04

Utility Management Strategy

4.1. Introduction

4.1.1. Aims and Objectives

Utility Management Strategy serves almost all objectives with special concern on the objectives given under Goal 03 which states a place that prospers with smooth and efficient urban syestems and smart urban facilities.

4.1.2. The Approach

The Infrastructure in the Sri Lanka's Capital City area will have to be developed both in direct intervention of the State Sector Infrastructure Development Agencies and through Public-Private Partnerships. Hence the Capital City Development Plan shall be refered as a guiding framework for such interventions.

The objective of the plan is to provide means of meeting the requirements of facilities and amenities for the improvement of quality of life of the expected residential and commuter population in the earmarked planning area along with an improved quality of physical environment. This section provides the strategies proposed for:

- *Utilities Management Strategic Intervention*
  - *Electricity Supply*
  - *Water Supply*
  - *Solid Waste Management*
  - *Waste Water Treatment and Disposal System*
- *Provision of Adequate Social Infrastructure*
  - *Education Institutions*
  - *Health Institutions*

The expected population in the area earmarked for the Capital City development within the envisaged period of the plan is 1,546,000. The following strategies have been formulated with this figure in mind.

The overall developments in the area shall elevate Kotte-Sri Jayewardenepura and its surrounding areas into a state-of-the art smart city that provides its inhabitants with efficient, affordable and comfortable living, working and entertainment facilities.

4.2. Scope of the Strategy

3.1. The planning framework covered by Utility Management Strategy includes:

a. *Tentative demands for different types of physical and social infrastructure, estimated based on the projected residential and commuter populations, urban activities and services proposed under any section of this plan, and for specific geographic units within the planning area in different time durations.*

b. *Specific projects identified to address such demands within the limits of the Urban Development Authority and the other relevant agencies.*

c. *Locations earmarked and the geographic entities to be served by such infrastructure developments projects.*

d. *The order of priorities, timelines and proposed process of implementation processes of such projects.*

3.2. The strategy addresses general requirements and does not intend to address infrastructure development needs of individual entities, firms or sectors.

3.3. The strategy has taken the foreseeable conditions in the socio-economic environment, the advancement of technologies and the projected socio-demographic conditions, based on the available information. Any unexpected and unprecedented events or conditions shall be addressed with timely interventions.

3.4. All strategic projects, proposed in this section of the plan are expected to serve the planning area within the time durations specified in chapter 1 of the development plan. situations beyond these durations will have to be dealt with timely updating of the development plan.

4.3. Strategic Intervention of the Utility Management Strategy

4.3.1. Strategic Intervention – Electricity Supply

4.3.1.1. The Current Situation

The purpose of electricity supply plan is to provide 100% electricity supply to the Capital City area. When considering existing situation of electricity supply is considered, both Ceylon Electricity board and Lanka Electricity Company (Pvt) Ltd are the responsible authorities to provide Electricity for capital city area. Hence it is necessary to identify the existing electricity supply of Ceylon Electricity board and Lanka Electricity Company (Pvt) Ltd. Ceylon

Electricity Board provide electricity for Kaduwela Municipal Council, Part of the Maharagama Urban Council and part of the Kotikawatta Pradeshiya Sabha area. Lanka Electricity Company (Pvt) Ltd provide electricity for Kotte Municipal Council and, part of the Maharagama Urban Council and a part of the Kotikawatta Pradeshiya Sabha Area.

Following table indicates installed capacity (in kVA) and current load (in kVA) of the CEB in Capital City Planning Area during the day & night peak.

Area	Capacity (kVA)	kVA		%kVA	
		Day	Night	Day	Night
Malabe	66680	8894	13303	13.33	19.95
Thalangama	86930	7948	9398	9.14	10.81
Weliwita	59510	7560	8185	12.7	13.75

Table 4.1: Capacity Installation And Current Load Of The CEB
Source: Ceylon Electricity Board 2018

Following table indicates the existing capacity of the electricity of Lanka Electricity Company (Pvt) Ltd.

