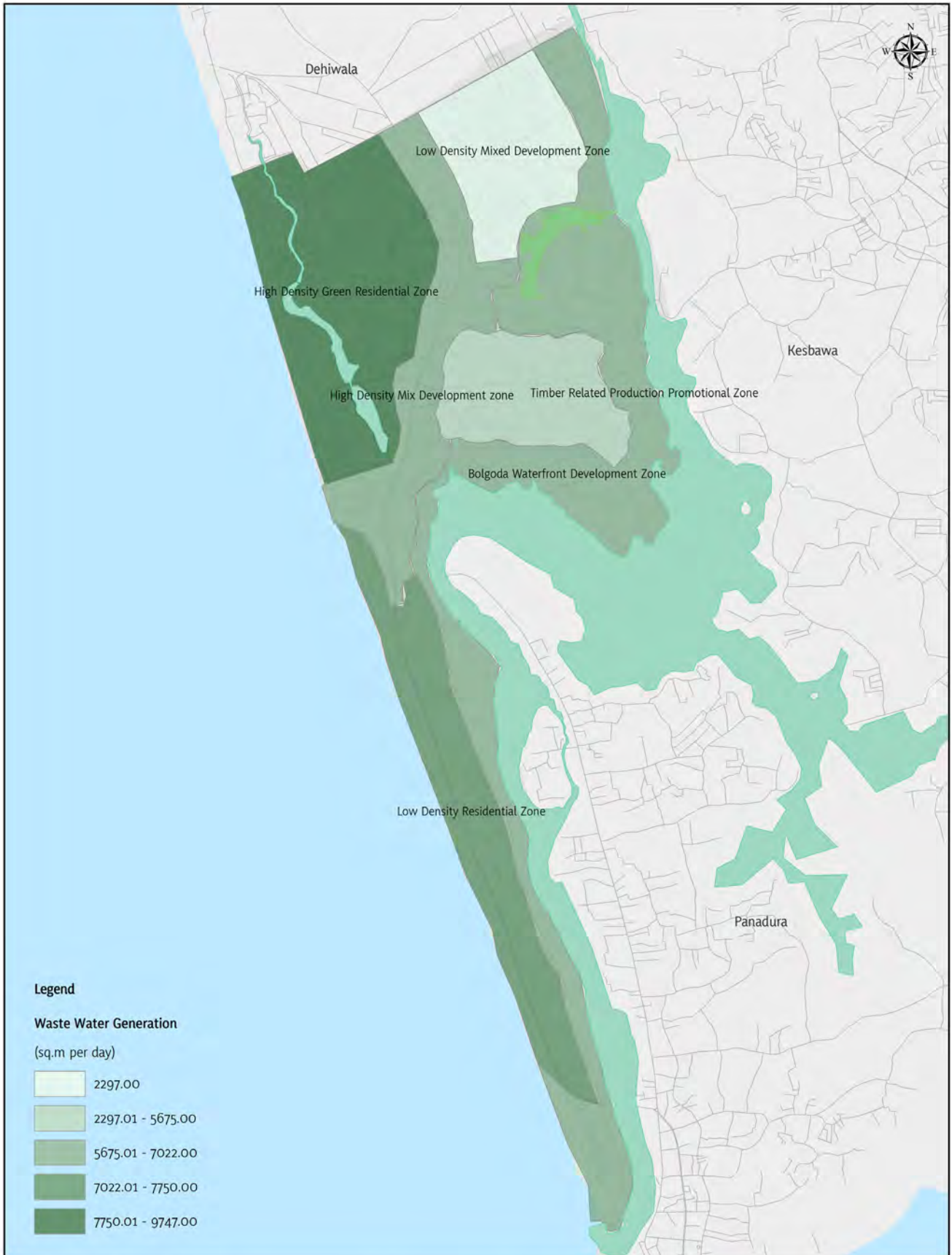
Infrastructure Facilities Development Strategic Plan

Waste and Sewer Management Plan

c. Recommendations for waste water management

The estimates reveals that Moratuwa MC generates 39000 cbm of waste water daily but the waste water treatment project, which is currently under way, can cater only for the areas as metioned above. The Southern part of the Moratuwa MC area, which includes 19 GS Divisions is not covered under the scheme and therefore a waste water treatment plant has b ecome necessary in the area too as the buiding density, prticularly, in the area from the Koralawella to Egodauyan, is comparatively high. In consideration of the fact following recommendations are made.

- i. Collection of waste water generated within the Moratuwa MC in to a treatment plant through an under ground collection network and discharege them in to the water bodies after treatment.
- ii. Increase the capacity of the on going waste water treatment plant to cover the area which is not covered under it currently.
- iii. Establishemnt of a pipe-born waste water collection network to collect the waste water in the areas which are not covered under the present scheme.
- iv. Establishment of pumping stations technically selected locations.



Waste Water Generation- 2030
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Map 6.11 : Estimated Waste water and Sewer Generation in the MMC Area-2030.

Source : Urban Development Authority, 2018

Chapter 06
Development Plan

Infrastructure Facilities
Development Strategic Plan

Solid Waste Management Plan

6.3.6. Solid Waste Management Plan

The increased rate of development in the urban areas tends to generate solid wastes at a higher rate that surpasses the rate at which the bio degradable wastes are degraded. Therefore the solid waste management has to be undertaken systematically with the full knowledge of this process. This process will require sorting of the solid wastes at the source and collection, transport, processing wastes so collected and discharge or recycle them without impacting the environment. Failure to manage the solid wastes so explained could lead to accumulation of heaps of wastes in the open places elsewhere as seen in most of the fastly urbanizing towns or for convenience authorities tend to discharge them in to wetlands or low lying areas polluting the ground waters threatening the health conditions of the people. The irregular discharge of solid wastes causes ground water pollution, soil pollution, air pollution through methane gas, etc.

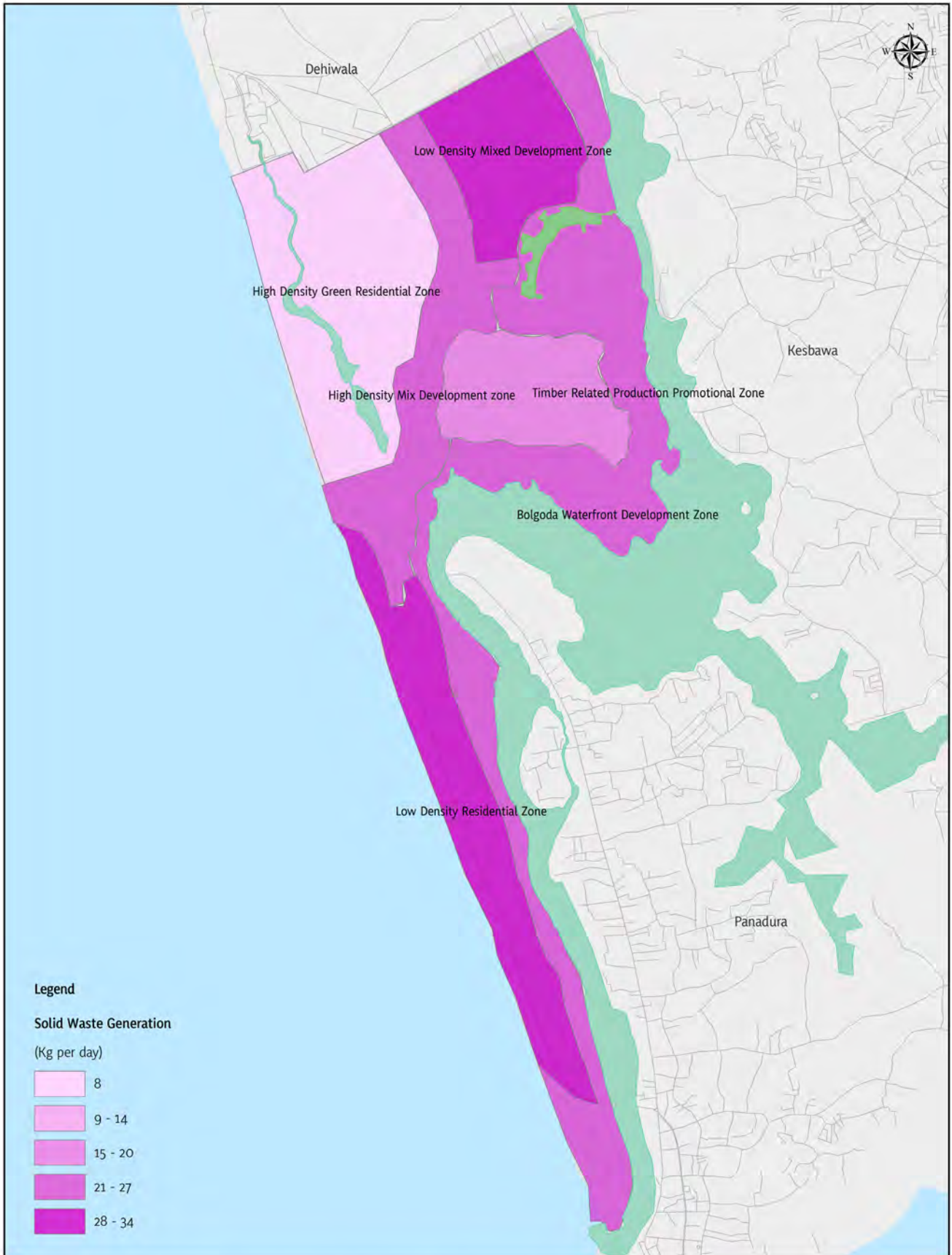
a. Solid Waste Generation by 2030

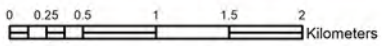

Considering that the Moratuwa is a MC area, the consumption pattern of its residents and the current rate of waste generation, it has been assumed that the per capita solid waste generation daily would be 0.75 Kg and the same of the people visiting Moratuwa MC during day time would be 0.25 Kg per day. Accordingly the details of the generation of solid wastes in Moratuwa MC area is provided in the Table no 6.4 and in the Map no 6.12.

<i>Development Zone</i>	<i>Domestic Solid Waste Generation (Metric Tons/day)</i>	<i>Non-Domestic Solid Waste Generation (Metric Tons/day)</i>	<i>Total Solid Waste generation (Metric Tons/day)</i>
<i>High-Density Mix Development Zone</i>	16	6	22
<i>High-Density Ecological Zone</i>	6	1	8
<i>Low-Density Mix Development Zone</i>	31	4	34
<i>Low Density Residential Zone</i>	27	1	28
<i>Timber Based Industrial Promotion Zone</i>	15	4	19
<i>Bolgoda Water Front Development Zone</i>	18	4	22
<i>Total Solid Waste generation</i>	113	20	133

Table 6.4 : *Estimated Solid Waste Generation- 2030*
Source : *Urban Development Authority, 2018*

The table no 6.4 reveals that the Moratuwa MC area generates 135 Metric Tons of solid wastes but the current collection in the area is ranging from 70-120 MTper day.(Vide 2.2.2.1 c)



Solid Waste Generation- 2030 Moratuwa Municipal Council		 Urban Development Authority December 2018
Source: Urban Development Authority	Development Plan Moratuwa (2019-2030)	Prepared By: R&D Unit and Western Province Division

Map 6.12 : Solid Waste Generation in the MMC area. 2030

Source : Urban Development Authority, 2018

Chapter 06 Development Plan

Infrastructure Facilities
Development Strategic Plan

Economic Development
Strategic Plan

Goals

Scope

b) Recommendations for Management of Solid Wastes

A solid waste processing project is currently under implementation and it will be completed by the end of 2019 at Karadiyana. Project will have a capacity of processing 500 Mt of solid wastes and generation of electricity and producing fertilizer. Once the project starts operations the Moratuwa MC area would be able to overcome the issues of solid waste management. New project will also facilitate producing bio gas in the future.

6.4. Economic Development Strategic Plan

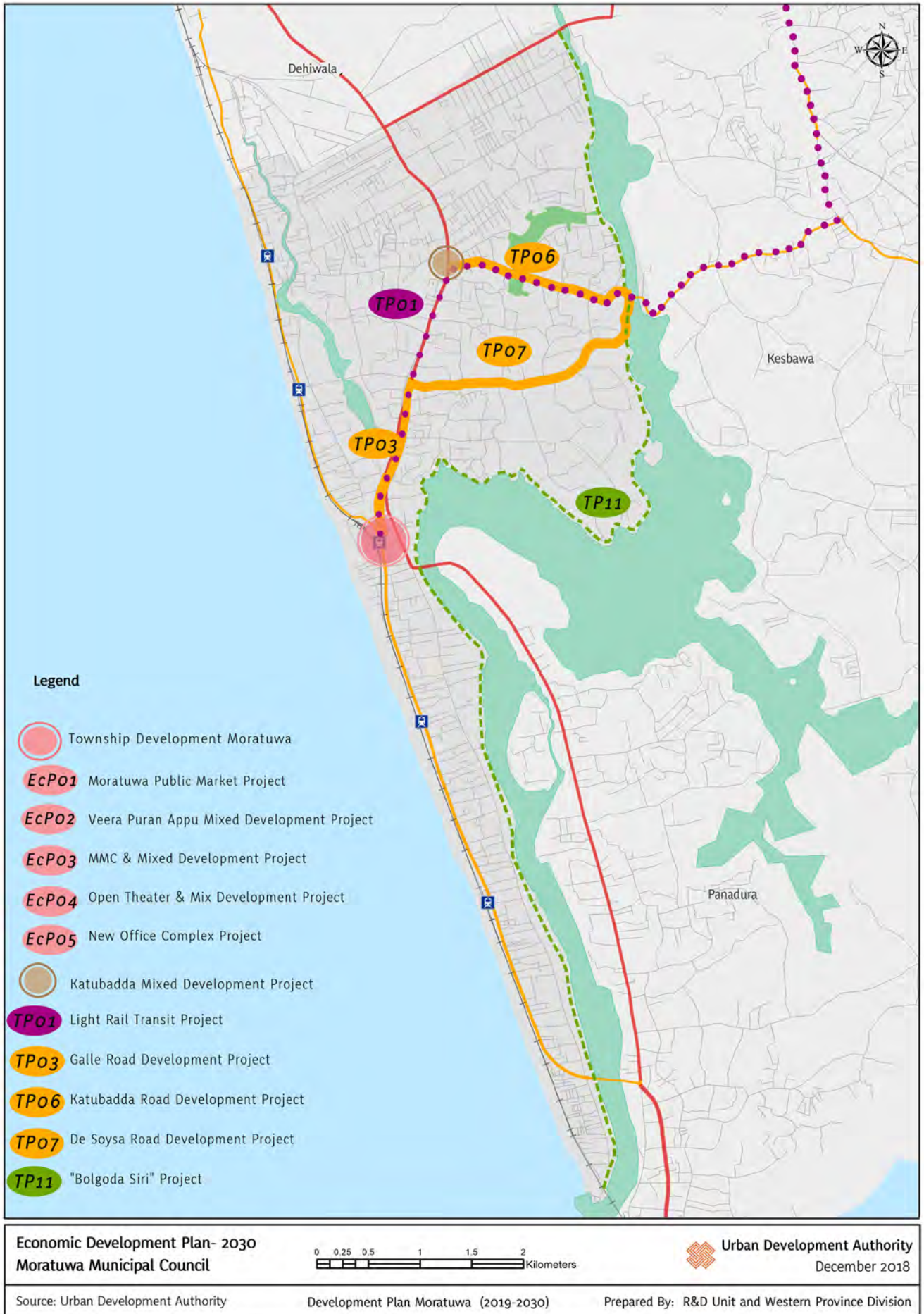
6.4.1. Objectives of the Plan

The aim of the plan is to achieve the development through utilizing the resources of the area sustainably, developing the infrastructure facilities, supporting the integration of commercial, financial, tourism and timber base industrial sectors for development.

6.4.2. Scope of the Plan

The planning period of the development plan will be confined to 2030. This economic development plan will focus on integrated development of commercial, financial, timber based industrial and tourism sectors. The fisheries industry, including sea water fishing, lagoon fishing and the inland fishing, has not been considered as a prime economic sector as its production will be sufficient only to meet the domestic consumption needs of the area. The economic development strategic plan of the MMC area is indicated in the Map No 6.13.

(Moratuwa Economic Development Strategic Plan ECP)



Map 6.13 : Economic Development Strategic Plan - 2030

Source : Urban Development Authority, 2018

Chapter 06 Development Plan

Economic Development Strategic Plan

Economic Development Strategies and Development Projects

6.4.3. Economic Development Strategies and Development Projects

a. *The contributions made by multiple agencies to the economy of the Moratuwa MC and identification of development zones based on the land use pattern.*

The areas where timber based industries are dominant have been identified as Timber Based Industrial Zone, the area along the Galle Road and the town centre where commercial and financial institutions are dominant have been identified as high-density mix development zone and the water front areas were identified for tourism development purposes. The accessibility to such zones have been planned out under the paragraph no 6.3.2. where transport plan was discussed and recommended the roads for development under the development strategies. The transport plan was set out with the purpose of providing better accessibility facilities to the zones identified for enforcement under the development plan.

1. Provision of access to the timber based industrial development zone
2. Widening of main access roads providing access to the timber based industrial development zone
 - i. TP03 Galle road development project
 - ii. TP06 Katubadda Road development project
 - iii. Road TP07 that runs across the timber based industrial zone.

Provision of Access to the High-Density Mix Development Zone

The concentration of commercial and financial activities linearly along the Galle Road would be accelerated by the establishment of the LRT system (TPO1) which is expected to provide an alternative mode of transport with its terminal being integrated with the TP08- Multi Modal Transport Centre complex that will be constructed at the town centre.

Provision of access to the Bolgoda Water Front Development Zone for development of Hotels and Condominium buildings.

The water front area of the Bolgoda Lake is expected to accommodate Hotels and Condominium residential buildings. In order to make the area more attractive for the developers and the investors, development of Bolgodasiri Road has been proposed-TP11- to provide better access to the area.

b. *Development of Moratuwa town Centre as 1st order Junction town centre*

It is expected to advance the urban economy of the Moratuwa with the help of the accelerated development of the commercial sector. In order to accelerate the development of the commercial sector it will be provided with necessary services. The Moratuwa Development Plan 2019-2030 forecast the population of the Moratuwa MC to be 150,000 and the day population would be 87,000. In order to facilitate such a population a developed commercial centre will be required, for the purpose a number of catalytic projects have been identified as appended below and depicted in the Figure no 6.12.