Substation	Capacity
Kolonnawa	2x10MVA
Ethul Kotte	2x10MVA
Nugegoda	2x10MVA
Udahamulla	2x10MVA
Boralesgamuwa	2x5MVA
Maharagama	2x10MVA
Nawala	2x10MVA
Kotikawaththa	2x5MVA
Peliyagoda-Sedawaththa Feeder	2x10MVA

Table 4.2: EXISTING ELECTRICITY CAPACITY OF LECO FOR PLANNING AREA
Source: Lanka Electricity Company (Pvt)Ltd 2018

According to proposed population (15,460,000), number of housing units will be 396,410 based on the assumption of average family members of housing unit as 3.9. According to CEB 120kwh is required per a housing unit per month and based on that The Capital City Planning Area required about 47,569.2MWh per month to fulfill the domestic electricity need.

Similarly, electricity requirement of area is calculated based on the agreement between Ceylon Electricity Board and Tech City Team

Type	Power supply unit(kWh/m2) per hour
Sites for Science & Technology facilities	35
Sites for commercial facilities	35
Sites for public facilities	10
Sites for education facilities	20
Sites for industrial facilities	35

Table 4.3: Electricity Requirement Calculation For Different Land Uses
Source: Master Plan for Science & technology based New Town of Colombo, Sri Lanka

4.3.1.2. The Projected situations in 2030 and 2050

The expected electricity demand is as below

Type	Area (sq.km)
Sites for commercial facilities	39257306.94
Sites for public facilities	7661723.261
Sites for industrial facilities	6992974.042
Sites for other spaces	5678445.034

Table 4.4: Predicted Electricity Demand For SiteS
Source: Western Province Division and Research & Development Division, UDA 2018

The standard electricity demand is predicted based on the proposed land uses over the total planning area. Hence, any electricity supply improvement project would directly or indirectly contribute to the electricity supply of Capital City are incorporated into the Capital City Development Plan.

4.3.2. Strategic Intervention – Water Supply

4.3.2.1. The Current Situation

The purpose of water supply strategic intervention is to provide 100% water supply to the Capital City Area. Hence, it is necessary to identify the existing water supply, future water demand and plans of National Water Supply and Drainage Board (NWSDB) of Sri Lanka. The NWSDB projections are based on the demand of local authorities and the proposed Capital City projections are based on the proposed zones of the concept. According to the data provided by NWSDB, the existing water provision is as follow for the relevant areas.

Figure 4.1: Water Provision in Colombo District

Source: Western Province Division and Research & Development Division, UDA 2018

Water Demand for the year 2011

Local Authority	Existing (2011) (m3/d)			
	Domestic Consumptions	Non Domestic Consumptions	Special Consumptions	Total Average Day Consumptions
Sri Jayewardene-pura Kotte MC	20690	1925	0	33754
Kaduwela MC	23466	2616	2269	41694
Maharagama UC	23440	3035	2421	42496
Kotikawatta-Mulleriyawa PS	15218	1348	2201	27598
Total Water Supply	**82814**	**8924**	**6891**	**145542**

Table 4.5: Water Demand For Year 2011
Source: National Water Supply and Drainage Board- 2018

As it is a difficult task to understand the precise present condition based on 2011 data, 2015 demand projection of NSWDB has been used to project the current demand (2018) of the Capital City considering a total population 774,082 of the area in 2018.

Water Demand for the year 2015 (Prepared by NWSDB)

Local Authority	Population of 2015	Domestic Consumptions (m3/d)	Non Domestic Consumptions (m3/d)	Special Consumptions (m3/d)	Total Average Day Consumptions (m3/d)	Total Maximum Day Demand(m3/d)
Sri Jayewardene-pura Kotte MC	111048	19410	3162	1457	34326	37759
Kaduwela MC	264630	38420	4288	4168	66709	73381
Maharagama UC	208416	30658	3914	2421	52848	58132
Kotikawatta-Mulleriyawa PS	137913	18608	1644	2201	32076	35284
Total Water Supply Area based on Local Authorities	**722,007**	**107,096**	**13,008**	**10,247**	**185,959**	**204,556**

Table 4.6: Water Demand Of Nwsdb For The Year 2015
Source: National Water Supply and Drainage Board- 2018

Water Demand for the year 2018 (Prepared by the UDA)

	Population of 2018	Domestic Consumptions	Non Domestic Consumptions	Special Consumptions	Total Average day Consumptions	Total Maximum Day Demand
Total Area based on Concept of Capital City	**774,082**	**114,820**	**13,946**	**10,986**	**19,9371**	**219,310**

Table 4.7: Water Demand For The Year 2018
Source: Western Province Division and Research & Development Division, UDA 2018