Chapter 06 Development Plan

Economic Development
Strategic Plan

Economic Development
Strategies and Development
Projects

- i. EcP01- Public Market Complex Development
- ii. EcP02- Weera Puranapp Mix Park Development Project
- iii. EcP03- Mix Development integrated with the Multi Modal Transport Centre Complex
- iv. EcP04- Open Air Theatre and Mix Development project
- v. EcP05- New Office Complex Development Project

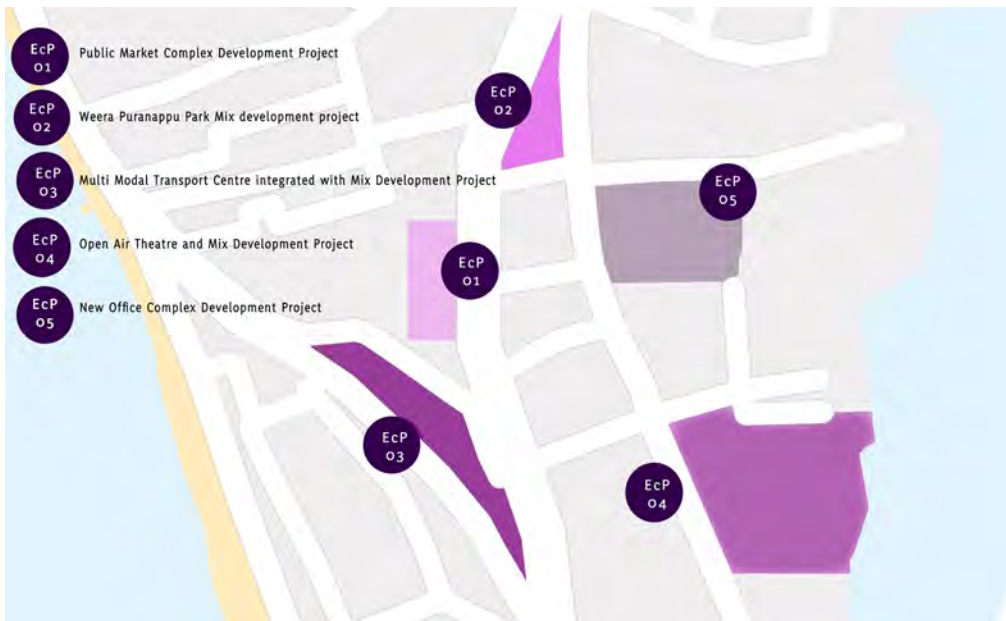


Figure 6.15 : Moratuwa Town Centre Development as the First Priority Node t
Source : Urban Development Authority- 2018

i. EcP01- Public Market Complex Development Project.

The Moratuwa and Katubedda public markets are owned by the Moratuwa MC which are currently dilapidated physically and the potentials of the properties are underutilized. It appears that the maintenance of the building is not regularly attended to which led to the fast dilapidation of the structure of the buildings. Therefore, they are proposed for redevelopment for new commercial complexes with sustainable maintenance set up.

Katubedda Public Market Building.

The land of this market building has an extent of approximately 32 perches facing the Galle road with a prime location. The market building is consisting of two floors with 42 numbers of shops, but only 25 shops are operational currently. The toilet facilities constructed for the use of the complex has become unserviceable as the system is not functional. The services such as power and the water provided to the complex too are currently not available as the network is broken down. There is no car park for the complex either. In the context it has been proposed to replace the dilapidated public market building by a modern commercial complex with necessary facilities and additional number of shops more than what is provided by the current building.

Chapter 06 Development Plan

Economic Development Strategic Plan

Economic Development Strategies and Development Projects

Moratuwa Public Market Development project

The Moratuwa Public Market building is located to the left along the Galle Road from the direction of Kaluthara towards Colombe. It is a land mark building at the entrance to the Moratuwa town . This building is standing on a land of 72 perches in extent accomodating 37 number of shops in three floor. Currently this building too is physically deteriorated. Therefore this premisses has been proposed for redevelopment in integration with the future development of the town for mix development purposes together with a super marke.

ii. EcPO2 - Weera Puranappu Park Mix development project.

This public open area is situated opposit the Moratuwa Public Market building, which has been proposed for redevelopment. The extent of this open area is approximately 115 perrches and fronting the new Galle road. This open area is currently being used for public gatherings, meetings and ceremonies, other than that it is not being used for any other useful pupose as far as it is locational advantages are concerned. It has been examined under this Development Plan that lack of car parking facilities in the Moratuwa town is a major issue that also constrains the attractiveness of the town centre in terms of demand for commercial activities. Considering this issue and the park not being used for a useful purpose, it has been proposed to provide an underground carpark beneath the Weera Puranappu Park and to link it with the proposed shopping complex at the Public Market premises which is located opposit of the site through a sub way.

iii. EcPO3- Multi Modal Transport Centre integrated with Mix Development Project

As has been seen previously the land where the railway station and the Bus Stand located is of 8 Acres in extent, which has been proposed for Multui Modal Transport Centre Development as the LRT track is expected to be terminated at this location This land is currently accomodates a low-rise haphazard development. The CGR quarters buildings standing there in are spread cheotically with a low density in such a valuable prime land. As such it is proposed to undertake a full redevelopment project with the facilities necessary for the Multi Modal Transport Centre and thoeer developments that will be housed in the complex. The other development in this complex will include car parks, commercail shops and CGR employees' quartes.

iv. EcPO4- Open Air Theatre and Mix Development Project.

Police station of the Moratuwa is located in a land owned by the Sri Lanka Police Dpt, situated within Moratuwa MC with a picturesque water front. This premisses includes a building with a historical value, which is the only historical building Moratuwa MC has within its area of authority with an architectural character. The land extent is 3 Acres, which accomodates police offices and officers' quarters. The current use cannot be considered as the highest and the best use of the site as far as the location and the envirenment are concerned. Therefore it has been proposed to reorganized the current arrangement of the premises by providing more facilities to the police station while saving lands for an open air theatre and a public entertainment facity with a mix development.

v. EcPO5- New Office Complex

It has been evident that the offices of Government and non-Government are scattered elsewhere in the town of Moratuwa. Most of these institutions are providing vital services to the public and as they being scattered at many places the public is compelled to walk between offices to get public services. The idea of concentrating these vital public and non-public offices in to one cluster was mooted after consideration of the plight of the public who has to walk to many places to get services. The land adjoining the Moratuwa MC. office premises is much suitable for this purpose. This premises is closer to the Police Station premises, where there is a proposal for redevelopment for an entertainment centre including an Open Air Theatre. Therefore these two premiseses could be planned together sharing the land between the proposed office complex land and the Police Premises for development purposes. This land sharing between developments will enable relocation of the police station also within the proposed office complex land with required facilities for a modern Police Station.

6.5. Sustainable Environmental Strategic Plan

The vision of the Moratuwa Development Plan envisaged development of Moratuwa Urban Area (planning area) through accomplishing a sustainable environmental development by guiding the development process under the light of "the City enriched by aquatic resources" concept. In order to reach this vision the invaluable water sources (Bolgoda River, Lunawa Lagoon, and the ocean including the beach) need to be protected and conserved 100% together with the wetlands spreading covering a considerable land extend of the planning area, and declaration of the Lunawa Lagoon and its surrounding as an environmental conservation area by the year 2025. Accordingly the sustainable environmental development plan includes four major sectors as appended bellow.

- Environmental Conservation Plan
- Landscape Plan
- Public Open Area and Entertainment Spatial Plan
- Disaster Management Plan

The Catalytic project proposals included in the Sustainable Environmental Development Plan is represented by the Map bearing No 6.14.

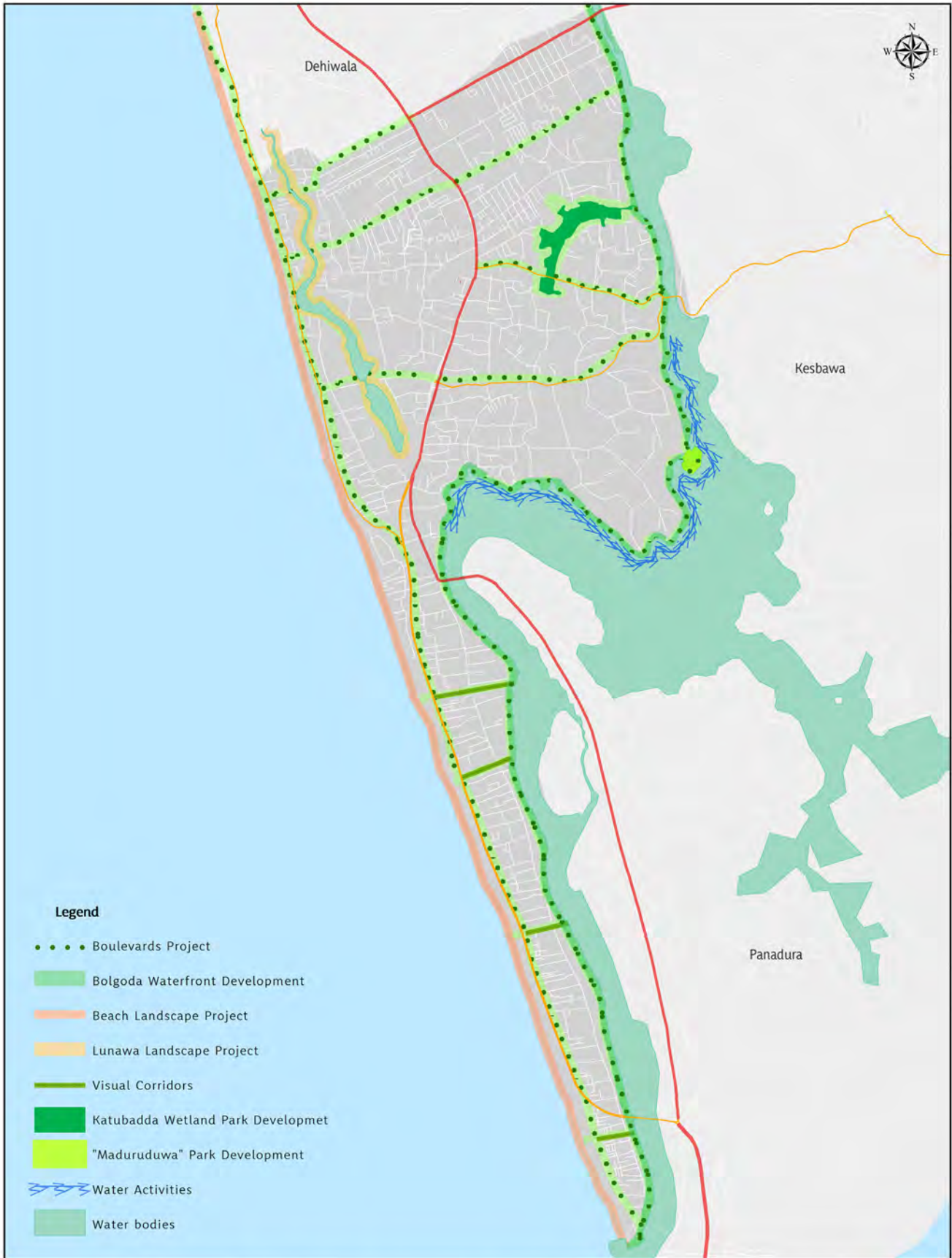
(the abbreviation stand for the sustainable environmental Plan is EN.)

Chapter 06 Development Plan

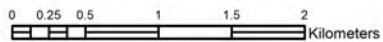
Economic Development
Strategic Plan

Economic Development
Strategies and Development
Projects

Sustainable Environmental
Strategic Plan



Environmental Development Plan -2030
Moratuwa Municipal Council



Urban Development Authority
December 2018

Source: Urban Development Authority

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 6.14 : Sustainable Environmental Development Plan 2019-2030

Source : Urban Development Authority-2018

6.5.1. Environmental Conservation Plan

6.5.1.1. Objectives of the Plan

The goal of the environmental conservation plan is to conserve the environmentally sensitive areas as identified through the comparative analysis of sensitivity and to manage them with the aid of the land use plan that will be implemented along with the Development Plan.

6.5.1.2. Scope of the Plan

The water sources deserving conservation, which are in existence in the Planning area, as identified, including the water ways connected there together with the wetlands having water fronts will be conserved. This environmental plan will be implemented in the short-run and its relevance will prevail over a long period of time enabling the Authorities to manage the environment effectively.

6.5.1.3. Planning Strategies

a) Identification of areas deserving conservation and declaration of such areas as conservation areas under the relevant Laws.

i. Recommended Lunawa Lagoon Environment Protection Zone.

Paragraph 5.2.1.1: under the strength, Lunawa Lagoon and its environs were identified as an area with highest order of bio diversity and high density of aquatic species and flora diversities. Under the Provisions of 24 (c) and 24 (D) of the Law No 47 of 1980 as amended subsequently such areas can be declared by a Gazette Notification issued by the Minister in charge of the subject of environment. Accordingly, the Central Environment Authority Lunawa Lagoon area has been identified as a suitable area for declaration as a conservation area under the provisions referred to above. Following factors have been considered by the CEA in identifying the Lagoon area for conservation purposes.

- The areas/places suitable for conservation purposes.
- Environmental networks enriched with unique characteristics
Ex. Areas full of flora and fauna diversity being endangered.
- Aquatically significant areas.
Ex. Wetlands, important water ways and Lakes.
- Areas identified for conservation under different plans of varied Agencies, for example areas suitable for scientific research or areas recommended for conservation under any other plan.
- Areas/ lands of scientific importance.
- Areas recommended through scientific research or under any other plans for conservation.
- Zones declared under any other Laws for conservation

Chapter 06 Development Plan

Sustainable Environmental
Strategic Plan

Environmental Conservation
Plan

b) Identification of reservation areas for conservation purposes

i. Bolgoda River Reservation

40 feet wide reservation from the embankment of the river. This reservation area is subject to the management of the Sri Lanka Land Reclamation and Development Corporation (SLLR&DC) and the Department of Irrigation.

ii. Lunawa Lagoon Reservation

The Lunawa lagoon reservation shall be 8 meters from the lagoon embankment and it will be subjected to the management of the (SLLR&DC). The width of the reservation that should be maintained along the water ways connected to the said lagoon should be half the width of the water way.

iii. Coastal Reservation

The coastal reservation shall be 45 meters landwards from the high tide line of the sea.

iv. Canal Reservations.

<i>Name of the Canal</i>	<i>Width of the reservation from the embankment of the Canal in meters</i>
<i>Lunawa Canal</i>	6
<i>Elu Canal</i>	6
<i>Hemingiya Canal</i>	6
<i>Obatuwa Canal</i>	6

Table 6.5 : Reservations of Canals

Source : Urban Development Authority, 2018

6.5.2. Landscape Management Plan (LSP)

6.5.2.1. Goal of the Plan

The plan envisages sustainable development of conserved areas that are currently inaccessible but high in environmental beauty to be accessible by the public for entertainment and to enjoy them while regularizing the wind circulation within the planning area ensuring pleasant atmospheric conditions.

6.5.2.2. Scope of the Plan

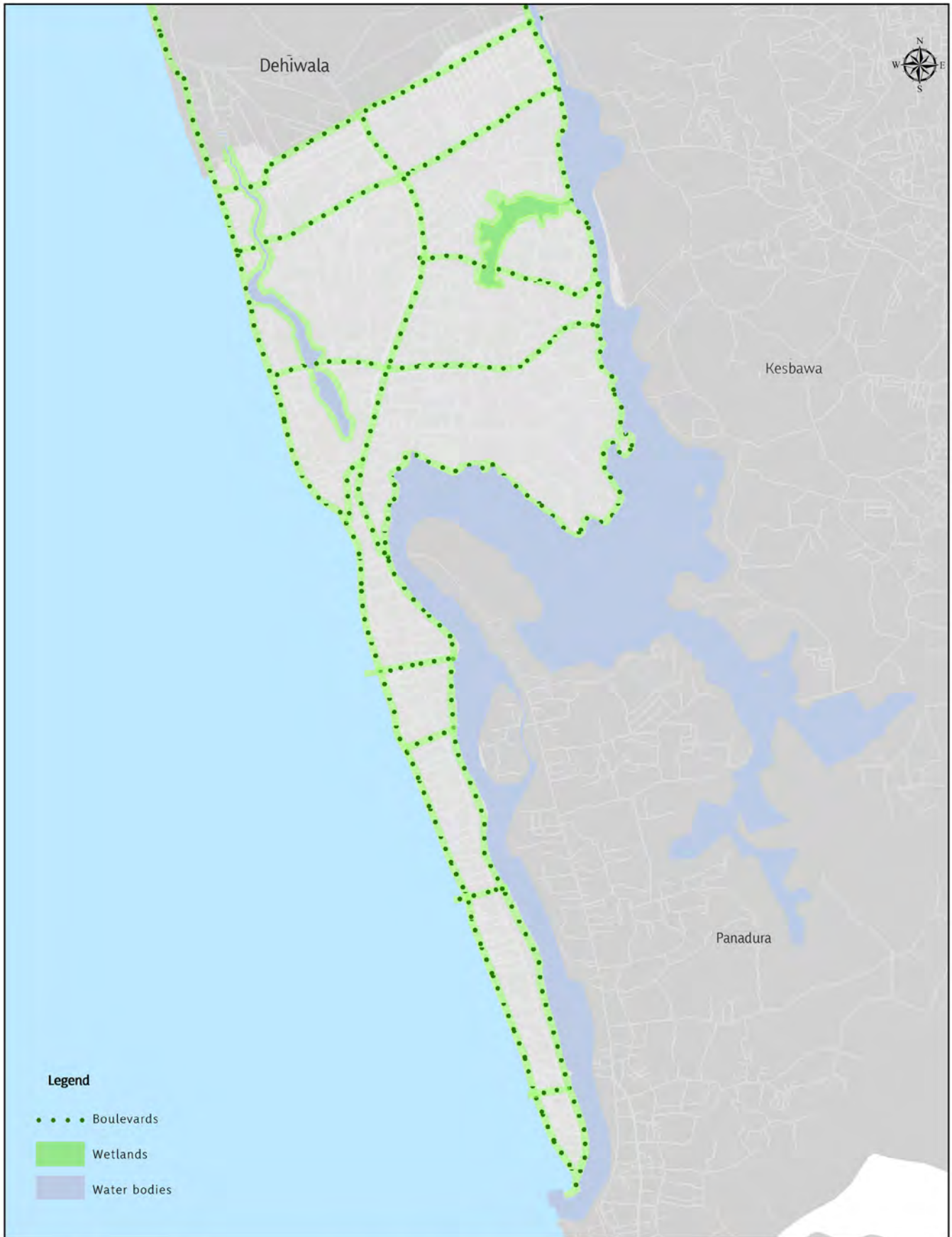
The Landscape Plan shall be implemented during the period from 2019 to 2030. The plan identified the landscaping projects for all the water front areas.

6.5.2.3. Plan Strategies

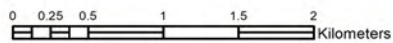
- a. *Setting up wind movement corridors through integrating the water bodies in the area aiming at regularizing the urban ventilation within the planning area.*

En1 - Boulevard along the roads.

As depicted in the Annex No 8, the roads that can help establishing a wind movement system were identified through wind movement analysis. These roads have the ability to connect the water bodies and either side of them will be landscaped with trees being planted in a planned manner facilitating cooling down the wind moving through them. The Map no 6.15 depicts the landscape of the roads and how the roads will be laid down within the environmental plan area



**Proposed Boulevards -2030
Moratuwa Municipal Council**



 **Urban Development Authority**
December 2018

Source: Urban Development Authority

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Map 6.15 : Proposed Boulevard Roads.

Source : Urban Development Authority, 2018

b. *Introducing Methodologies for Landscaping Water fronts*

En2 - Bolgoda Water Front Landscaping Project

The Bolgoda Lake water front landscaping project includes three major zones, namely water front landscape area, Closest Water Front Landscape Zone and the Active Landscape Zone where human activities could take place without harming other two zones.

Water Front Landscape Area: Rehabilitation of the Mangroves habitat creating a conducive environmental network for the sustainable existence of flora and fauna.

Closest Water Front Landscape Zone: The main strategy of the Bolgoda Lake landscape development is to manage the floods while creating a picturesque environment in the surrounding of the lake for the public to access and enjoy it. Therefore the lake surroundings will be landscaped staggering down towards the water front from the raised levels of the distant surrounding areas of the lake. The implementation of the plan will involve cutting and filling of the surroundings to form the area sloping down towards the water body from the far end of the catchment area. The elevated bicycle tracks, walkways and viewing decks that are proposed to be developed will enable the public to view the improved environment without any obstruction.

Active Landscape Zone: This zone will be planned for development with entertainment facilities, such as children's parks, shops, resting rooms, cultural centres and facility centres for educational activities. The Moratumull area, the northern part of the Bolgoda Lake, has been identified as an area having a better topography with a potential for development of water-based sports.

En3 Beach Landscaping Project

- i. Establishment of protective barriers on either side of the Coastal Railway Track and implementation of coastal revetments to defy the sea erosion.
- ii. Develop the beach as a Green Boulevard by planting appropriate tree varieties, that can withstand the sea winds and the cyclones.
- iii. Construction of an over-passes above the rail track to facilitate the public to reach the beach crossing the rail track safely.

En4 Lunawa Landscaping Project

- i. Restoration of Mangrove Plantation with a view of promoting the bio-diversity of the habitat and the natural water purification process.
- ii. Planting trees along the walk ways and bicycle tracks providing a shady environment to the public.

Chapter 06 Development Plan

Sustainable Environmental Strategic Plan

Public Outdoor Recreational Space Management Plan (PORS)

6.5.3. Public Outdoor Recreational Space Management Plan (PORS)

6.5.3.1. Objectives of the Plan

The goal of the plan is to provide sufficient open area and recreational facilities for the population of Moratuwa as predicted to be 151,000 people by the year 2030.

6.5.3.2. Scope of the Plan

According to the workshop conducted by the Urban Development Authority on “Spatial and Design Standards for Urban Development” in April 1983, it was agreed upon that an appropriate minimum standard for maintaining open and recreational areas in a Sri Lankan town should be 1.4 Hectares per 1000 population. However, in application of this standard, a relaxation has been recommended to the said standard to change this accepted standard depending on the local conditions and the potential developments that could take place in the future. Currently the reserved land extent for the recreational activities in Moratuwa Municipal Council area is only 9 ha, which is inadequate for the population of the area. Although, the previously mentioned standard demands more recreational spaces, due the limitations of land availability in the planning area, it was amended as 1.0 ha per 1000 people to provide 150 ha of Public Outdoor Recreational Spaces by 2030.

6.5.3.3. Planning Strategies

- a. *Establishment of linear parks in areas where no sufficient land extents available.*

En5 Visual Access Corridors

The land of approximately 500–800 Meters in width and stretching from Korlawella to Egoda Uyana, being bordered on the east by the Bolgoda River and on the West by the sea, may be the only place in Sri Lanka that can offer the opportunity to see the sea and the inland lake at the same time. The roads that area aligned with this stretch of land were identified following the visibility analysis of the potential geographical areas which has been presented in the Annex No 09, and such identified roads have been planned out to be the visual corridors. These visual corridors can take the form of roads which provide unobstructed linear visual contacts with the sea, Bolgoda Lake and the sceneries of the beach. (Map no 6.16). The visual corridors so identified will be developed maintaining a width of 40 feet and either side of each road will be landscaped as linear parks with necessary infrastructure facilities for the public to rest and enjoy the environment.



Visual Corridors- 2030
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
 December 2018

Source: Urban Development Authority Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Wester Province Division

Map 6.16 : Proposed Visual Access Corridors

Source : Urban Development Authority- 2018

Chapter 06 Development Plan

Sustainable Environmental
Strategic Plan

Public Outdoor
Recreational Space
Management Plan (PORS)

<i>Visual access corridor</i>	<i>Length of corridor</i>
<i>Gunowardhanaragama Road</i>	<i>770m</i>
<i>Samajawadee Niwahan Place</i>	<i>520m</i>
<i>T.L.C. Peiris Mawatha</i>	<i>450m</i>
<i>Mahawatta Road</i>	<i>400m</i>

Table 6.6 : *Proposed Visual Access Corridors*
Source : *Urban Development Authority- 2018*

b. Development of Underutilized Parks for Public Parks.

En6 Katubadda Wetland Park

Abandoned paddy lands in Katubedda 0.19 sqKm in extent is proposed to develop as a wetland park with facilities for Walking Tracks, Bicycle Tracks, Viewing Decks, Resting Places, and small research labs and so on. The Mangroves Habitat in the locality will be rehabilitated under the proposal. (Figure no 6.16)

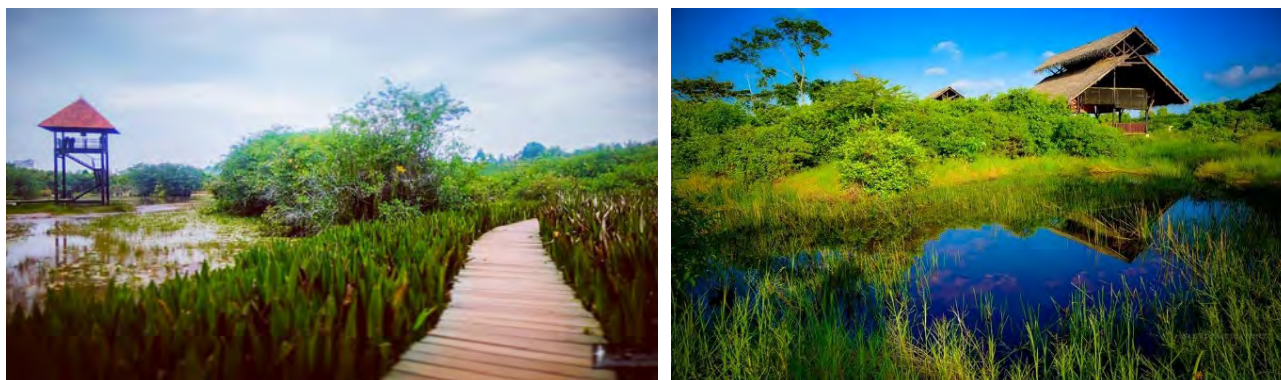


Figure 6.16 : *Wetland parks*
Image Courtesy : *Urban Development Authority, 2018*

En7 Maduruduwa (Island) Open Park

The Maduruduwa (Island) is situated with close proximity to the Bolgoda Embankment and wetland in the Moratumulla area with an extent of 3 Hectares. This island is proposed for development as a public park taking in to consideration its development potential for such a purpose for the use of the residents of the locality. This proposed project will also promote the En2 Bolgoda Water Front Landscape project. There are also design proposals being made for construction of pedestrian bridges linking wetlands with the Island facilitating the public to view the environment.

6.5.4. Disaster Management Plan

a. *Flood Prevention Measures.*

- The proposed Staggered Public Parks under En2 can help preventing floods after completion of its development.
- The Katubedda wetland is the largest inland wetland situated in the Moratuwa MC. This wetland has the largest extent compared with other wetlands available in the Moratuwa MC area; accordingly it also has the largest detention capacity to retain the flood waters during the floods. But due to the unauthorized filling and development of wetland, its detention capacity got reduced drastically and results in floods during heavy rains. The En6 project proposal will be able to overcome the issue following its complete implementation.

b. *Cyclone*

The narrow area bordered by the sea and the land stretching from Korlawella to Egodaunya is more frequently subjected to disasters due its geographical location and its topography. This issue was taken in to consideration in the planning process and incorporated the En3 proposal to plant suitable trees along the beach with a view of controlling the wind velocity.

c. *Impact of Tsunami*

Prevention Measures

The beach area that borders Moratuwa MC on the West is 10.5 Km long and is directly exposed to the impact of the sea. The settlements that have been gradually developed in the area are directly linked with the sea in terms of the economic activities. The relocation of such settlements could be impracticable as their lives could be directly affected through their economic activities. In this backdrop the prior evacuation of people will be the most practical solution under these circumstances. Therefore, it is proposed to install an alarm system to warn the public before any possible disaster that could occur so that the people could rush to safe places in time.

Chapter 06
Development Plan

Strategic Plan of Project
Implementation



Introduction

6.6. Strategic Plan of Project Implementation

6.6.1 Introduction

The Moratuwa Development Plan is prepared to guide the development up to 2030; the project implementation plan has to play a significant role in the development effort. In the plan, the current issues as well as the issues that may crop up in the future have been taken in to consideration and lined them up after evaluation of their priorities for implementation. Such projects will be implemented in stages; the projects that have been planned for immediate current issues will be implemented in the early stages while other projects will be implemented in the later stages. The funds for these projects will be sourced from the Treasury, UDA and the private sector. The development plan identified 22 projects for implementation. The methods of their implementation are appended bellow.

Table 6.7 : Proposed Light Rail Project
Source : Urban Development Authority, 2018

Project Identification					
Project Title	TPO1- Light Rail project				
Project	Light Rail System Development				
Project Proposal	The Western Province Megapolis Plan proposed to develop an elevated light rail system starting from Kelaniya running via Dematagoda, Borella, Narahenpita, Nugegoda, up to Moratuwa where the terminal will be. The important stops within the Moratuwa MC area along this proposed line will be at Katubedda University, Karubedda Junction, Rawathawatta and Moratuwa where the Multi Modal Transport Centre will be located.				
Location	Province	Western Province	Boundaries	North	From Katubedda bridge along the 255 Kottawa-Mt. Lavinea bus route via Katubedda Junction to the Moratuwa Multi Modal Transport Centre.
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access	Bus Route No 255 Main Road to the Moratuwa town				
 <p>Google Earth <small>Image © 2018 DigitalGlobe</small></p>			 <p>Legend</p> <ul style="list-style-type: none"> Residential Commercial Build up Industrial Historical Agricultural Recreational Transportation Utilities Water bodies Park & Playgrounds Barth 		
<i>Location Map</i>			<i>Land Use Plan</i>		

Project Justification					
Project Type	Conservation		Project's Nature	New	√
	Landscape			Expansion	
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	
	Housing			Social	√
	Road Development	√		Environmental	
	Other			Physical	√

Project Justification	
Project's Target	<p>i. Strengthening the linkages with major towns and reduction of travelling time.</p> <p>ii. Shifting travelling mode to new alternative mode</p> <p>iii. Reduction in traffic congestions along the main roads</p> <p>iv. Improvement of quality and efficiency of public transport modes.</p>
Basis of the Project	The Increasing demand for transport facilities resulted in unmanageable traffic congestion in the main roads. This situation compels the Authorities to encourage the public to shift from the road transport mode towards the public transport modes in a bid to reduce the traffic congestion in the main roads. In the scenario the Light Rail system will provide a better solution to encourage the public to shift their transport modes from road to rail.

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

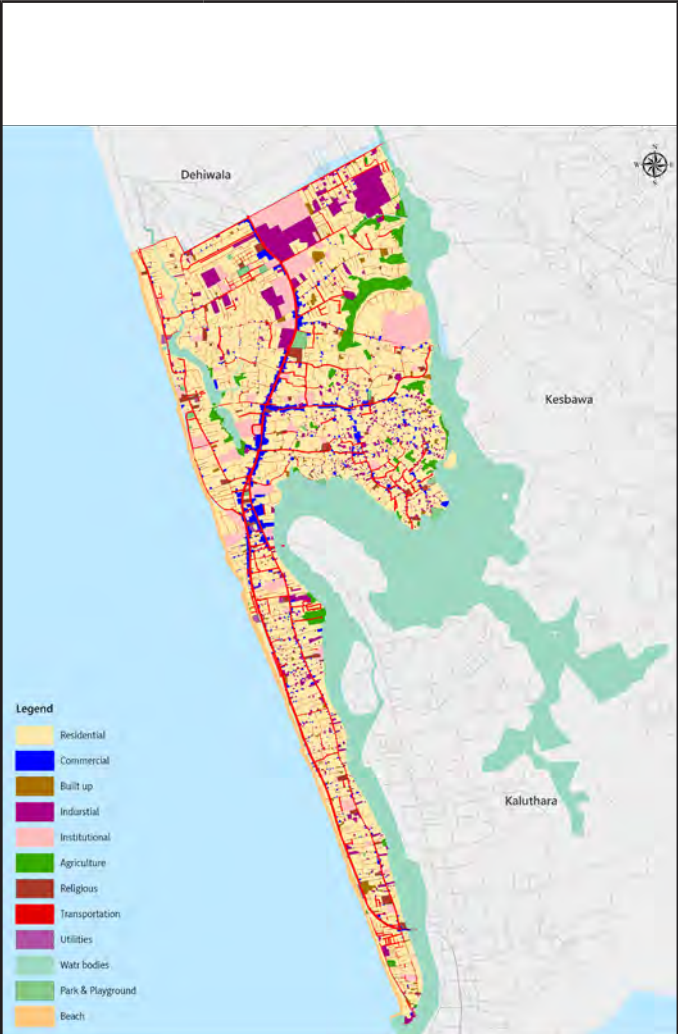
Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	High Density Mixed Development Zone, Low Density Mixed Development Zone and Bolgoda Riverfront Development Zone	
		MMC	Zoning Compatibility	Yes	√
		Road Development Authority		No	
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • UDA • MMC 	

Table 6.8 : Modernization of Coastal Rail Track
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	TPO2- Modernization of Marine Rail Track				
Project	Modernization of Marine Rail Track				
Project Proposal	Electrification of the rail system and modernization of the Angulana, Lunawa, Korlawella and Egodaunya rail stations in order to increase the efficiency of the system.				
Location	Province	Western Province	Boundaries	North	Dehiwela MC Area
	District	Colombo		East	–
	Bounds of Locality	MMC		South	Moratuwa MC Area
	Administrative Unit	Municipal Council		West	–
Access	Rail Track running from Fort Rail Station to Moratuwa almost parallel to the beach.				



Location Map



Land Use Plan


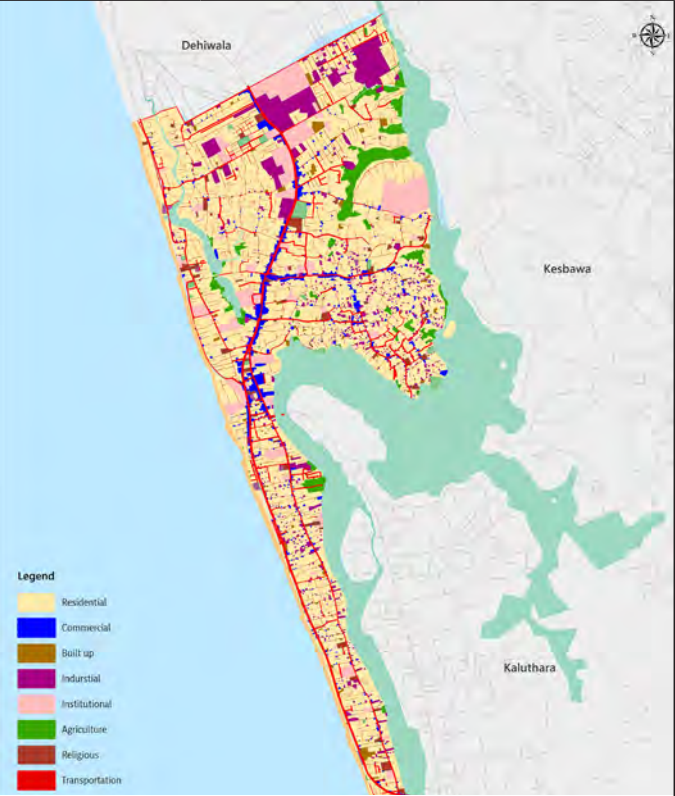
Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape			Expansion	√
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	√
	Housing			Social	√
	Road Development	√		Environmental	
	Other			Physical	√

Project Justification	
Project's Target	<p>i. Promotion of relationships with other rail services.</p> <p>ii. Reduction of traffic congestion along the main roads.</p> <p>iii. Expansion of capacity of rails system for an increased transport of goods and passengers by rails.</p> <p>iv. Minimize time rail transport.</p>
Basis of the Project	<p>Rising demand for the transport facilities exceeded the capacity of the services creating an unmanageable traffic congestion on the road system. The demand pressure exerted on road transport can be reduced only through modernization of the existing rail system to make it more efficient, which can provide a better transport mode for the people to shift the transport mode from road to rail. Increasing the efficiency of the rail system through modernization could help reducing the traffic congestion on roads.</p>

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	High Density Mixed Development Zone and High Density Green Residential Zone	
		MMC	Zoning Compatibility	Yes	√
		Road Development Authority		No	
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> Urban Development Authority Moratuwa Municipal Council Coast Conservation Department 	

Table 6.9 : Galle Road Development Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	TPO3 - Galle Road Development Project.				
Project	Road Development				
Project Proposal	Developing the 1 km road section as 6 lane road starting from the junction where the New Galle road and the Old Galle road connects to Moratuwa Multi-modal Transport Center.				
Location	Province	Western Province	Boundaries	North	The junction where the New Galle road and the Old Galle road connects to Moratuwa Multi-modal Transport Center.
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access	Galle Road				
 <p style="text-align: right;"><i>Location Map</i></p>			 <p style="text-align: right;"><i>Land Use Plan</i></p>		


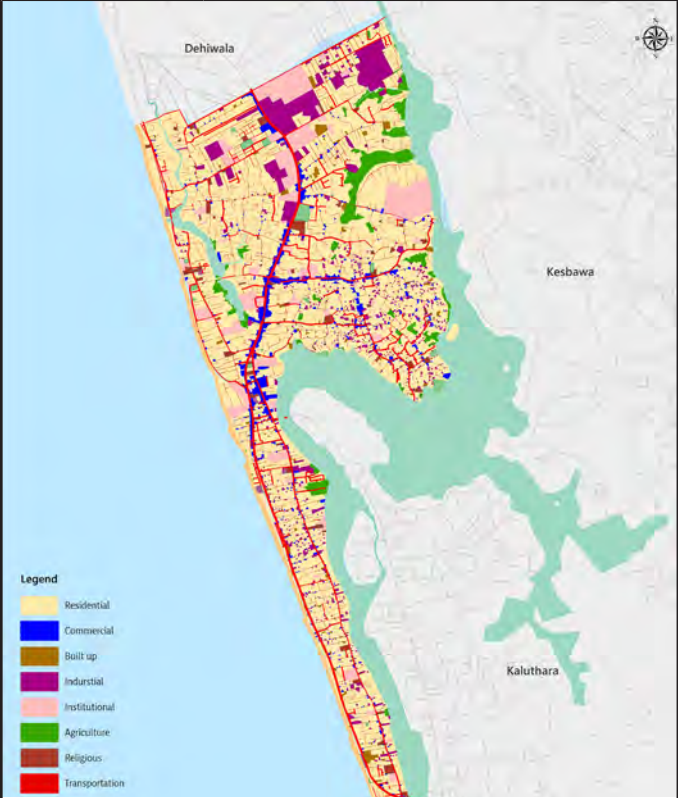
Project Justification					
Project Type	Conservation		Project's Nature	New	√
	Landscape			Expansion	
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	
	Housing			Social	√
	Road Development	√		Environmental	
	Other			Physical	√