Chapter 04
UTILITY MANAGEMENT STRATEGY

Strategic Intervention of the Utility Management Strategy

Strategic Intervention – Water Supply

4.3.2.2. The Projected situations in 2030 and 2050

Water Demand for the year 2030 (Prepared by NWSDB)

Local Authority	Population of 2030	2030 Projection (m3/d)					
		Domestic Demand	Non Domestic Demand	Special Demand	Total Demand of the Area	Total Average Day Demand	Total Maximum Day Demand
Sri Jayewardene-pura Kotte MC	130724	25622	4171	1672	31465	37910	41702
Kaduwela MC	330358	56818	6419	5059	68296	82176	90396
Maharagama UC	260181	45998	5745	2783	54526	65690	72261
Kotikawatta-Mulleriyawa PS	172677	26248	2317	2525	31090	37457	41203
Total Water Supply	**893940**	**154686**	**18652**	**12039**	**185,377**	**223233**	**245562**

Table 4.8: Water Demand Of Nwsdb For The Year 2030
Source: National Water Supply and Drainage Board- 2018

NWSDB has projected their water demand for a population of 893,940 for the year 2030. However, the Urban Development Authority has projected a population of 1,545,934 in the proposed Capital City Plan area. Further, it is projected that existing non-domestic space will increase by 45% by the next 10 years. (Refer the Service Plan) Based on the said criteria, the UDA has projected the water demand-2030 for the Capital City area as below,

	Population of 2018	Domestic Consumptions (m3/d)	Non Domestic Consumptions (m3/d)	Total Demand per Day (m3/d)
Total Area	**1,545,934**	**267,506**	**37,648**	**305,154**

Table 4.9: Capital City Water Demand For 2030
Source: Western Province Division and Research & Development Division, UDA 2018

According to the water supply projection of UDA, it is required to provide a quantity of 118281m^3 water for the area than the projections of NWSDB.

Projects of NWSDB for the year 2030

Existing Scheme	Future Scheme	Water Treatment Facilities	Estimated Existing Water Treatment Facility Supplied in 2011 (m3/day)	Clean Water to be Provided (m3/day)				
				2012	2015	2020	2025	2030
Kotte	Kotte	Ambathale	39768	47734	53239	36011	38007	34729
		Weliwita	0	0	0	16502	17649	24257
Battramulla	Battaramulla	Ambatale	22119	31182	37149	0	0	0
		Weliwita	0	0	0	37472	40309	43351
Kaduwela	Kaduwela	Labugama	14392	20563	22300	23246	28461	25766
		Chico	0	0	3655	4053	856	916
		Weliwita	0	0	0	0	0	4791
Maharagama	Maharagama	Kalatuwawa	4019	4567	5190	0	0	0
		Ambathale	19834	24245	26272	0	0	-
		Weliwita	0	0	0	38474	41379	44476
Kolonnawa	Kolonnawa	Labugama	1258	1522	8283	0	0	0
		Kalatuwawa	2095	2840	0	0	0	0
		Ambatale	39203	48714	49332	58160	62793	67757
		Weliwita	0	0	0	0	0	0
Total			**142688**	**181367**	**205420**	**213918**	**229454**	**246043**

Table 4.10: Projects Of Nwsdb For The Year 2030
Source: National Water Supply and Drainage Board- 2018

According to the projects of NWSDB for the Capital City Area, it is proposed to supply a quantity of 246043m³/day. However, the new prediction of UDA requires a quantity of 57000m³/day than the NWSDB projections.

4.3.3. Strategic Intervetion – Solid Waste Management

4.3.3.1. The Current Situation

Solid waste management is a considerable issue in Sri Lanka. Whereas, Colombo District accounts for the highest weight of solid waste in the country. Hence, it is essential to pay attention on managing solid waste generation through planned development for the Capital City.