Project Justification	
Project's Target	i. Promotion of the accessibility and the mobility of the road. ii. Increase the road capacity iii. Maintain an average vehicle speed of 60 Km per Hour along the road.
Basis of the Project	–

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	High Density Mixed Development Zone	
		MMC	Zoning Compatibility	Yes	√
		Road Development Authority		No	
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> Urban Development Authority Moratuwa Municipal Council 	

Table 6.10 : Borupana Road Development Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	TPO4- Borupona Road development Project				
Project	Widening of the Borupona Road				
Project Proposal	Widening of the Borupona Road with provisions for 6 lanes to a length of 200 Meters up to the Gangarama Road.				
Location	Province	Western Province	Boundaries	North	From the Borupona Junction up to the Gangaramaya Road.
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access	Galle Road and Gangarama Road				
 <p style="text-align: right;"><i>Location Map</i></p>			 <p style="text-align: right;"><i>Land Use Plan</i></p>		



Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape			Expansion	√
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	
	Housing			Social	
	Road Development	√		Environmental	
	Other			Physical	√

Project Justification	
Project's Target	i. Promotion of the accessibility and the mobility of the road. ii. Increase the road capacity iii. Maintain an average vehicle speed of 60 Km per Hour along the road.
Basis of the Project	As per the recommendation of the COMTRANS report, the Outer Circular Road development linking Maharagama, Battaramulla, Kelaniya, Wattala and Moratuwa will be facilitated by widening of the Borupona Road with provisions for 6 lanes

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone		
		MMC		Zoning Compatibility	Yes
		Road Development Authority	No		
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • UDA • MMC 	

Table 6.11 : Katubedda Road Development Project
Source : Urban Development Authority, 2018

Project Identification					
Project Title	TPO6 Road Development project				
Project	Katubedda Road Widening				
Project Proposal	Widening and Development of road from Katubedda Junction to Kospalana Bridge to a length of 2 Km with provisions for 4 lanes.				
Location	Province	Western Province	Boundaries	North	From the Katubedda Junction to the Kospalana Bridge
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access	Galle road and Kospalana Bridge				
 <p style="text-align: right;"><i>Location Map</i></p>			 <p style="text-align: right;"><i>Land Use Plan</i></p>		


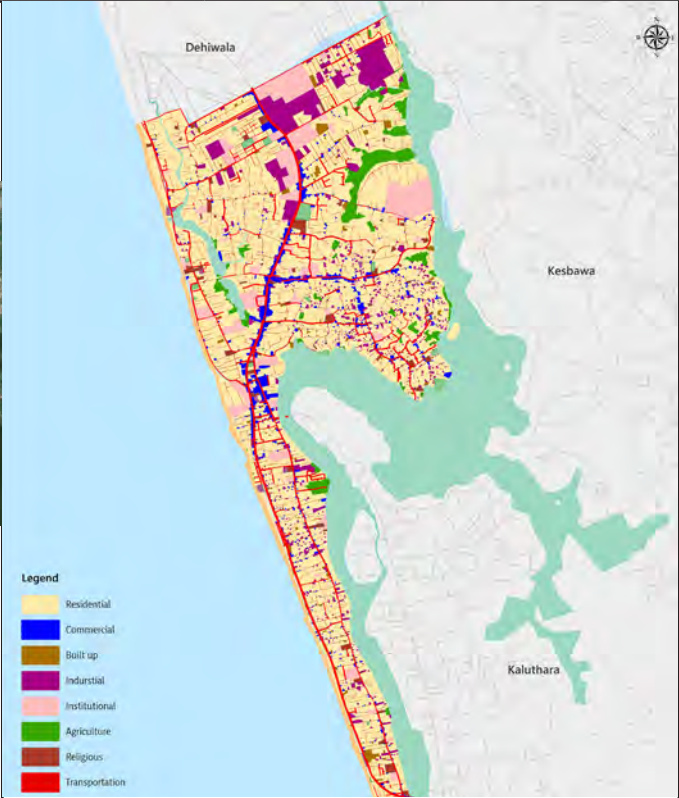
Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape			Expansion	√
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	
	Housing			Social	
	Road Development	√		Environmental	
	Other			Physical	√

Project Justification	
Project's Target	i. Promotion of the accessibility and the mobility of the road. ii. Increase the carrying road capacity iii. iMaintain an average vehicle speed of 60 Km per Hour along the road
Basis of the Project	As per the recommendation of the COMTRANS report, the Outer Circular Road development linking Moratuwa, Piliyandala, Pannipitiya, Malambe, Bollegala, Sapugaskanda, Hunupitiya and Handala will be facilitated by widening of the Katubedda Road with provisions for 4 lanes.

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	-
	State Owned	√		Date	-
	Other			Land extent	-

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone		
		MMC	Zoning Compatibility	Yes	√
		Road Development Authority		No	
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • UDA • MMC 	

Table 6.12 : De Soysa Road Development Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	TPO7 De Soysa Road Development project				
Project	Widening of the De Soysa Road				
Project Proposal	Widening of three Km long Road section, with 4 traffic lanes from Rawathawatta Junction to the Katubedda Kospalana Bridge				
Location	Province	Western Province	Boundaries	North	From Rawathawatta Junction to the Katubedda Kospalana Bridge
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access	Galle Raod- Kospalana Bridge				
 <p style="text-align: right;"><i>Location Map</i></p>			 <p style="text-align: right;"><i>Land Use Plan</i></p>		

Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape			Expansion	√
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	
	Housing			Social	
	Road Development	√		Environmental	
	Other			Physical	√

Project Justification	
Project's Target	i. Provide Parking spaces for Vehicles. ii. Increase the carrying road capacity iii. Maintain an average vehicle speed of 60 Km per Hour along the road
Basis of the Project	De Soysa Road runs through an area specialized for furniture industry and showrooms: Vehicles moving along the road need to park along the road sides for longer period of time for business activities. Currently, the road is narrow and the traffic congestion along the road is persistent and create constrains. Therefore this road widening has become necessary to enable the Outer Circular Road to be linked with the Rawathawatta Junction. Accordingly this road needs to develop to meet all such needs.

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	-
	State Owned	√		Date	-
	Other			Land extent	-

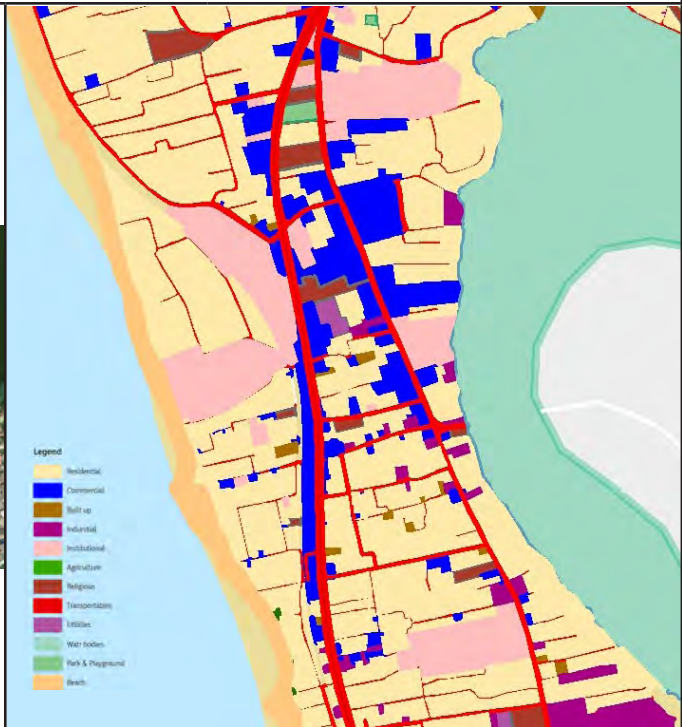
Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	Timber Related Production Zone	
		MMC	Zoning Compatibility	Yes	√
	Road Development Authority	No			
Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> UDA MMC 		

Table 6.13 : Proposed Multi Modal Transport Centre Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	TPO8- Proposed Multi Modal Transport Centre				
Project	Proposed Multi Modal Transport Centre				
Project Proposal	A State Owned prime land situated at Moratuwa town Centre with an extent of 10 Acres has been selected for development of the Multi Modal Transport Centre, which will be the common terminal for the Light Rail, Train Services, Public and Private Bus Services and passenger vehicle parks. .				
Location	Province	Western Province	Boundaries	North	-
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access					



Location Map



Land Use Plan

Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape			Expansion	√
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	√
	Housing			Social	
	Road Development	√		Environmental	
	Other			Physical	√

Project Justification	
Project's Target	i. Integration of Multimodal transport services ii. Improve the quality of transport services facilitate easy change of transport modes in travelling. iii. Create more business opportunities in the town and promote tourism industry.
Basis of the Project	–

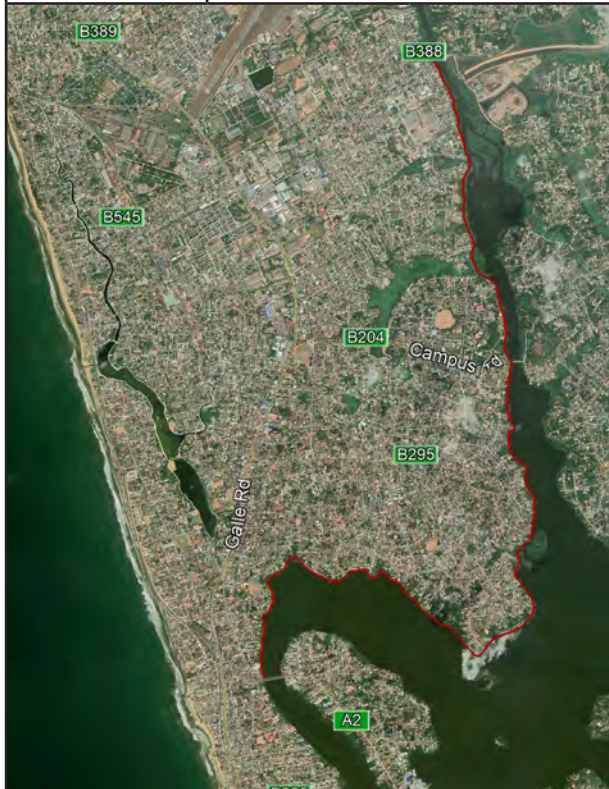
Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	Low Density Mixed Development Zone	
		MMC	Zoning Compatibility	Yes	√
	Road Development Authority	No			
Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • UDA • MMC 		

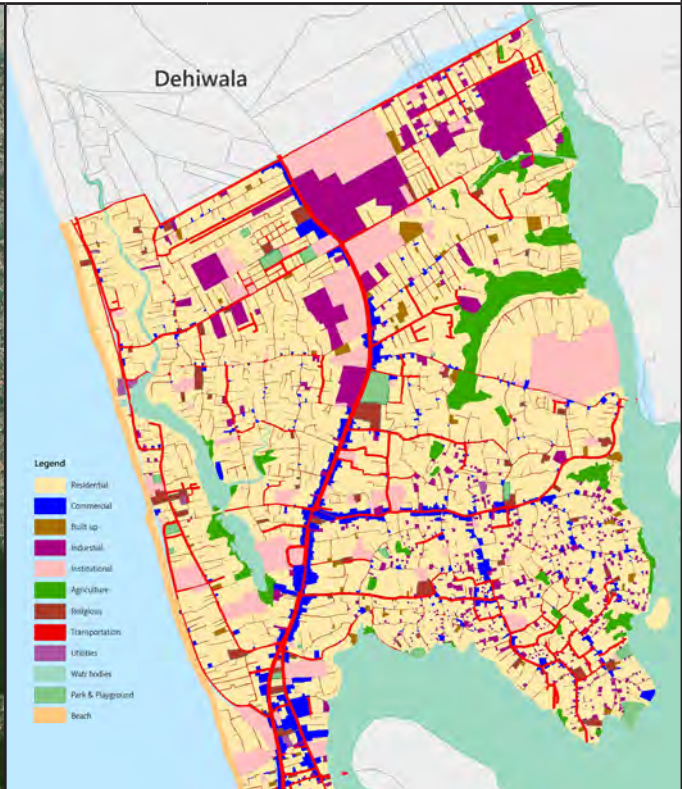
Table 6.14 : Bolgoda-Siri Road Development Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	Bolgodasiri Road Development project				
Project	Road development along the Bolgoda River Reservation project				
Project Proposal	Development of a new 20 feet wide road including 2 traffic lanes and landscaping either side along the Bolgoda River reservation starting from Digoralla new Bridge up to the Borupona Road.				
Location	Province	Western Province	Boundaries	North	Bolgoda River Reservation
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	

Access Digoralla Bridge, Borupona Road and the Katubedda Road.



Location Map



Land Use Plan

Project Justification					
Project Type	Conservation	√	Project's Nature	New	√
	Landscape	√		Expansion	
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	
	Housing			Social	√
	Road Development	√		Environmental	√
	Other			Physical	√

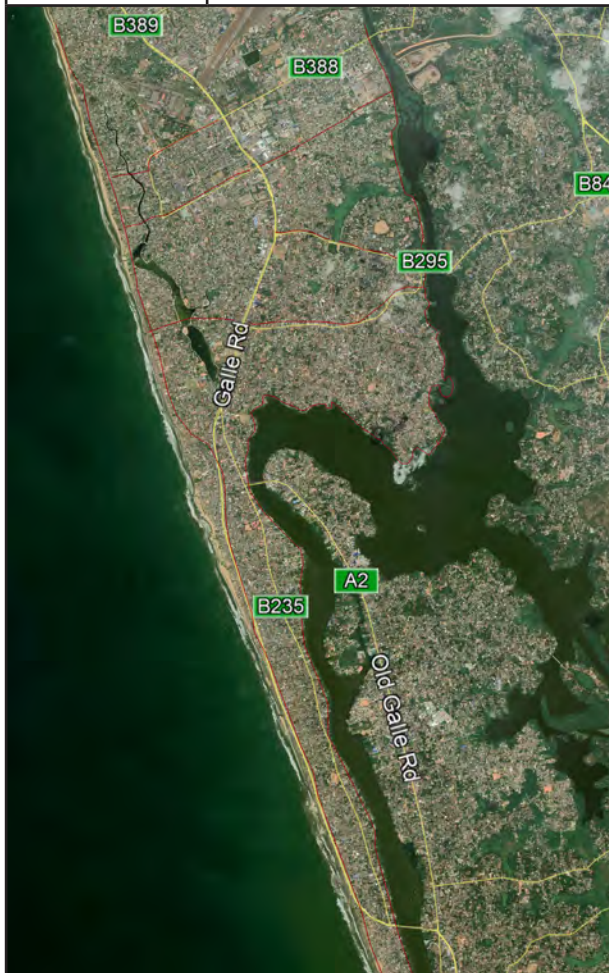
Project Justification	
Project's Target	<p>i. Making the Bolgoda Water Front Areas accessible by the Public.</p> <p>ii. Prevention of Bolgoda Lake waters from pollution.</p> <p>iii. iArrest of unauthorized filling encroachments and constructions</p> <p>iv. Establishment of a sustainable link between Northern part of the MMC area and the Digoralla New Bridge area.</p>
Basis of the Project	<p>The Bolgoda Lake area has been recognized as an environmental conservation area, which needs to be protected. However currently many unauthorized development activities have endangered the existence of the natural environment. As a result many unauthorized developments have reached right up to the edge of the lake. The wastes, both solid and liquid are discharged in to the lake without any hesitation. Enforcement of legally provided 60 Meter reservation, in the current circumstances, has become impractical. As such the proposed road will help establishing a physical barrier to prevent unauthorized developments from encroaching in to the reservation area in addition to the enforcement of 60 Meter lake reservation.</p>

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	-
	State Owned	√		Date	-
	Other			Land extent	-

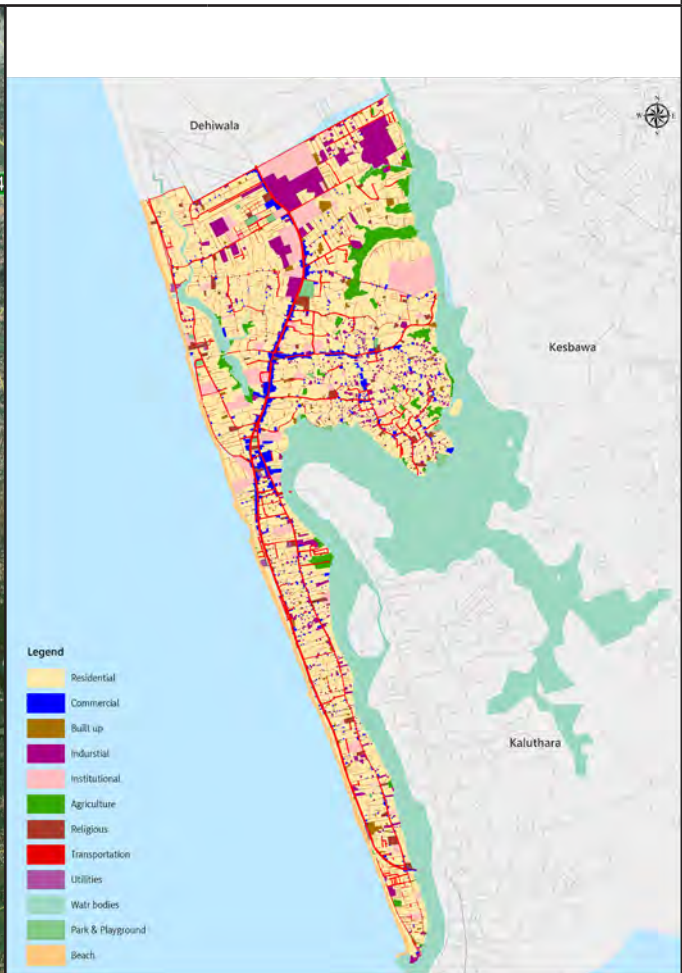
Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	Bolgoda Riverfront Development Zone	
		MMC		Zoning Compatibility	Yes
		Road Development Authority	No		
Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> UDA MMC 		

Table 6.15 : Landscaping the Road Reservations
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	En1 - Green Corridors Along the Road				
Project	Tree planting project				
Project Proposal	Setting up wind movement corridors through integrating the water bodies in the area aiming at regularizing the urban ventilation within the planning area.				
Location	Province	Western Province	Boundaries	North	-
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access	Identified Roads				



Location Map



Land Use Plan

Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape	√		Expansion	√
	Heritage			Land Development only	
	Relocation		Project's Target	Economic	
	Housing			Social	
	Road Development			Environmental	√
	Other			Physical	√

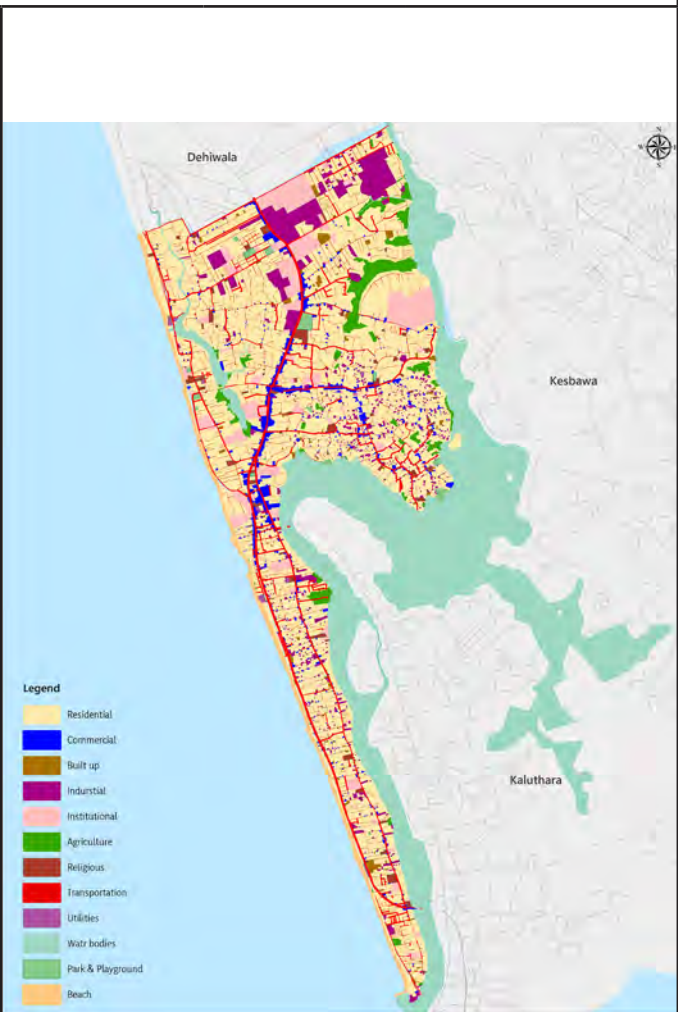
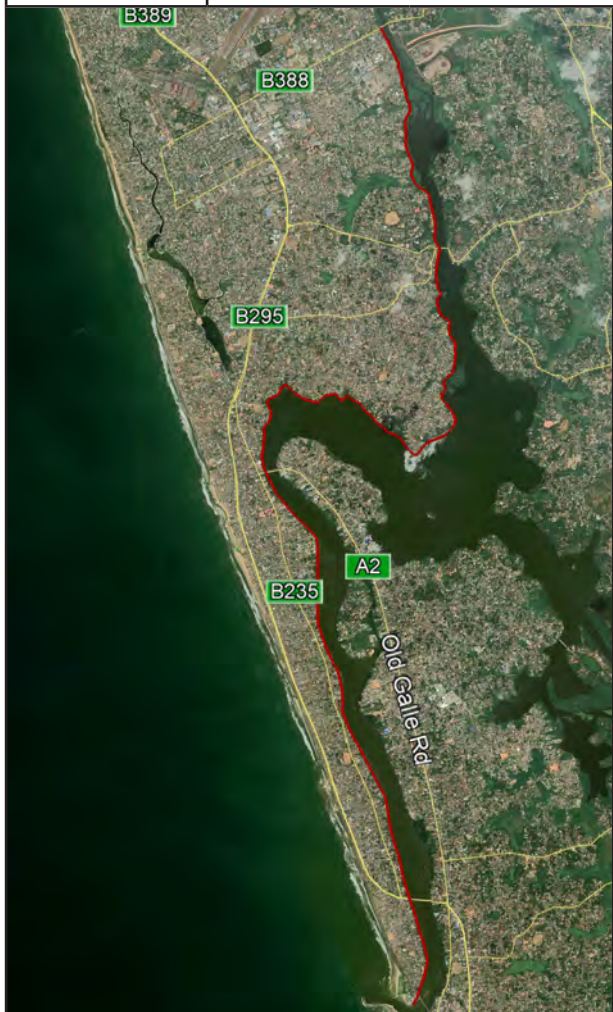
Project Justification	
Project's Target	i. Establish a proper wind circulation ii. Integration of water bodies in the locality.
Basis of the Project	Establish a pleasant habitable environment through minimization of temperature in the urban area

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	<ul style="list-style-type: none"> High-Density Mix Development Zone. Low-Density Mix Development Zone. Timber-Based Industries promotion Zone. Low-Density Residential Zone. High-Density Residential Greenery Zone. Bolgoda Water Front Development Zone. 	
		MMC	Zoning Compatibility	Yes	√
		Road Development Authority		No	
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> Urban Development Authority Moratuwa MC Road Development Authority 	

Table 6.16 : Bolgoda Water Font Area Landscaping Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	En2 Bolgoda Water Font Area Landscaping Project				
Project	Landscaping the Water Front areas of the Bolgoda Lake				
Project Proposal	<p>Water Front area Landscaping: Rehabilitation of the mangrove habitat creating appropriate environment network for the aquatic species</p> <p>Landscaping the river reservation areas: Landscaping for Terrace- Gardens through cutting and filling appropriately raising the level of the walk ways, viewing decks and bicycle tracks above the natural level of the wetlands.</p> <p>Landscaping the Human Activity areas: The permissible uses in the this area according to the Zoning Plan, such a entertainment facilities, shops and boutiques, children’s parks small resting rooms, cultural centres and educational centres will be permitted for development in this part of the Lake area. The Moratumulla area closer to the Bolgoda lake has been identified as having the potential for water based sport activities</p>				
Location	Province	Western Province	Boundaries	North	Bolgoda Reservation stretching from the bridge connecting the Borupona road with Gangarama Road up to the Modara Fisheries harbour.
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access					



Project Justification					
Project Type	Conservation	√	Project's Nature	New	
	Landscape	√		Expansion	√
	Heritage			Land Development only	√
	Relocation	√	Project's Target	Economic	
	Housing			Social	
	Road Development			Environmental	
	Other			Physical	√

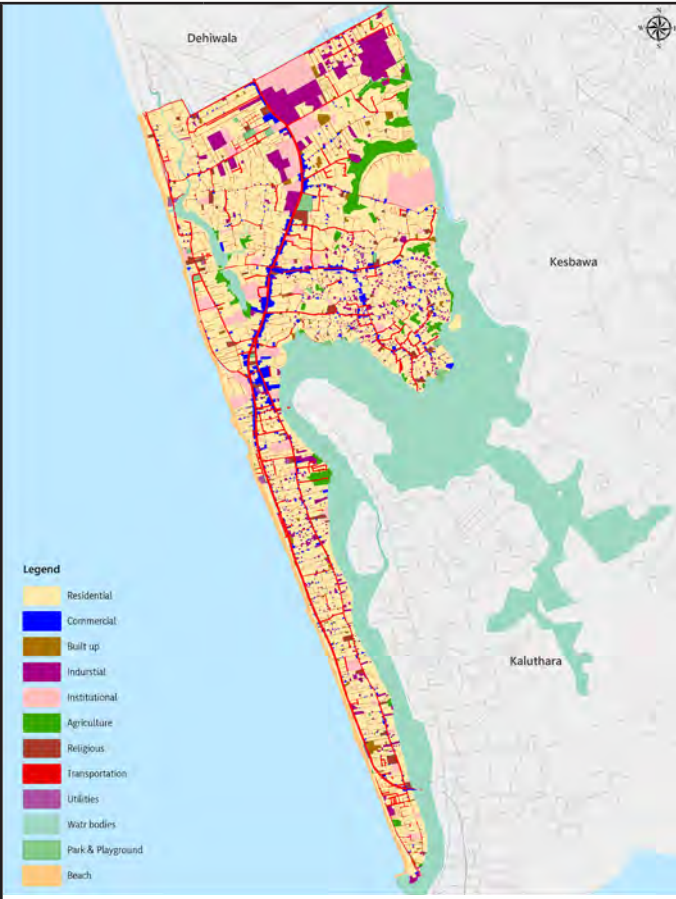
Project Justification	
Project's Target	<ul style="list-style-type: none"> i. Landscaping the Water Front Areas. ii. Prevention of the locality from floods iii. Visibility of the River area without any obstruction. iv. Promotion of entertainment activities.
Basis of the Project	Increase public accessibility to the Bolgoda River area while prevention of the water body from pollution.

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	• Bolgoda Water Front Development Zone.	
		MMC	Zoning Compatibility	Yes	√
		Road Development Authority		No	
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • Urban Development Authority • Moratuwa MC • Central Environment Authority 	

Table 6.17: Beach Landscaping Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	En3 Beach Landscaping Project				
Project	Landscaping project				
Project Proposal	i. Establishment of Protective barriers on either side of the marine rail track and adoption of sea erosion prevention methods. ii. Planting marine-friendly trees and landscaping as a beach park iii. Construction of over-passes to facilitate public to cross the rail track safely from the main access road.				
Location	Province	Western Province	Boundaries	North	Angulana North and Modara South
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access	Identified Roads				





Project Justification					
Project Type	Conservation	√	Project's Nature	New	
	Landscape	√		Expansion	√
	Heritage			Land Development only	√
	Relocation		Project's Target	Economic	
	Housing			Social	
	Road Development	√		Environmental	√
	Other			Physical	√

Project Justification	
Project's Target	i. Prevention of Sea Erosion ii. Controlling Wind Velocity iii. Facilitate public for safe access to the beach and promotion of entertainment activities.
Basis of the Project	While preventing environment pollution increase the safe accessibility to the beach

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA MMC CEA	Land Use Zone	<ul style="list-style-type: none"> High-density Mix Development Zone Low-Density Residential Zone High-Density environmental Zone Bolgoda Lake Water Front Development Zone 	
				Zoning Compatibility	Yes
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> UDA MMC CEA Dpt. Of railway 	

Table 6.18 : Lunawa Landscaping Project
 Source : Urban Development Authority, 2018

Project Identification					
Project Title	En4 Lunawa Landscaping Project				
Project	Landscaping				
Project Proposal	i. Rehabilitation of Mangroves plantation in the surroundings of the Lunawa Lagoon. ii. Tree planting on either side of the cycle and walking tracks				
Location	Province	Western Province	Boundaries	North	
	District	Colombo		East	
	Bounds of Locality	MMC		South	
	Administrative Unit	Municipal Council		West	
Access					
					
<i>Location Map</i>			<i>Land Use Plan</i>		


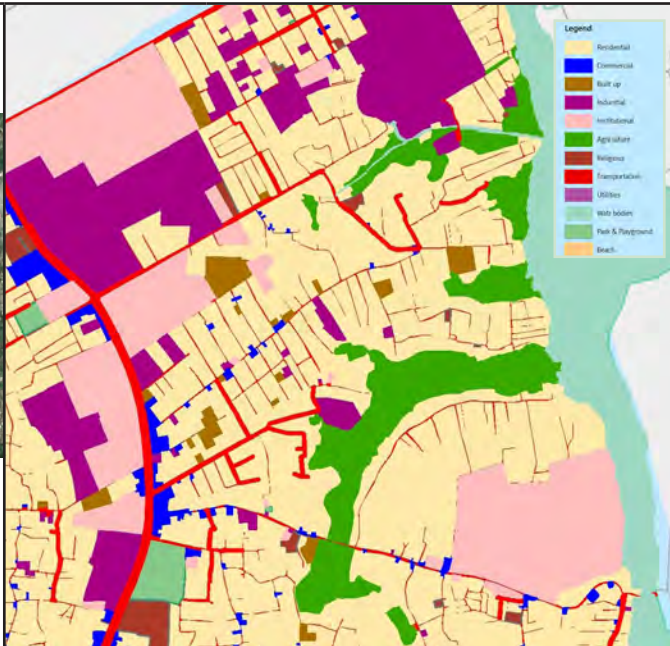
Project Justification					
Project Type	Conservation	√	Project's Nature	New	
	Landscape	√		Expansion	√
	Heritage			Land Development only	√
	Relocation	√	Project's Target	Economic	
	Housing			Social	
	Road Development			Environmental	√
	Other			Physical	√

Project Justification	
Project's Target	i. Promotion of bio-diversity around the Lunawa Lagoon area ii. Creation of natural environmental system to purify the waters in the Lagoon. iii. Creation of pleasing environment around the Lagoon while enhancing the esthetic beauty.
Basis of the Project	While preventing environmental pollution in the locality increase the accessibility to the Lagoon Surrounding.

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	-
	State Owned	√		Date	-
	Other			Land extent	-

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone		
		MMC	Zoning Compatibility	Yes	√
	Road Development Authority	No			
Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> UDA MMC Central Environment Authority (CEA) 		

Table 6.19 : Katubedda Wetland Park Project
 Source : Urban Development Authority, 2018

Project Identification				
Project Title	En6 Katubedda Wetland Park Project			
Project	Wetland Park			
Project Proposal	Abandon Paddy land with an area of 0.19 sqkm has been proposed to develop as a wetland park including facilities of walk ways, cycle tracks, viewing decks and rehabilitation of Mangroves habitat.			
Location	Province	Western Province	Boundaries	North
	District	Colombo		East
	Bounds of Locality	MMC		South
	Administrative Unit	Municipal Council		West
Access	Bandaranayaka Road			
 <p style="text-align: right;">Location Map</p>		 <p style="text-align: right;">Land Use Plan</p>		

Project Justification					
Project Type	Conservation	√	Project's Nature	New	√
	Landscape	√		Expansion	
	Heritage			Land Development only	
	Relocation	√	Project's Target	Economic	√
	Housing			Social	
	Road Development			Environmental	√
	Other	√		Physical	√

Project Justification	
Project's Target	i. Conservation of remaining Wetlands. ii. Promotion of entertainment activities iii. Enhance environment quality through rehabilitation of mangroves habitat
Basis of the Project	The open area-9 Hectares- currently available in the MMC area is inadequate vis a vis the population of the MMC. Further expansion of the open area is also impracticable as the land areas available for the purpose is limited. As such the remaining wetland in the Katubedda area could be developed for a wetland park while conserving it as a wetland enabling the public to enjoy the esthetic beauty of the area.

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	-
	State Owned			Date	-
	Other	√		Land extent	-

Project Implementation				
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone	
		MMC	Zoning Compatibility	Yes
	Road Development Authority	No		
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • UDA • MMC • Central Environment Authority (CEA)

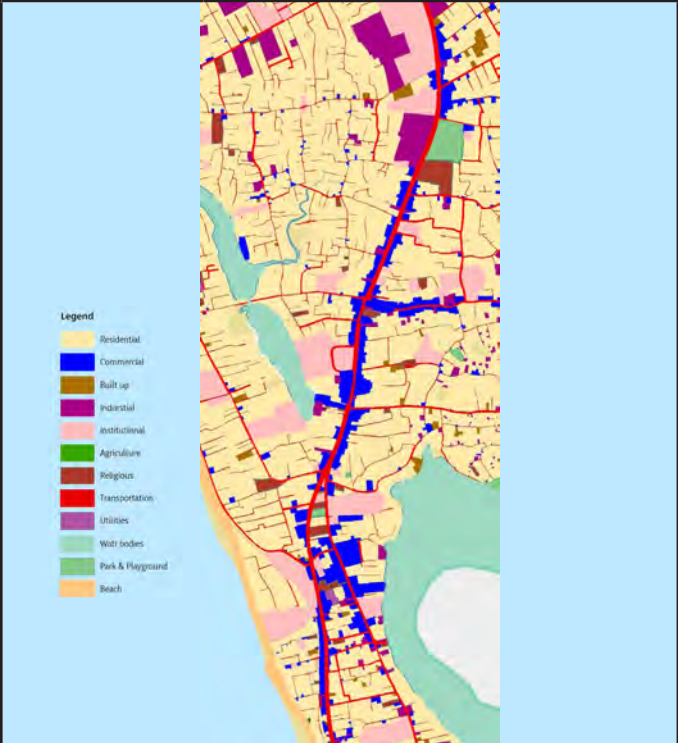
Table 6.20 : Public Market Development project
Source : Urban Development Authority, 2018

Project Identification				
Project Title	EcPo1- Public Market Development project			
Project	Katubedda Public Market Complex Project Moratuwa Public market Complex project			
Project Proposal	<p>Katubedda Public Market Complex Project</p> <p>The public market building, which is owned by the MMC, is situated at a prime site of 32 perches in extent at the Kautbedda Junction. This market building is now in a state of physical dilapidation and beyond repairs. This building is economically derelict. Though this complex has 42 commercial stalls only 25 stalls are functional, the sanitary facilities are unserviceable. It has no car parks. Under these circumstances it is proposed to redevelop the site for a two storied mix development complex with car parking facilities.</p> <p>Moratuwa Public Market Complex Project</p> <p>This complex is a land mark building along the Galle road situated on the sea side facing the new Galle road at the Moratuwa town . This property too is owned by the MMC, it has an extent of 72 perches with a prime location. The existing building is three storied, consisting of 37 shops. This complex too is dilapidated physically needs redevelopment. It has been proposed to redevelop this property for an appropriate development in conformity with the future development of the area.</p>			
Location	Province	Western Province	Boundaries	North
	District	Colombo		East
	Bounds of Locality	MMC		South
	Administrative Unit	Municipal Council		West

Access



Location Map



Land Use Plan

Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape			Expansion	√
	Heritage			Land Development only	√
	Relocation		Project's Target	Economic	√
	Housing			Social	
	Road Development			Environmental	
	Other	√		Physical	√

Project Justification	
Project's Target	i. Provision of services to the public ii. Make use of the potential of the land to the maximum possible. iii. Elevation of living conditions of the trade community iv. Provide facilities for the migration population of the Town
Basis of the Project	<p>Moratuwa is located closer to Colombo, which is the main commercial Capitol of the Country; however it has a limited extent, only 24 sqkm and recorded a high density of population compared to other towns in the region. The day population in the town is ranging from 100,000 to 150,000, but the commercial facilities available to them are inadequate. Therefore the commercial properties located at the entrance to the town have a potential for development. In this scenario the two commercial properties referred here have been proposed for redevelopment for mix developments.</p>

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	-
	State Owned	√		Date	-
	Other			Land extent	-

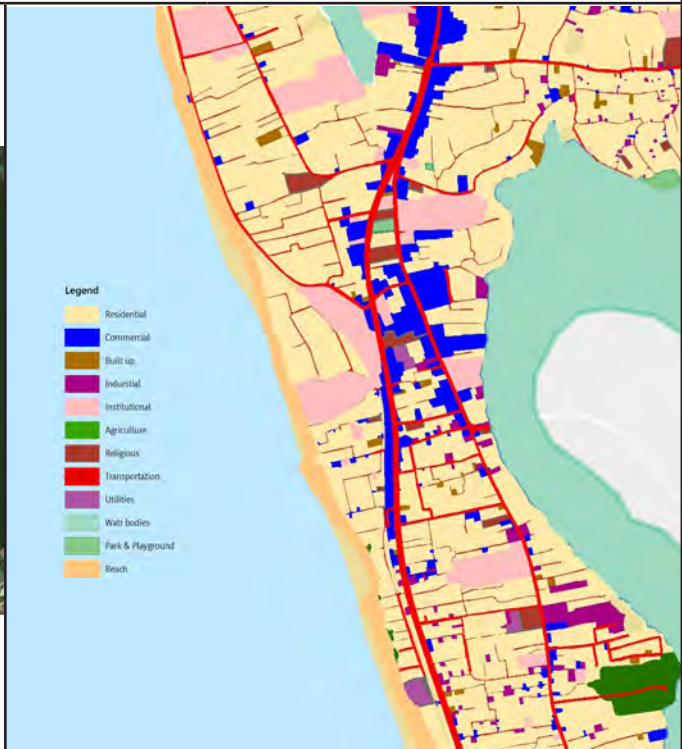
Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone		
		MMC		Zoning Compatibility	Yes
		Road Development Authority		No	
Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> UDA MMC 		