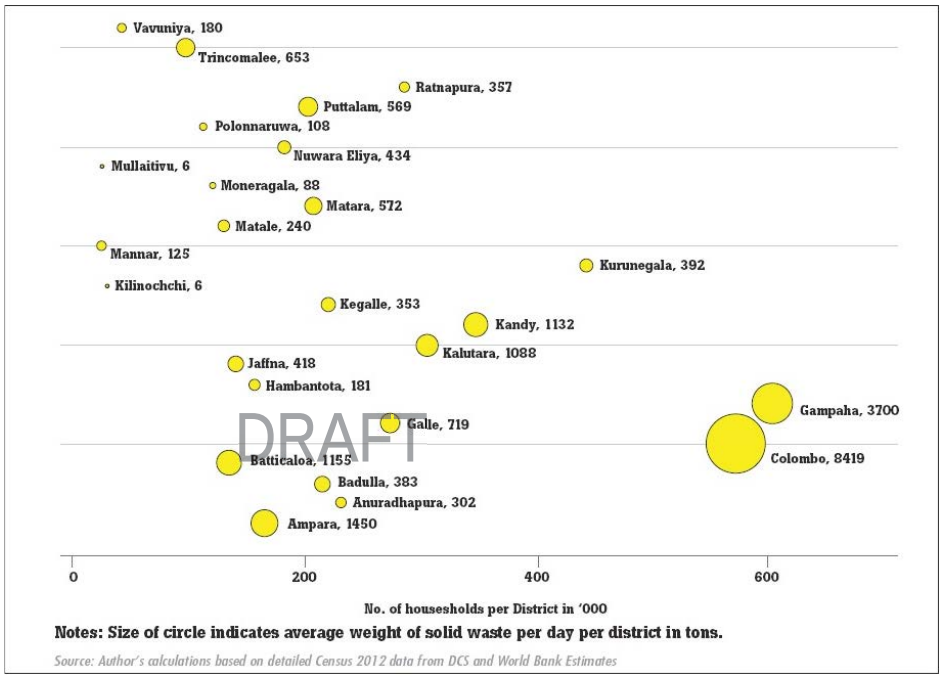


Figure 4.2: Solid Waste Generation In Colombo District
Source: www.pressreader.com/sri-lanka/daily-mirror-sri-lanka

The current methods of disposing solid waste within the DSDs of the Proposed Capital City are as below,

- *Kaduwela DSD - above 50 % solid waste managed by the local authority*
- *Maharagama DSD- above 60% solid waste managed by the local authority*
- *Kolonnawa (Kottikawatta) DSD- above 80% solid waste managed by the local authority*
- *Sri Jayawardanepura DSD- above 98% solid waste managed by the local authority*

Accordingly, it is required to address solid waste methods and disposing capacities and initiate projects to manage solid waste in the present and future as well.

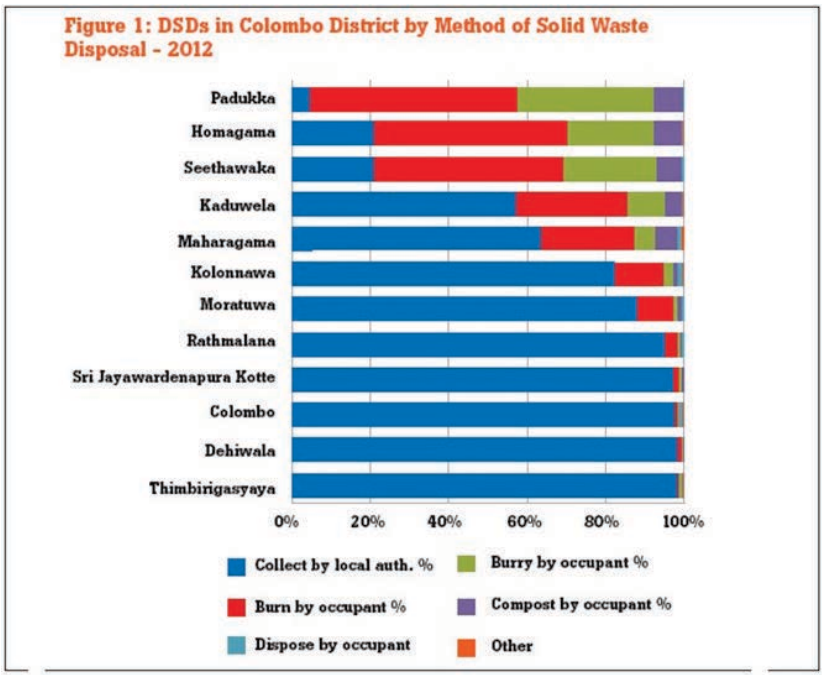


Figure 4.3: Dsds In Colombo District By Method Of Solid Waste Disposal -2012
Source: www.pressreader.com/sri-lanka/daily-mirror-sri-lanka