Table 6.21 : Weerapuranappu Park Mix Development Project
Source : Urban Development Authority, 2018

Project Identification				
Project Title	EcPo2 – Weera Puranappu Park Mix Development Project			
Project	Park and Mix Development			
Project Proposal	Park is located at a prime site of 115 peches in extent facing the New Galle road. It is currently used for public events but its full potential has not been made use of. Considering the lack of parking facilities in the Moratuwa town it has been proposed to develop the site for a mix development purpose with an underground car park which can be connected with the public market complex which is located opposite of the site via a sub way.			
Location	Province	Western Province	Boundaries	North
	District	Colombo		East
	Bounds of Locality	MMC		South
	Administrative Unit	Municipal Council		West
Access				



Location Map



Land Use Plan


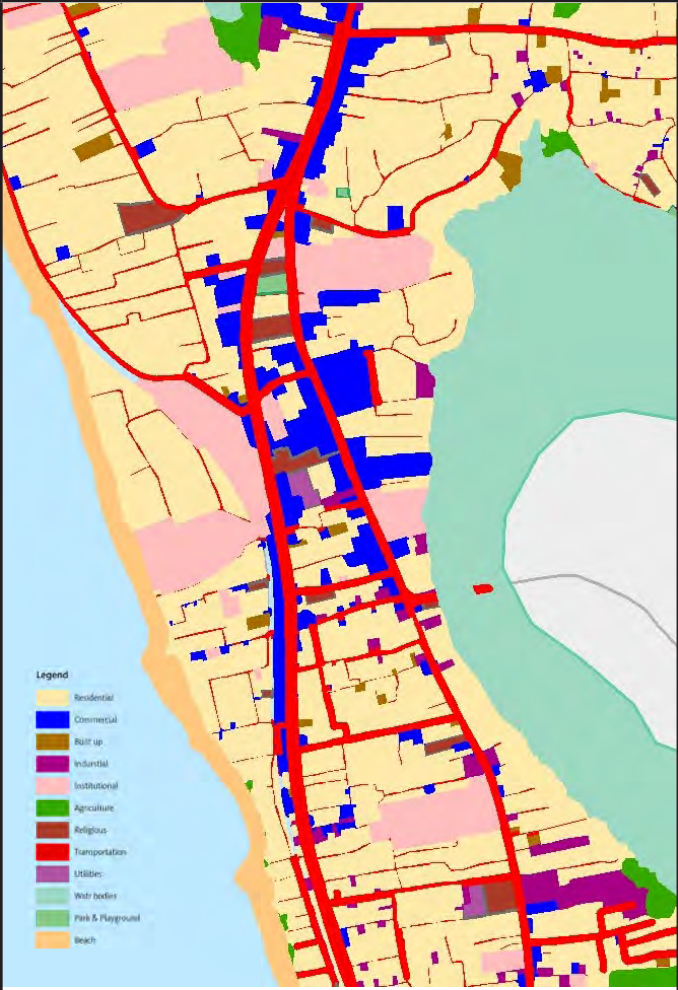
Project Justification					
Project Type	Conservation		Project's Nature	New	
	Landscape			Expansion	√
	Heritage			Land Development only	√
	Relocation		Project's Target	Economic	√
	Housing			Social	
	Road Development			Environmental	
	Other	√		Physical	√

Project Justification	
Project's Target	i. Provision of public facilities ii. Making use of the full potential of the site appropriately iii. Provide facilities for the migrating population iv. Provide mor entertainment facilities to the public.
Basis of the Project	This has been proposed on the basis of providing more infrastructure facilities for the residents as well as the migrating population of the Moratuwa Toan

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone		
		MMC		Zoning Compatibility	Yes
		Road Development Authority	No		
	Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • UDA • MMC 	

Table 6.22 : Multi Modal Transport Terminal Complex Project
 Source : Urban Development Authority, 2018

Project Identification				
Project Title	EcPo3- Multi Modal Transport Terminal Complex Project			
Project	Multi Modal Transport Centre and Surrounding Mix Development			
Project Proposal	The site is the place where public bus stand and the Railway Station are located. It also accommodates the Official Residential Quarters of the Railway employees. The site, which is 8 Acres in extent has been proposed for development of a Multi Modal Transport terminal combined with a mix development of the surrounding with provisions for residential quarters for the Railway employees, car parks and commercial shops in addition to the terminal facilities for the multi modal transport services will be provided.			
Location	Province	Western Province	Boundaries	North
	District	Colombo		East
	Bounds of Locality	MMC		South
	Administrative Unit	Municipal Council		West
Access				
				
<i>Location Map</i>		<i>Land Use Plan</i>		


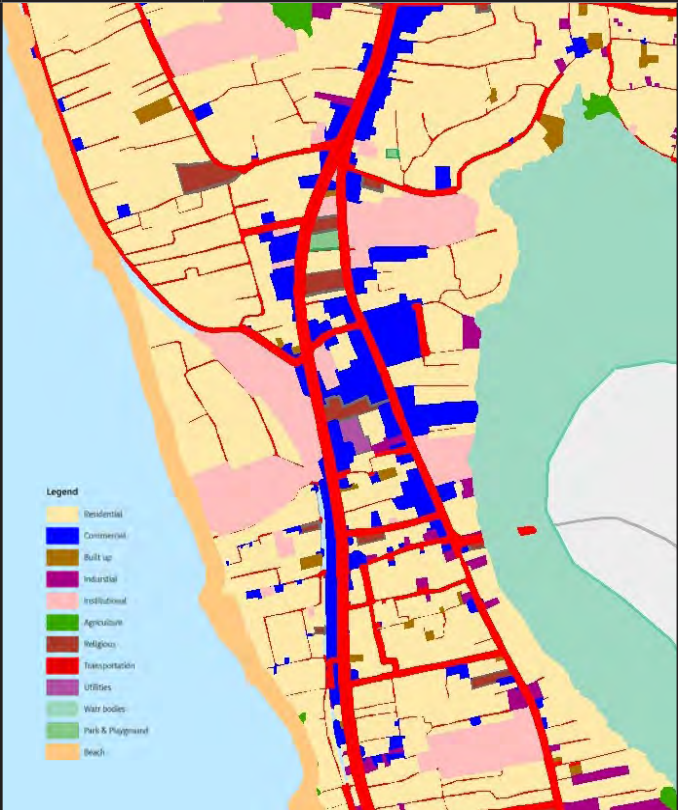
Project Justification					
Project Type	Conservation		Project's Nature	New	√
	Landscape			Expansion	
	Heritage			Land Development only	√
	Relocation		Project's Target	Economic	√
	Housing			Social	
	Road Development			Environmental	
	Other	√		Physical	√

Project Justification	
Project's Target	<ul style="list-style-type: none"> i. Provide efficient public transport service. ii. Minimize vehicular traffic congestion iii. Making use of the prime lands in the town to their maximum potential possible. iv. Commercial development with mix developments.
Basis of the Project	<p>The proposed site falls within the town centre high-density mix development zone, therefore the site needs to be developed in order to achieve a higher density of development making use of the full potential of the site. Development will provide a fully facilitated transport terminal integrated with all the modes of transport services enhancing the convenience of the public. Proposed high-density development of the site will also provide a better example for the other developments that will take place in the future to follow.</p>

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	–
	State Owned	√		Date	–
	Other			Land extent	–

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone		
		MMC	Zoning Compatibility	Yes	√
	Road Development Authority Sri Lank Railway Dpt.		No		
Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> • UDA • MMC • RDA • Dpt. of Railway 		

Table 6.23 : Open Air Theatre and Mix Development Project
 Source : Urban Development Authority, 2018

Project Identification				
Project Title	EcPo4- Open Air Theatre and Mix Development Project			
Project	Open Air Theatre and Mix Development			
Project Proposal	The proposed site has a historically significant building, possessing an archeological value. Currently it is being occupied by the Police Station of Moratuwa for its Office and the Official Quarters. Taking in to consideration the location of the property in an environmentally picturesque position, it has been proposed for development of a complex of entertainment preserving the historical value of the buildings.			
Location	Province	Western Province	Boundaries	North
	District	Colombo		East
	Bounds of Locality	MMC		South
	Administrative Unit	Municipal Council		West
Access	New Galle Road			
				
<i>Location Map</i>		<i>Land Use Plan</i>		

Project Justification					
Project Type	Conservation		Project's Nature	New	√
	Landscape			Expansion	
	Heritage			Land Development only	√
	Relocation		Project's Target	Economic	√
	Housing			Social	
	Road Development			Environmental	
	Other	√		Physical	

Project Justification	
Project's Target	i. Provide facilities for the migrating population of the town ii. Provide sufficient spaces for the public entertainment
Basis of the Project	This is a property of an archeological value facing the Bolgoda River possessing a picturesque sight which should be opened up for the public for entertainment facilities.

Details of Project Site					
Current Land Title	UDA		Survey Plan	No	-
	State Owned	√		Date	-
	Other			Land extent	-

Project Implementation					
Method of Project Implementation	Implementing Agency	UDA	Land Use Zone		
		MMC	Zoning Compatibility	Yes	√
	Road Development Authority	No			
Funding Method	Treasury Funds	Approving Agencies	<ul style="list-style-type: none"> UDA MMC 		

6.6.2. Institutional Framework

Plan	Sector Plan and Implementation Plans	Sector Plan and Implementation Plans	Responsibilities of Coordinating Agencies
Transport Plan	TPO1- LRT service line via Piliyandala, Katubedda to Moratuwa	Road Development Authority	Project Implementation
	TPO2- Modernization of Marine rail service	Dpt. of Railway	Project Implementation
	TPO3- Galle Road development Project.	Road Development Authority	Project Implementation
	TPO4- Borupona Road Development project	Road Development Authority	Project Implementation
	TPO5 Extension of marine Drive	Road Development Authority	Project Implementation
	TPO6 Bandaranyaka Road Development Project	Road Development Authority	Project Implementation
	TPO7 De Soysa Road Development project	Road Development Authority	Project Implementation
	TPO8- Proposed Multi Modal Transport Centre Development Project	Urban Development Authority Dpt. of Railway	Project Implementation
	TPO9- Pavement and Walkway network	Road Development Authority	Land acquisition/Project Implementation
	TP10- Railway Station Access Road Development	Urban Development Authority	Project Implementation
	TP11 Proposed Bolgoda Siri Road Development project	Urban Development Authority	Project Implementation
	TP12- Visual Access Corridor	Urban Development Authority	Project Implementation

Table 6.24 : Institutional Framework

Source : Urban Development Authority, 2018

Plan	Sector Plan and Implementation Plans	Sector Plan and Implementation Plans	Responsibilities of Coordinating Agencies
Urban Settlement Development Plan	SPO1- Thekkawatta, Mollwatta and Mahawatta housing development projects	Urban Development Authority	Project Implementation
	SPO2- Batterywatta and Dandeniyawatta Hosing Development Projects	Urban Development Authority	Project Implementation
	SPO3- Soysapura and Tsunamapura Housing Projects	Urban Development Authority	Project Implementation

Table 6.25 : Institutional Framework

Source : Urban Development Authority, 2018

<i>Plan</i>	<i>Sector Plan and Implementation Plans</i>	<i>Sector Plan and Implementation Plans</i>	<i>Responsibilities of Coordinating Agencies</i>
Sustainable Environment Strategic Plan	<i>En1- Green corridors along the roads</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>En2 Bolgoda water fronts landscaping project</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>En3 Beach landscaping project</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>En4 Lunawa landscaping project</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>En5 Visual access corridors</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>En6 Katubedda Wetland Park</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>En7 Maduru Doowa Open Park</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>

Table 6.26 : Institutional Framework
Source : Urban Development Authority, 2018

<i>Plan</i>	<i>Sector Plan and Implementation Plans</i>	<i>Sector Plan and Implementation Plans</i>	<i>Responsibilities of Coordinating Agencies</i>
Economic Development Plan	<i>Ec1- Public markets Development Projects</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>Ec2- Weerapuranappu Park Mix Development Project</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>Ec3- Multi Modal Transport Centre cum Mix Development Project</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>Ec4- Open Air Theatre and Mix Development Project</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>
	<i>Ec5- New Office Complex Development Project</i>	<i>Urban Development Authority</i>	<i>Project Implementation</i>

Table 6.27 : Institutional Framework
Source : Urban Development Authority, 2018

Abbreviations

km	-	Kilo Meter
UDA	-	Urban Deveopment Authority
C.S.D	-	Commercial Sector Development
SWO T	-	Strength, Weakness, Opprtunity, Treat
TP	-	Transport Plan
LRT	-	Light Rail Transsist
RW	-	Road widning
RI	-	Road Improvement
MMC	-	Multi ModalCentre
NR	-	New Road
P1	-	Priority One
P2	-	Priority Two
P3	-	Priority Three
P4	-	Priority Four
WFD	-	Water Front Development
LSP	-	Land Scape Project
PORS	-	Public Open Recreational Space

List of Maps

Map No. 2.1.	Land Use Pattern of the Moratuwa Town	13
Map No. 2.2.	Housing Density in the MMC Area -2011	19
Map No. 2.3.	Locations of Furniture Industrial Establishments -2017	23
Map No. 2.4.	Population Density in the Moratuwa MC Area 2001	28
Map No. 2.5.	Population Density in the Moratuwa MC Area-2011	29
Map No. 2.6.	Distribution of Urban Parks in MMC	34
Map No. 2.7	Planning Boundaries of the Moratuwa Municipal Council Area.	43
Map No. 5.1.	Moratuwa Environmental Sensitivity Analysis -2018	74
Map No. 5.2.	Spatial Integration Analysis-2018	87
Map No. 6.1.	Proposed Land Use Plan -2030	98
Map No. 6.2.	Distribution of Infrastructure Services - 2019	100
Map No. 6.3.	Areas Serviced by the Health Facilities- 2019	101
Map No. 6.4.	Distribution of Educational Institutes -2019	103
Map No. 6.5.	Urban Settlement Development Plan-2030	106
Map No. 6.6.	Distribution of Public Service Establishments	108
Map No. 6.7.	Volume of Trips Originated within the MMC Area.	111
Map No. 6.8.	Transport Plan of Moratuwa - 2030	112
Map No. 6.9.	Pavement and Bicycle Track Network Proposed for the Moratuwa Town- 2030	118
Map No. 6.10.	Total Water Demand of MMC area- 2030	123
Map No. 6.11.	Estimated Waste water and Sewer Generation in the MMC Area-2030.	129
Map No. 6.12.	Solid Waste Generation in the MMC area. 2030	131
Map No. 6.13.	Economic Development Strategic Plan - 2030	133
Map No. 6.14.	Sustainable Environmental Development Plan 2019-2030	138
Map No. 6.15.	Proposed Boulevard Roads	142
Map No. 6.16.	Proposed Visual Access Corridors	145

List of Figures

Figure 1.1.	Planning Process	05
Figure 2.1.	Geographical Location of the Moratuwa Municipal Council	09
Figure 2.2.	The Moratuwa Town in the History	10
Figure 2.3.	Moratuwa Land Use Profile	12
Figure 2.4.	Moratuwa Town and Provincial Linkages	14
Figure 2.5.	Classification of Housing Units in the Moratuwa MC area by Type	17
Figure 2.6.	Furniture Industry in Moratuwa	24
Figure 2.7.	Fisheries Harbour at Modara	25
Figure 2.8.	Trade Stalls near Modara Fisheries Harbour	25
Figure 2.9.	Commercial Activities of the Moratuwa Town	26
Figure 2.10.	Tourism Industry in Moratuwa	26
Figure 2.11.	Wetlands in the District of Colombo and Moratuwa MC Area	36
Figure 2.12.	Hydrological System in Moratuwa	37

Figure 2.13.	Greater Colombo Urban Area Structure Plan-1998	38
Figure 2.14.	Western Province Megapolis Plan – 2030	39
Figure 2.15.	National Physical Structure Plan – 2030	40
Figure 2.16.	Proposed Spatial Structure Plan – 2050	41
Figure 3.1.	Bolgoda River	47
Figure 3.2.	Angulana Beach	48
Figure 3.3.	Lunawa Lagoon	48
Figure 3.4.	The Land Owned by the Department of Railway	49
Figure 3.5.	Archeologically Significant Building Premises Occupied by the Police Station.	50
Figure 3.6.	The Industries, Warehouses and Stores in the Northern Boundary Areas.	50
Figure 3.7.	The Unauthorized Constructions in the Coastal Reservations and the Railway Reservations.	51
Figure 4.1.	Potential Sectors to Reach Vision	61
Figure 5.1.	Bolgoda Lake's catchment area	70
Figure 5.2.	Unauthorized Reclamation of Lands Surrounding Area of the Maduru Doowa (Island)	73
Figure 5.3.	Unauthorized Reclamation of Wetland at Katubedda	75
Figure 5.4.	Unauthorized Constructions in Railway Reservations and the Coastal Reservations in the Koralawella Area.	75
Figure 5.5.	Spatial Distribution of Industrial Establishments Coming Under the Pollution Level Categories of A, B, and C	76
Figure 5.6.	Bolgoda Environmental Protected Area	78
Figure 5.7.	Sri Lanka Tourism Zones	81
Figure 5.8.	Main Access Corridors to the City of Colombo	86
Figure 5.9.	Moratuwa Railway Stations	88
Figure 5.10.	Proposed Multi-Modal Centre Plan	90
Figure 6.1.	Moratuwa Concept Plan	95
Figure 6.2.	Cross Section of the proposed Urban Form	97
Figure 6.3.	Classification of Trips by Purpose	110
Figure 6.4.	Linkages Between Moratuwa MC and the Urban Centres in the Region	113
Figure 6.5.	P1 - Galle Road Cross Section	115
Figure 6.6.	P1 - Borupana Road Cross Section	115
Figure 6.7.	P2 - Cross Section of the Marine Drive	116
Figure 6.8.	P2 - Cross Section of the Bandaranayaka Road	116
Figure 6.9.	P2 - Cross Section of the De Soyza Road	117
Figure 6.10.	Cross Section of P2 Roads	119
Figure 6.11.	Cross Section of P3 Roads.	119
Figure 6.12.	Cross Section of Visual Access Corridors	120
Figure 6.13.	Power Consumption-2017	125
Figure 6.14.	Power Connection Units-2017	125
Figure 6.15.	Moratuwa Town Centre Development as the First Priority Node	135
Figure 6.16.	Wetland Parks	146

List of Tables

Table No. 2.1.	Number of Housing Units in the MMC – 1981 - 2012	16
Table No. 2.2.	Comparison of Housing Density	18
Table No. 2.3.	Geographical Spread of the Diseases in the MMC area	31
Table No. 2.4.	School Categorization of Moratuwa Municipal Council	31
Table No. 2.5.	Complains Reported on Crimes and Drugs During the Period from 2013 to 2017	32
Table No. 2.6.	Types of Urban Parks in MMC	33
Table No. 3.1.	Problem Identification	46
Table No. 5.1.	Distribution of Natural Water Bodies and Composition of their Extents as a Percentage of the Total Land Area of the MMC	69
Table No. 5.2.	Living Species and Vegetation Verities in the Area around the Bolgoda Lake Area.	71
Table No. 5.3.	20 Species of Mangroves that can Grow in Bolgoda Lake and the Lunawa Lagoon Area.	72
Table No. 5.4.	Results of the Bolgoda Lake Water Sample Study.	76
Table No. 5.5.	Accommodation Capacity of Tourism Zones and the Number of Tourists Stay	82
Table No. 6.1.	Road Development Priority List under the Moratuwa Development Plan 2019-2030.	121
Table No. 6.2.	Estimated Water Demand -2030	124
Table No. 6.3.	Estimated Waste Water Generation - 2030	127
Table No. 6.4.	Estimated Solid Waste Generation- 2030	130
Table No. 6.5.	Reservations of Canals	140
Table No. 6.6.	Proposed Visual Access Corridors	146
Table No. 6.7.	Proposed Light Rail Project	149
Table No. 6.8.	Modernization of Coastal Rail Track	151
Table No. 6.9.	Galle Road Development Project	153
Table No. 6.10.	Borupana Road Development Project	155
Table No. 6.11.	Katubedda Road Development Project	157
Table No. 6.12.	De Soyza Road Development project	159
Table No. 6.13.	Proposed Multi Modal Transport Centre Project	161
Table No. 6.14.	Bolgoda-Siri Road Development Project	163
Table No. 6.15.	Landscaping the Road Reservations	165
Table No. 6.16.	Bolgoda Water Font Area Landscaping Project	167
Table No. 6.17.	Beach Landscaping Project	169
Table No. 6.18.	Lunawa Landscaping Project	171
Table No. 6.19.	Katubedda Wetland Park Project	173
Table No. 6.20.	Public Market Development project	175
Table No. 6.21.	Weerapuramappu Park Mix Development Project	177
Table No. 6.22.	Multi Modal Transport Terminal Complex Project	179
Table No. 6.23.	Open Air Theatre and Mix Development Project	181
Table No. 6.24.	Institutional Framework	183
Table No. 6.25.	Institutional Framework	183
Table No. 6.26.	Institutional Framework	184
Table No. 6.27.	Institutional Framework	184

List of Annexures

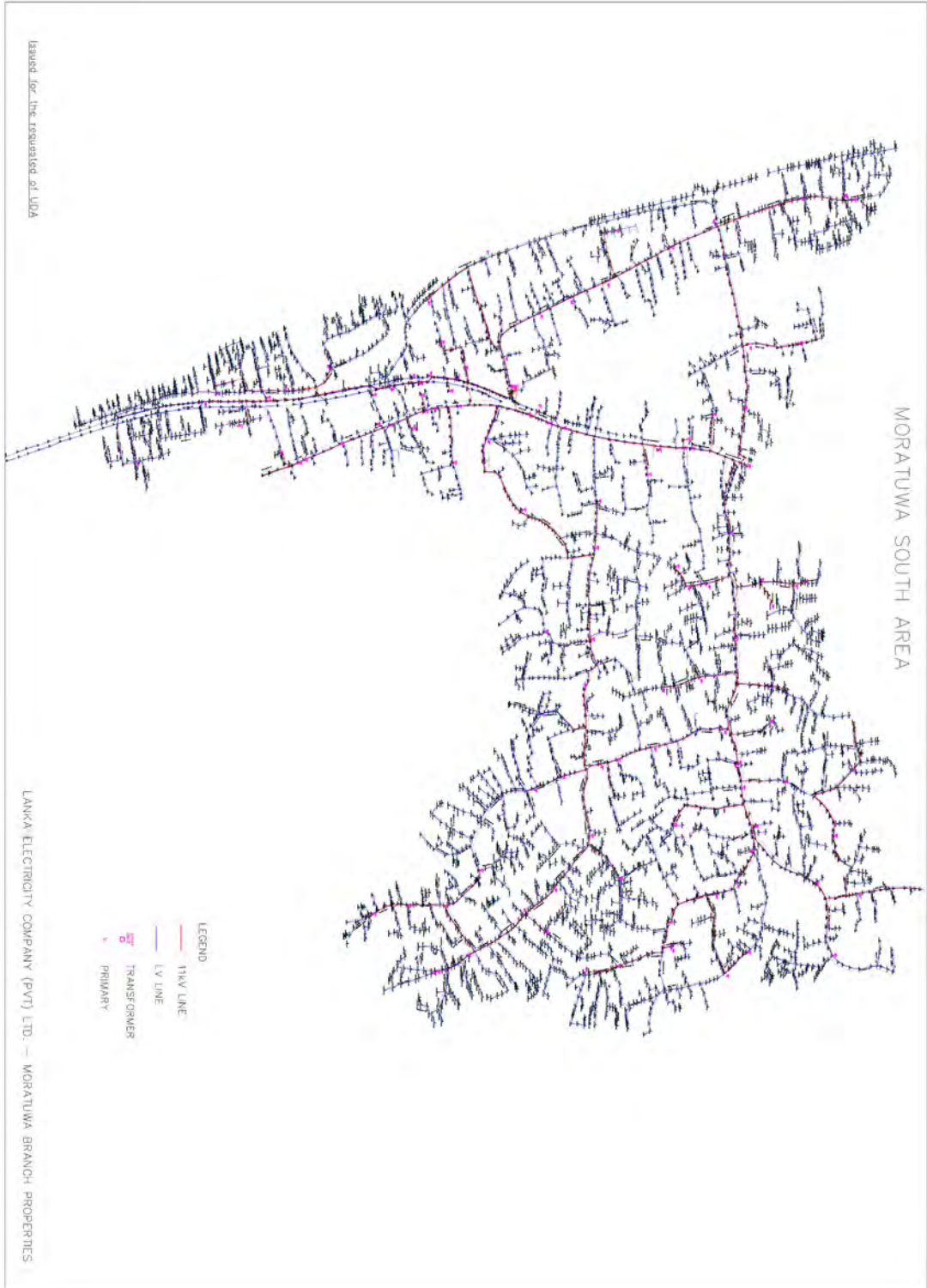
Annexure 01	The Electricity Supply Connections Provided in the Moratuwa Municipal Council Area	192
Annexure 02	Environmental Sensitivity Analysis	194
Annexure 03	Conclusions of the Bolgoda Lake water test report	195
Annexure 04	Rise of Sea Water- 66 Paper and 73 Paper	196
Annexure 05	Density of Trips Made by Train	198
Annexure 06	Density of Trips Made by Buses	199
Annexure 07	Density of Trips Made by Private Motor Vehicles	200
Annexure 08	Wind Velocity Analysis and Planning of Urban Wind Corridors	201
Annexure 09	Visibility Analysis	203



Annexures

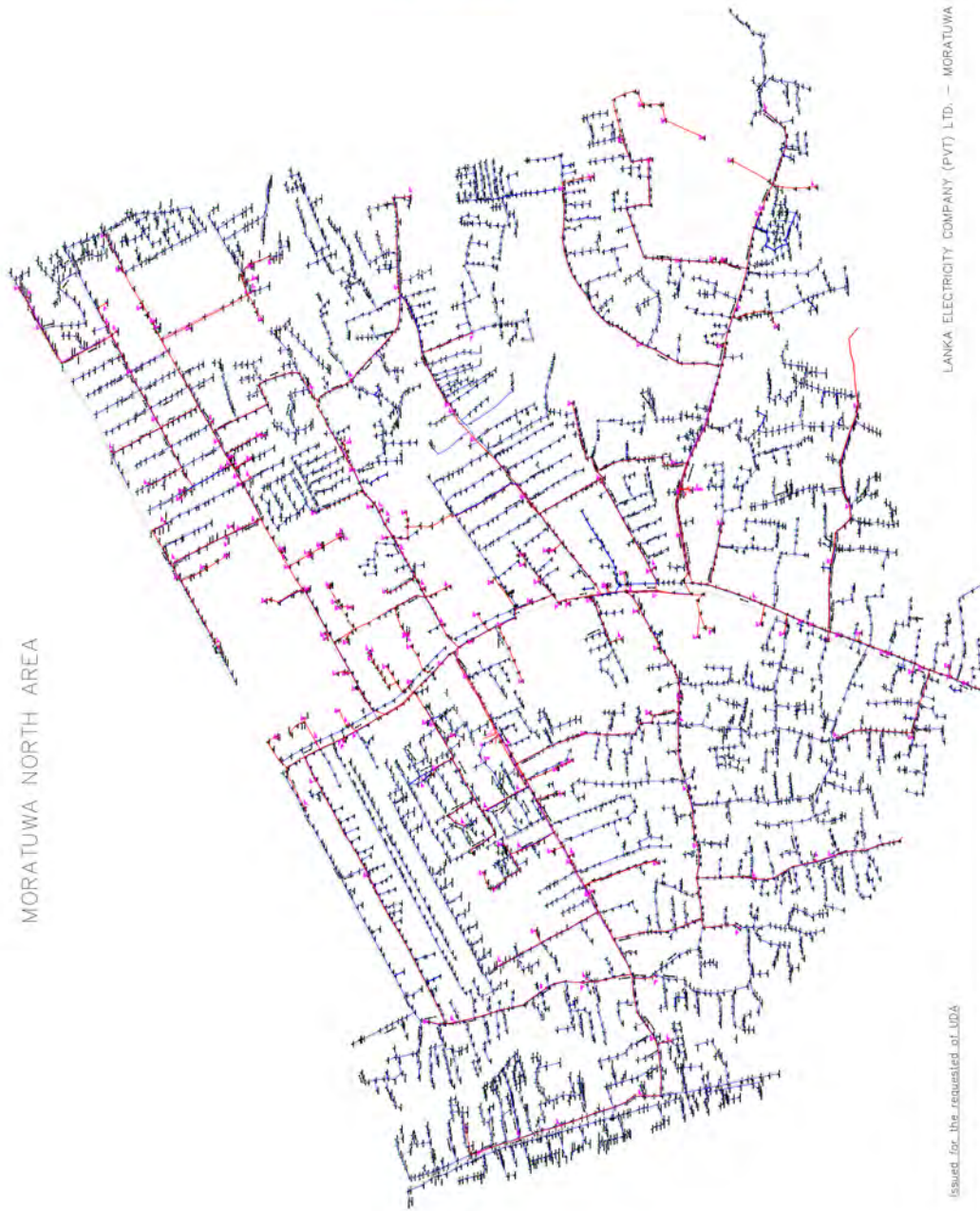


Annexure 01 : The Electricity Supply Connections Provided in the Moratuwa Municipal Council Area



Moratuwa South Electricity Supply- 2017

MORATUWA NORTH AREA



Issued for the requested of UDA

LANKA ELECTRICITY COMPANY (PVT) LTD. - MORATUWA BRANCH PROPERTIES

Moratuwa North Electricity Supply- 2017

Annexure 02 : Environmental Sensitivity Analysis

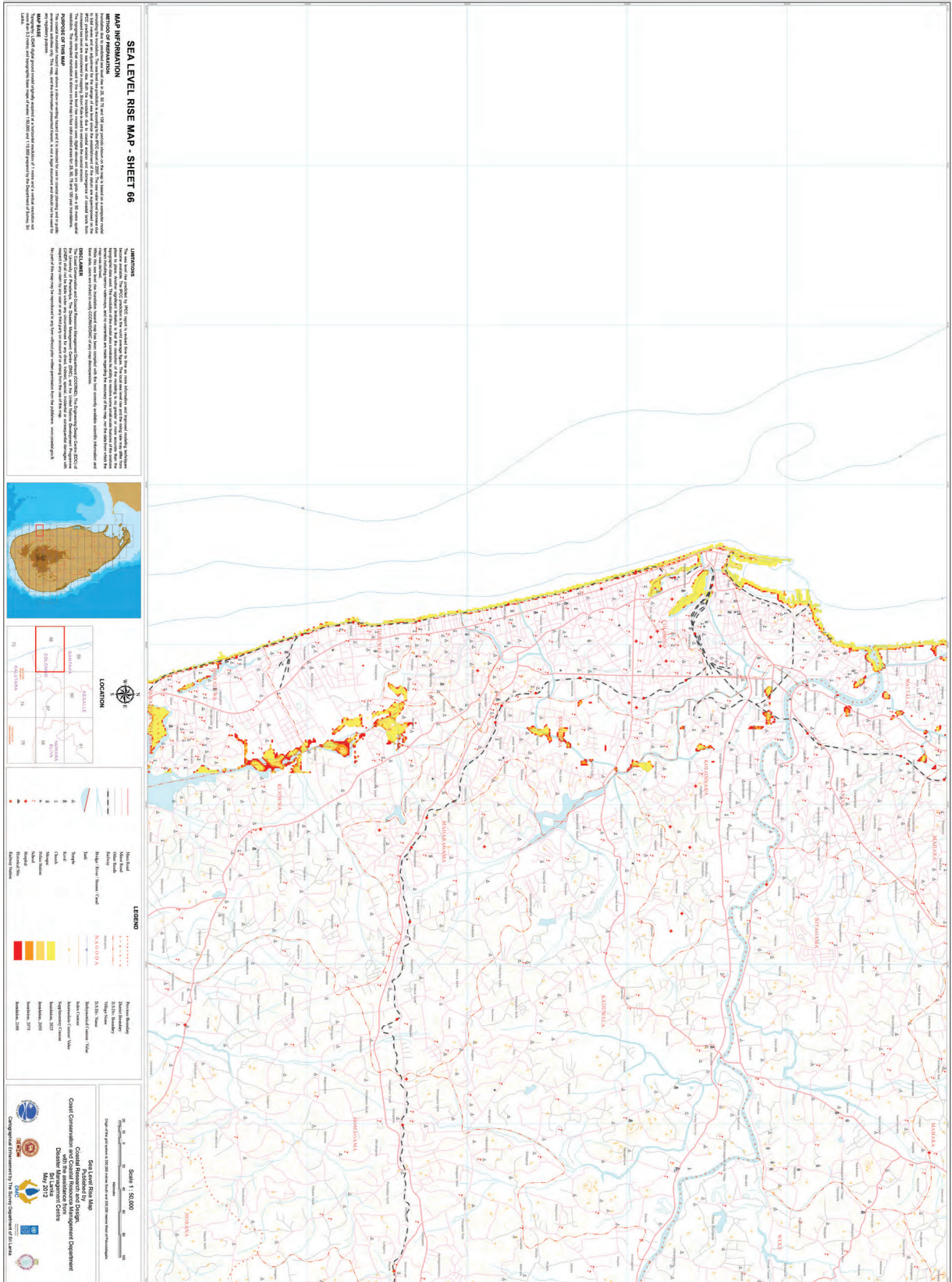
The environmental Sensitivity analysis focuses attention on protection and conservation of areas, such as special habitats, special species and soil varieties that could be impacted by the development implemented in the urban area. Accordingly, such potential areas have been identified and zoned for development of use which are compatible uses which are compatible with environmental sensitive characters and enhances them sustainably in the long run. Under the Moratuwa Development Plan the criteria of environmental sensitivity has been considered as the water bodies, vegetation and the geographical contours of the MMC area.

<i>Criteria Index</i>	<i>Weighting Percentage</i>	<i>Related Characters</i>	<i>Value or Value Range</i>	<i>Score</i>
Water bodies	60%	Rivers/Canals/Lakes	-	5
		Water Retention areas (wetlands and marshy lands)	-	4
		Flood plains	-	5
Vegetation	30%	Paddy Fields	-	5
		Plantation areas (Tea, Coconut and Rubber)	-	4
		Home Gardens	-	2
Slopes	10%	-	0.000- 0.168	1
		-	0.168-0.485	2
		-	0.485- 0.849	3
		-	0.849 - 1.287	4
		-	1.287 - 2.379	5

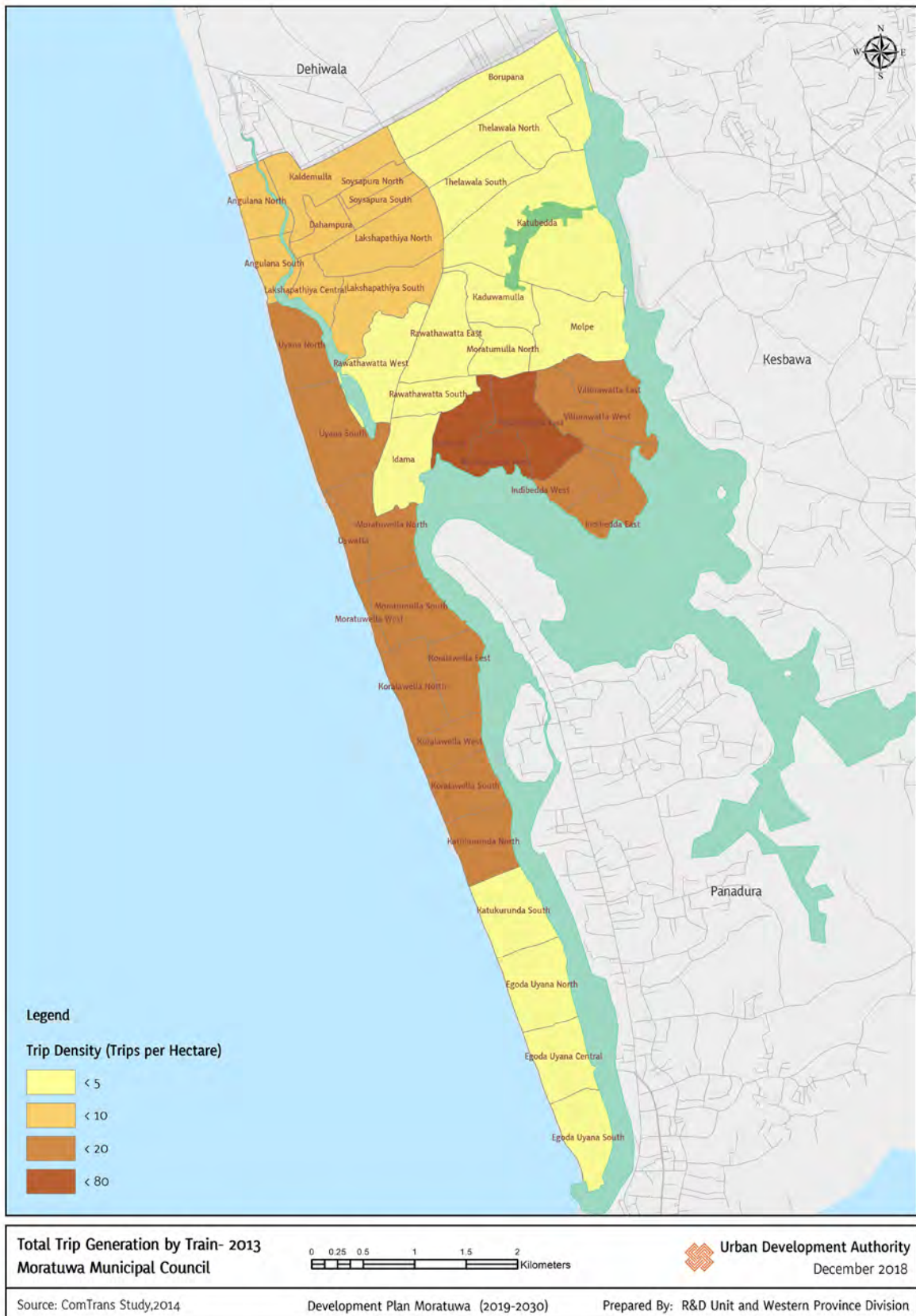
Annexure 03 : Conclusions of the Bolgoda Lake water test report

- I. The index that represents the demand for oxygen, can be explained as the demand made by the microbe for the oxygen to decompose the carbon waste in the water. Accordingly, in the light of this explanation high demand for oxygen, as depicted in the Table above implies that the carbon concentration in the waters is considerably high.
- II. Oxidize non-carbonic materials such as ammonia and nitrate in the water and to decompose the carbonic materials in the water need oxygen. It is represented in the oxygen demand index. The water samples fetched from the Bolgoda Lake indicates that the oxygen demand value per litre ranges from 100 mg to 600 mg, when it is compared with the acceptable standard for drinking water of 10 mg per litre, it is deviated at a high value which implies that the Bolgoda Lake's water is not suitable for drinking purposes at all. Further it implies that the quality of the Bolgoda waters' impact the vegetation surrounding it and the living species in it adversely.
- III. When the oxygen produced by the water based vegetation diminishes the living species in the vegetation habitats shift to take the oxygen from the water. In the Bolgoda Lake, liquid oxygen presence is higher than the minimum acceptable amount of 3 mg per Liter can be considered as adequate amount.
- IV. The non-carbonic particles, which are not dissolved in the water are considered as peat and mud and the matters such as algae, bacteria, sewer and waste water are considered as the carbonic. The salt, non-carbonic and the toxic matters are considered as liquidized dense carbonic matters. Accordingly, if the total amount of dense matters in the water is higher higher is the ability to cause the eutrophication of the water. The water sample of the Bolgoda Lake indicates that the solid waste content in the lake is higher than the acceptable value range of 25mg to 250 mg per liter. This is one of the reasons to consider the eutrophication of waters in the Bolgoda Lake is high.