Current Capacity and Methods of Solid Waste Management

Local Authority	Current Solid Waste Dumping Place	Capacity
Sri Jayawardenapura Kotte MC	Karadiyana Open Dumping Site	25 Acres of Land area Dispose 500 MT per day
Maharagama UC		
Kotikawatta PS	Open dumping site	40 MT per day
Kaduwela MC	Kaduwela Waste Energy Project	35 MT Per day

Table 4.11: Current Capacity And Methods Of Solid Waste Management
Source: Relevant Local Authority Data – 2018

Assumptions for the Solid Waste Generation

Area	Per Capita Solid Waste generation (Residential) (MT)
Municipal Council	0.7
Urban Council	0.4
Pradeshiya Saba	0.3

Table 4.12: Assumptions For The Solid Waste Generation Of The Local Authorities
Source: Solid Waste Management Authority- 2018

Present Solid Waste Generation Based on Residential Population

Local Authority	Residential Population of 2018	Waste Generation 2018(MT)
Kaduwela MC	277693	194
Maharagama UC	232093	93
Sri Jayawardanapura Kotte MC	98962	69
Kottikawatta PS	165266	50
Total Area	**774013**	**406**

Table 4.13: Present Solid Waste Generation based on Residential Population
Source: Western Province Division and Research & Development Division, UDA 2018

4.3.3.2. The Projected situations in 2030 and 2050:

Predicted Solid Waste Generation Based on Residential Population

Local Authority	Residential Population of 2030	Waste Generation of 2030
Kaduwela MC	414217	290
Maharagama UC	777780	311
Sri Jayawardanapura Kotte MC	107517	75
Kottikawatta PS	246420	74
Total Area	**1545934**	**750**

Table 4.14: Predicted Solid Wate Generation Based On Residential Population
Source: Western Province Division and Research & Development Division, UDA 2018

Solid Waste Generation Based on Floating Population

Assumption:

Per capita solid waste generation of floating population is 0.15kg per day (Source: www. Environment clearance.nic.)

	Floating Pop	Solid Waste Generation (MT)
Floating Population of Capital City 2018	167755	168
Floating Population of Capital City 2030	384292	384

Table 4.15: Solid Waste Generation Based On Floating Population
Source: Western Province Division and Research & Development Division, UDA 2018

The current capacity of solid waste managing sites is approximately 575MT and current waste generation of the area is approximately 574MT. The predicted solid waste generation of the proposed Capital City area is 1130MT. For that reason, it is required to initiate a solution to manage 555MT added solid waste in future.

Solid Waste Management Projects

Ministry of Megapolis has projected to dispose 3500MT of solid waste generated in Metro Colombo Area to an identified site in Aruwakkalu. It includes the waste of Sri Jayawardanepura Kotte Municipal Council and Kottikawatta Pradeshiya Saba Areas.

However, as a result, the need of a solution for the remaining two local authorities has risen. Considerably, 65% of residential solid waste has to be managed by the Kaduwela and Maharagma local authorities which rounds up to 400MT per day in the future. At present, Karadiyana site holds a capacity of 500MT and Kaduwela Waste Energy Project holds a capacity of 35MT per day.

Further, it is presumed the future floating population in the proposed Capital City would generate an approximate quantity of 400MT of solid waste daily. These predicted solid waste generations by floating population on local authority wise are assumed as 100MT and 200MT for Sri Jayewardenepura and Kotikawatta local authorities respectively. These solid wastes are expected to be managed by transferring to Aruwakkalu while, the remaining 200MT and 135MT can be managed by disposing to Karadiyana and Kaduwela Waste Energy Project. However, the additional solid waste of 65MT needs to be managed by maximizing the capacity of Karadiyana.

4.3.4. Strategic Intervetion – Waste Water Treatment and Disposal System

4.3.4.1. The Current Situation

It is generally believed that, wastewater is no longer suitable for use as it is full of contaminants including bacteria, chemicals and other toxins. Hence, it is vital to treat and reduce the contaminants to acceptable levels to make the water safe to discharge back into the environment. However, at present there is no proper waste water treatment and disposal system for the proposed Capital City Plan Area. As a result, it explicates the difficulty of maintaining the 'city character' deprived of proper waste water disposing network. Accordingly, the purpose of this section is formed a strategic intervention to manage the waste water generation of the area.