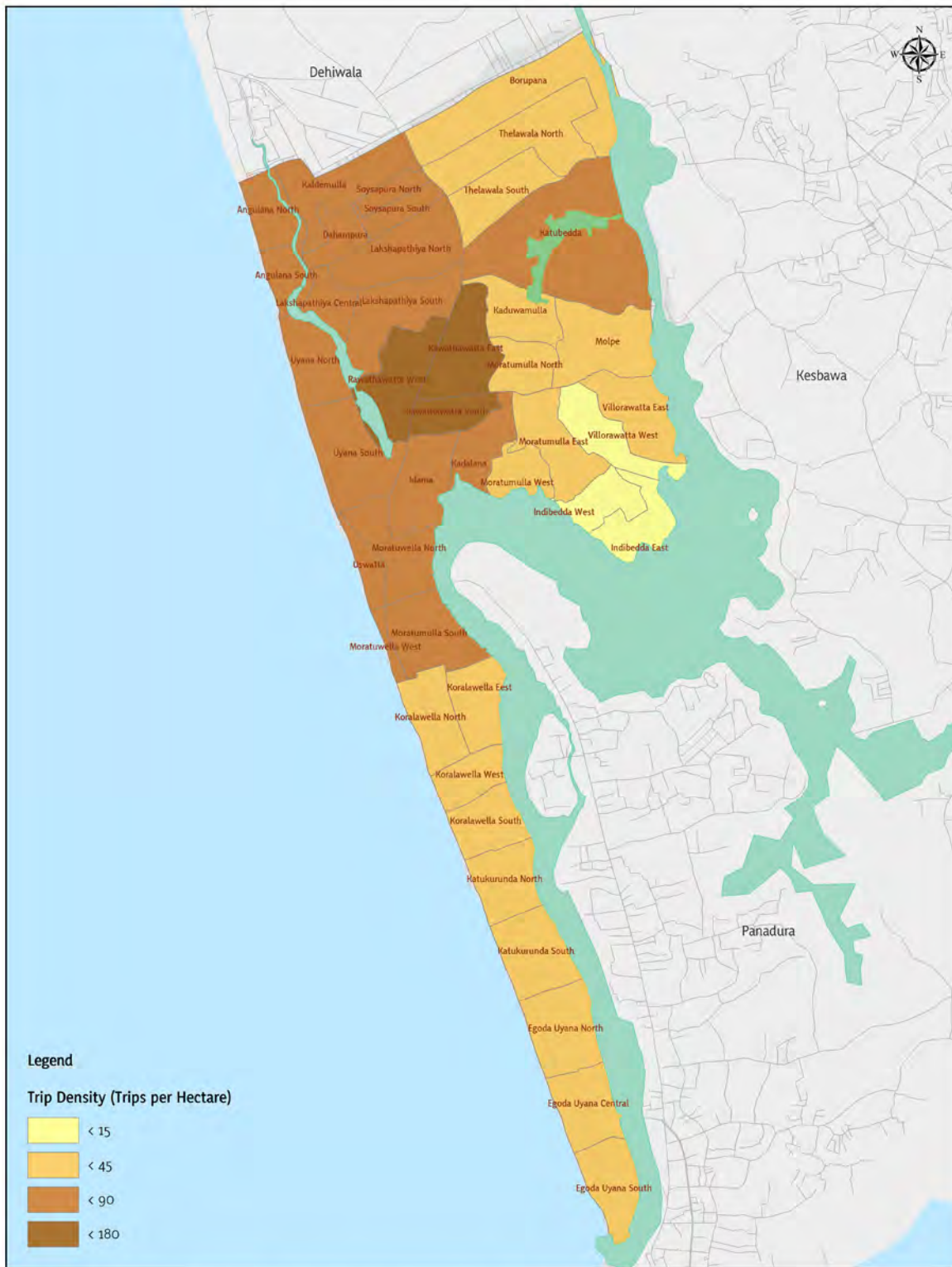
Annexure 04 : Rise of Sea Water- 66 Paper and 73 Paper



Annexure 05 : Density of Trips Made by Train



Annexure 06 : Density of Trips Made by Buses



Total Trip Generation by Bus- 2013
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2
Kilometers

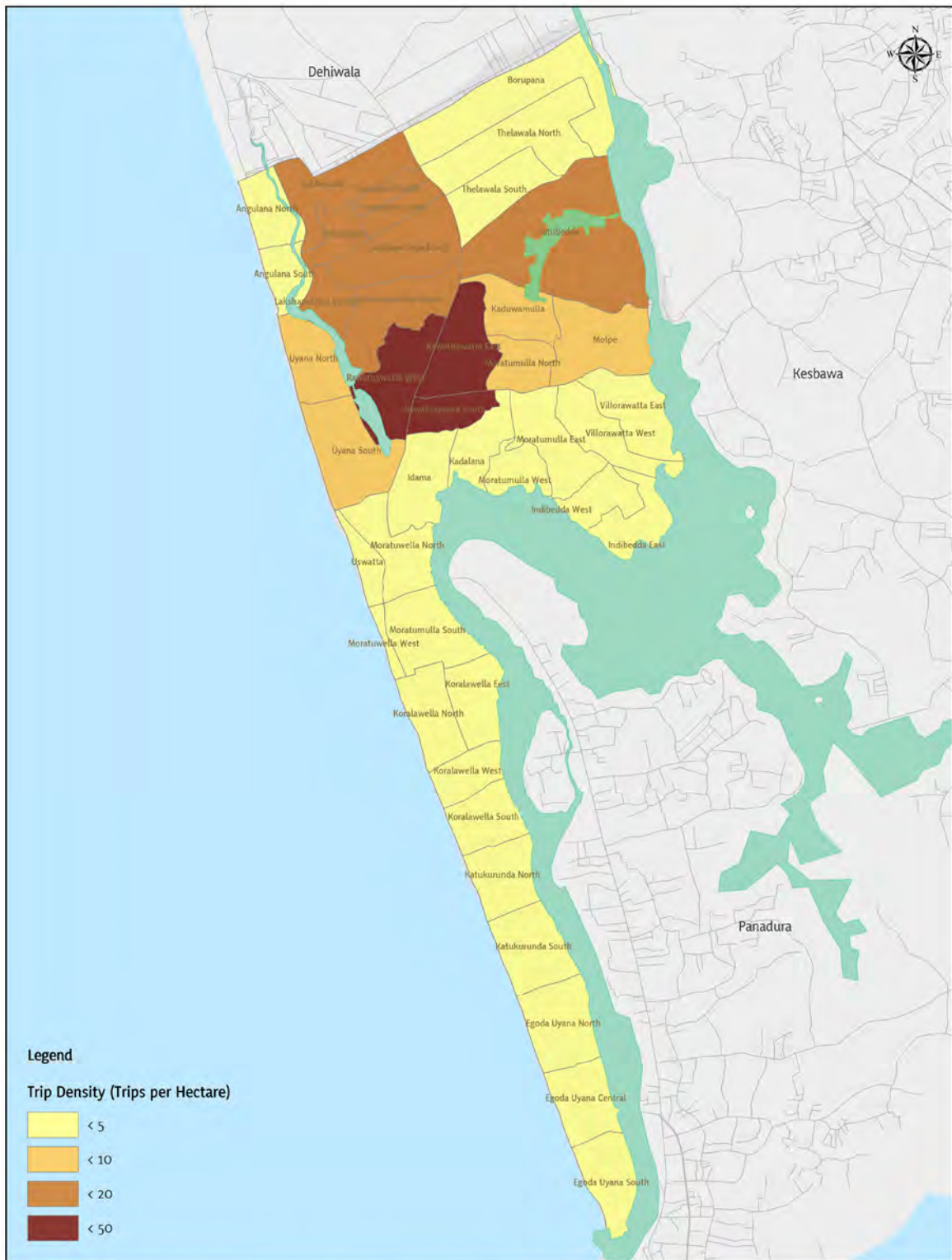
 Urban Development Authority
December 2018

Source: ComTrans Study, 2014

Development Plan Moratuwa (2019-2030)

Prepared By: R&D Unit and Western Province Division

Annexure 07 : Density of Trips Made by Private Motor Vehicles



Total Trip Generation by Motor Vehicles- 2013
Moratuwa Municipal Council

0 0.25 0.5 1 1.5 2 Kilometers

Urban Development Authority
 December 2018

Source: ComTrans Study,2014 Development Plan Moratuwa (2019-2030) Prepared By: R&D Unit and Western Province Division

Annexure 08 : Wind Velocity Analysis and Planning of Urban Wind Corridors

The steps followed are appended below.

1. Study of wind pattern of the urban area
2. Identification of natural air ducts that links water bodies with the air channels.
3. Identification and establishment of artificial air ducts through linking themselves with the existing road network of the area.

Following the above mentioned steps, a artificial air duct network has been planned out for the MMC area.

1st Order Air Circulation Corridor : The 1st order air circulation corridors were planned with a view of ensuring the air circulation through the air corridors without any obstruction covering the entire Moratuwa Planning area. These corridors will be laid down parallel to each other and they have been designated as 1st order air circulation corridors.

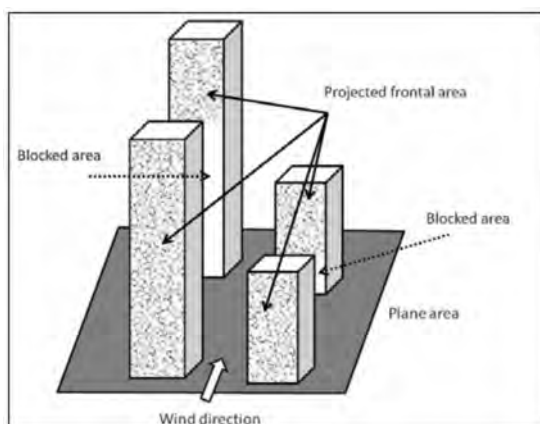
2nd Order Air Circulation Corridor : In order to establish an orderly network of 2nd order air circulation corridor, another network of air circulation corridor, in integrated with the 1st order air circulation corridor was planned out.

3rd Order Air Circulation Corridor : In order to ensure an efficient micro air circulation system in the MMC area a third order air circulation corridor is necessary to function in integration with the other two corridor networks.

The network so planned is required to test its functionality with the help of the Frontal Area Index (FAI) and then testing it through a Urban Ventilation Simulation. The FAI means the ratio of area of the facade of buildings standing on the relevant plain facing the air corridor to the area of the planned spatial plane. It is represented in the following formula.

$$\lambda_f = A_{\text{facets}} / A_{\text{plane}}$$

The planning area under consideration will be represented in a grid map, each grid measuring 100 m X 100 M computation.



FAI > 1.0 means the air circulate in the selected plane is completely obstructed by the buildings standing therein.

FAI > 0.5 means the air circulate in the selected plane is obstructed by 50% by the buildings standing therein.

The parameters used to standardize the air circulation in an urban area is appended below.

1. Land use pattern
2. Normalized Difference Vegetation Index (NDVI) analysis
3. Building Density
4. Height of buildings.

Standardization of urban air circulation has been undertaken based on the functional relationship between the identified parameteres and the FAI. The values given for this computation are apprned below.

The FAI values computed for each indices mentioned above and with relevance to such indices Friction Values were attached as follows to the FAI values as follows. Having analyzed that, the least cost path was identified

<i>Parameter</i>	<i>Correlation Regional Level</i>	<i>Correlation Pixel Level</i>
NDVI	-0.674	-0.449
BD(Building Density)	0.603	0.522
BH(Building Height)	0.527	0.383
<i>Parameter</i>	<i>Description</i>	<i>Average FAI with 8 directions</i>
Land use type	Residential	0.254
	Commercial, business, institutions & offices	0.305
	Industrial	0.239
	transportation	0.15
	Vacant development land	0.191

Annexure 09 : Visibility Analysis

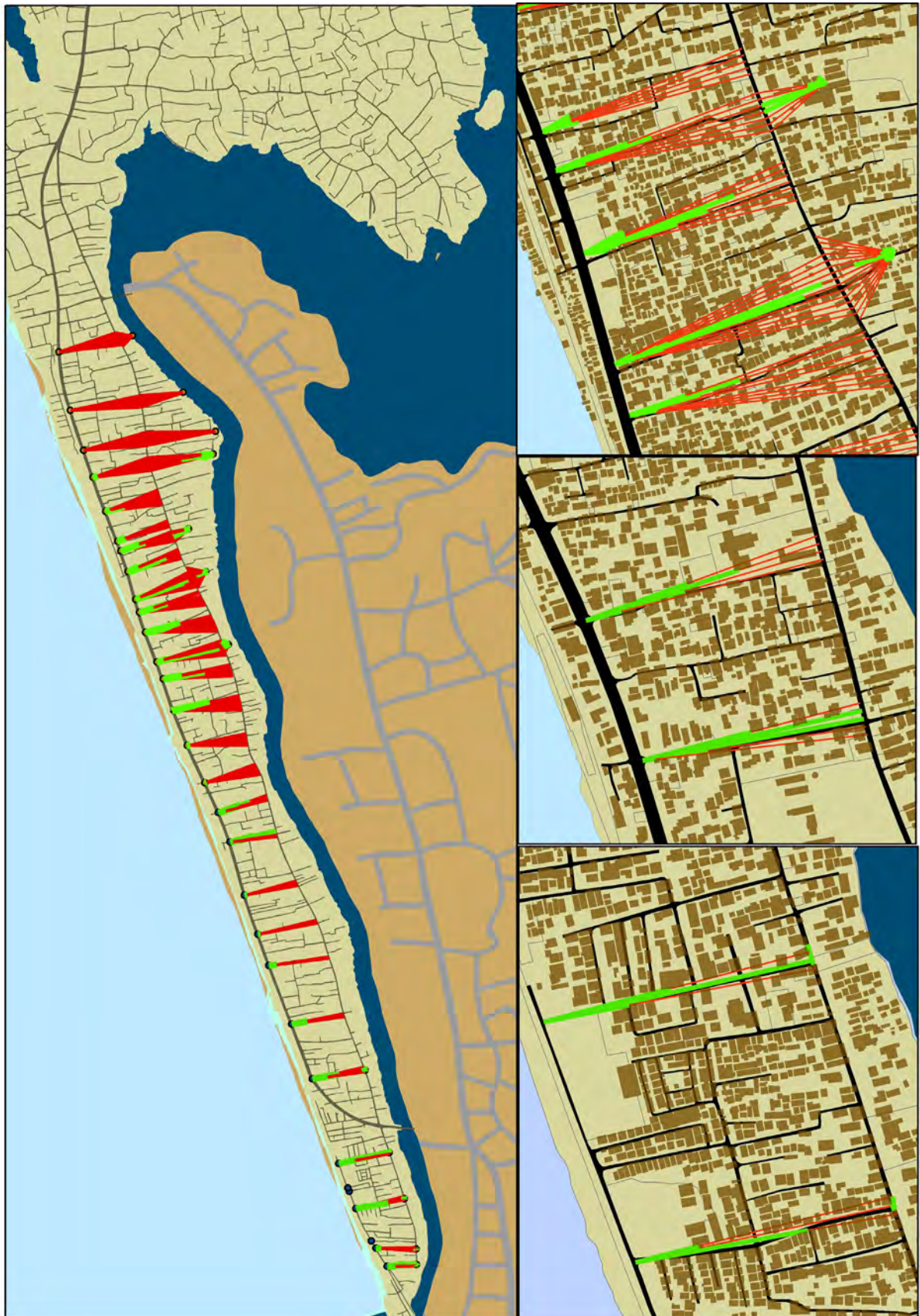
Expected Result

Identification of most appropriate location in the mix residential Zone from Korawalwella to Egodaunya, from which establish a visual corridor to view the Bolgoda River and the Beach simultaneously through analysis of potential corridors.

Steps Followed

- Study of current road network and the building distribution.
- Identification of alternative locations along the Galle road from which the visibility corridors could be established to view the Golgoda River and the Beach simultaneously and then study of their suitability through site inspections.
- The visibility analysis was undertaken considering the locations so identified as visibility locations and the Bolgoda River and the Beach as the target locations. Further elevation and the three dimensional appearance of the buildings were also applied in this study.
- The Map no1 has been prepared following the methodology explained so far.
- The green lines depicted in the said Map are defined as the visual lines while the red lines are identified as the non-visual lines.
- Finally, the most optimal location that does not cause any harmful effect or cause minimum effect to the existing physical fabric of the urban area, was identified after the field inspections.

Visibility Analysis



Visual Accessibility Corridor



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