The existing wastewater generation of the area is indicated as below,

Existing Waste Water Generation of the Area

Wastewater Treatment and Disposal System (Kaduwela)	
Population in the year 2018	277693
Design population considering 80% coverages	
Water Consumption (m^3/day)	222154
Per Capita Waste Water generation	120l/d/person
Base wastewater flow (m^3/day)	26658
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	9330
Average dry weather flow (m^3/day)	35989
Infiltration 20% (m^3/day)	7198
Total average dry weather flow on total population m^3/day	43187
	45,000m3/day

Table 4.16: Waste Water Treatment And Disposal System In Kaduwela
Source: National Water Supply and Drainage Board- 2018

Wastewater Treatment and Disposal System (Maharagama)	
Population in the year 2018	232093.1842
Design population considering 80% coverages	
Water Consumption (m^3/day)	185674.5473
Per Capita Waste Water generation	120l/d/person
Base wastewater flow(m3/day)	22280.94568
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	7798
Average dry weather flow (m^3/day)	30079.27667
Infiltration 20% (m^3/day)	6015.855333
Total average dry weather flow on total population m^3/day	36,095
	36,000m3/day

Table 4.17: Wastewater Treatment and Disposal System (Maharagama)
Source: National Water Supply and Drainage Board- 2018

Wastewater Treatment and Disposal System (Sri Jayawardhanpura)	
Population in the year 2018	98961.71597
Design population considering 80% coverages	
Water Consumption (m^3/day)	79169.37277
Per Capita Waste Water generation	120l/d/person
Base wastewater flow(m3/day)	9500.324733
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	3325.113657
Average dry weather flow (m^3/day)	12825.43839
Infiltration 20% (m^3/day)	2565.087678
Total average dry weather flow on total population m^3/day	15,391
	15,000m3/day

Table 4.18: Wastewater Treatment And Disposal Syetem (Sri Jayawardenapura)
Source: National Water Supply and Drainage Board- 2018

Wastewater Treatment and Disposal System (Kotikawatta)	
Population in the year 2018	165265.885
Design population considering 80% coverages	
Water Consumption (m^3/day)	132212.708
Per Capita Waste Water generation	120l/d/person
Base wastewater flow(m3/day)	15865.52496
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	5552.933735
Average dry weather flow (m^3/day)	21418.45869
Infiltration 20% (m^3/day)	4283.691739
Total average dry weather flow on total population m^3/day	25,702
	25,000m3/day

Table 4.19: Wastewater Treatment And Disposal System (Kotikawaththa)
Source: National Water Supply and Drainage Board- 2018

4.3.4.2. The Projected situations in 2030 and 2050:

Projected Wastewater Generation of the Area by 2030

Wastewater Treatment and Disposal System (Kotikawatta)	
Population in the year 2018	165265.885
Design population considering 80% coverages	
Water Consumption (m^3/day)	132212.708
Per Capita Waste Water generation	120l/d/person
Base wastewater flow(m3/day)	15865.52496
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	5552.933735
Average dry weather flow (m^3/day)	21418.45869
Infiltration 20% (m^3/day)	4283.691739
Total average dry weather flow on total population m^3/day	25,702
	25,000m3/day

Table 4.20: Wastewater Treatment And Disposal System (Kaduwela)
Source: National Water Supply and Drainage Board- 2018

Wastewater Treatment and Disposal System (Maharagama)	
Population in the year 2030	777,780
Design population considering 80% coverage	
Water Consumption (m^3/day)	622,224
Per Capita Waste Water generation	120l/d/person
Base wastewater flow(m3/day)	74,667
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	26,133
Average dry weather flow (m^3/day)	100,800
Infiltration 20% (m^3/day)	20,160
Total average dry weather flow on total population m^3/day	120,960
	120,000m3/day

Table 4.21: Predicted Wastewater Treatment And Disposal System (Maharagama)
Source: National Water Supply and Drainage Board- 2018

Wastewater Treatment and Disposal System (Sri Jayawardhanpura)	
Population in the year 2030	107,517
Design population considering 80% coverages	
Water Consumption (m^3/day)	86,014
Per Capita Waste Water generation	120l/d/person
Base wastewater flow(m3/day)	10,322
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	3,613
Average dry weather flow (m^3/day)	13,934
Infiltration 20% (m^3/day)	2,787
Total average dry weather flow on total population m^3/day	16,721
	17,000m3/day

Table 4.22: Predicted Wastewater Treatment And Disposal System (Sri Jaywardhanapura)
Source: National Water Supply and Drainage Board- 2018

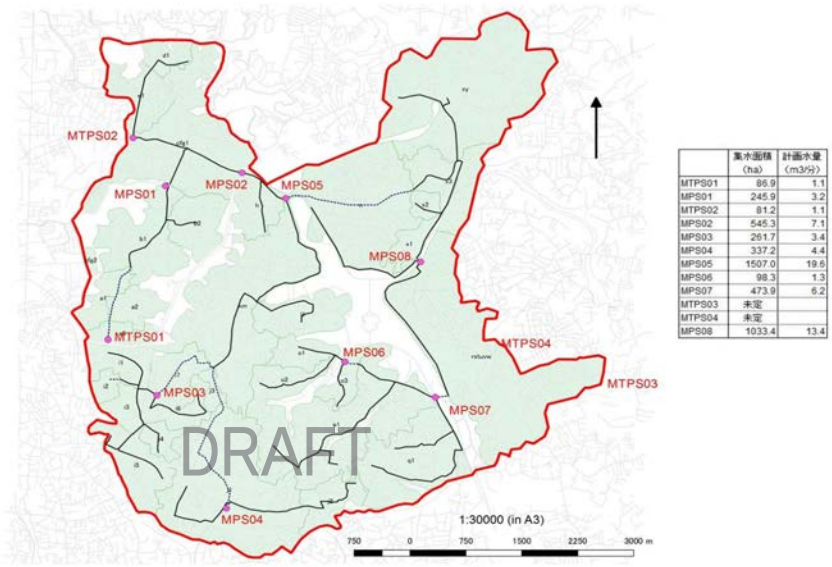
Wastewater Treatment and Disposal System (Kotikawatta)	
Population in the year 2030	246,420
Design population considering 80% coverage	
Water Consumption (m^3/day)	197,136
Per Capita Waste Water generation	120l/d/person
Base wastewater flow(m3/day)	23,656
Taking 35% of Base wastewater flow as wastewater generation from Commercial Institutions	8,280
Average dry weather flow (m^3/day)	31,936
Infiltration 20% (m^3/day)	6,387
Total average dry weather flow on total population m^3/day	38,323
	38,000m3/day

Table 4.23: Wastewater Treatment And Disposal System (Kotikawaththa)
Source: National Water Supply and Drainage Board- 2018

The above tables imply that the existing wastewater generation would be doubled by the year 2030 with the Capital City development. For that reason, it is crucial to address the issue of wastewater along with the plan implementation.

Identified Projects for Wastewater Treatment and Disposal

National Water Supply and Drainage Board has identified a wastewater treatment (SP- I- 1) and disposing project for Sri Jayawardanepura Kotte MC and surrounding areas including a part of Kaduwela MC, Dehiwala-Mt. Lavania MC, Maharagama UC and Kotikawatta-Mulleriyava PS with a total population of 218,800. Nevertheless, it covers only 21% of the total area. Hence, it is required to prepare a comprehensive wastewater treatment and disposal project for the whole area.



	集水面積 (ha)	計画水量 (m3/分)
MTPS01	86.9	1.1
MPS01	245.9	3.2
MTPS02	81.2	1.1
MPS02	545.3	7.1
MPS03	261.7	3.4
MPS04	337.2	4.4
MPS05	1507.0	19.6
MPS06	98.3	1.3
MPS07	473.9	6.2
MTPS03	未定	
MTPS04	未定	
MPS08	1033.4	13.4

Figure 4.4: Wastewater Treatment And Disposable Project ProposalS
Source: National Water Supply and Drainage Board- 2018

4.4. Provision of Adequate Social Infrastructure

Social infrastructure generally includes assets that accommodate social services. Types of social infrastructure include health care (hospitals), education (schools and universities), public facilities (community housing and prisons) and transportation (railways and roads). These structures serve as the backbone of the wellbeing of the society. 'The Capital City Development Plan' mainly considers the health and education sector of the planning area. Accordingly, Educational Sector Improvement Strategic Intervention and Health Sector Improvement Strategic Intervention are developed.

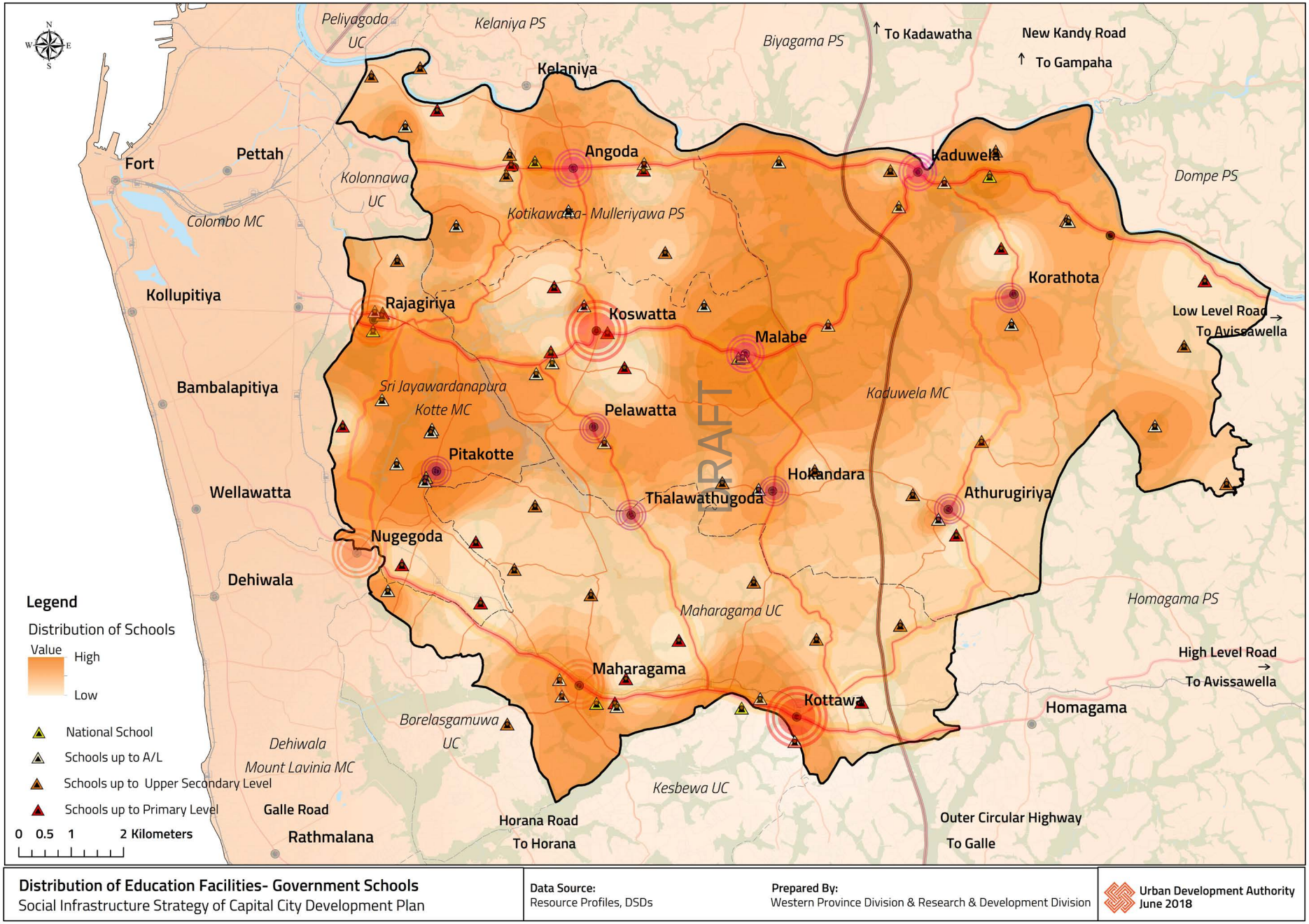
4.4.1. Strategic Intervetion – Educationl Institutions

4.4.1.1. Current Situation

The Capital City Development Plan area consists of 81 government schools where, 19 of them belong to national level school category.

Type	Number of Government Schools
National Schools	19
Up to A/L	23
Up to O/L	30
Primary Schools	9
Total	**81**

Table 4.24: No Of School Distribution Within The Capital City
Source: Ministry of Education - 2018



Map 4. 1: Distribution Of Education Facilities - Government Schools
Source: Western Province Division and Research & Development Division, UDA 2018

4.4.1.2. The Projected Situation in 2030 and 2050

A student population of 145,000 was recorded in 2012 with 85,267 students studying in government schools in the planning area. It is 59% of the total student population and the remaining 41% is assumed to attend private schools (international and other). This is based on following assumptions,

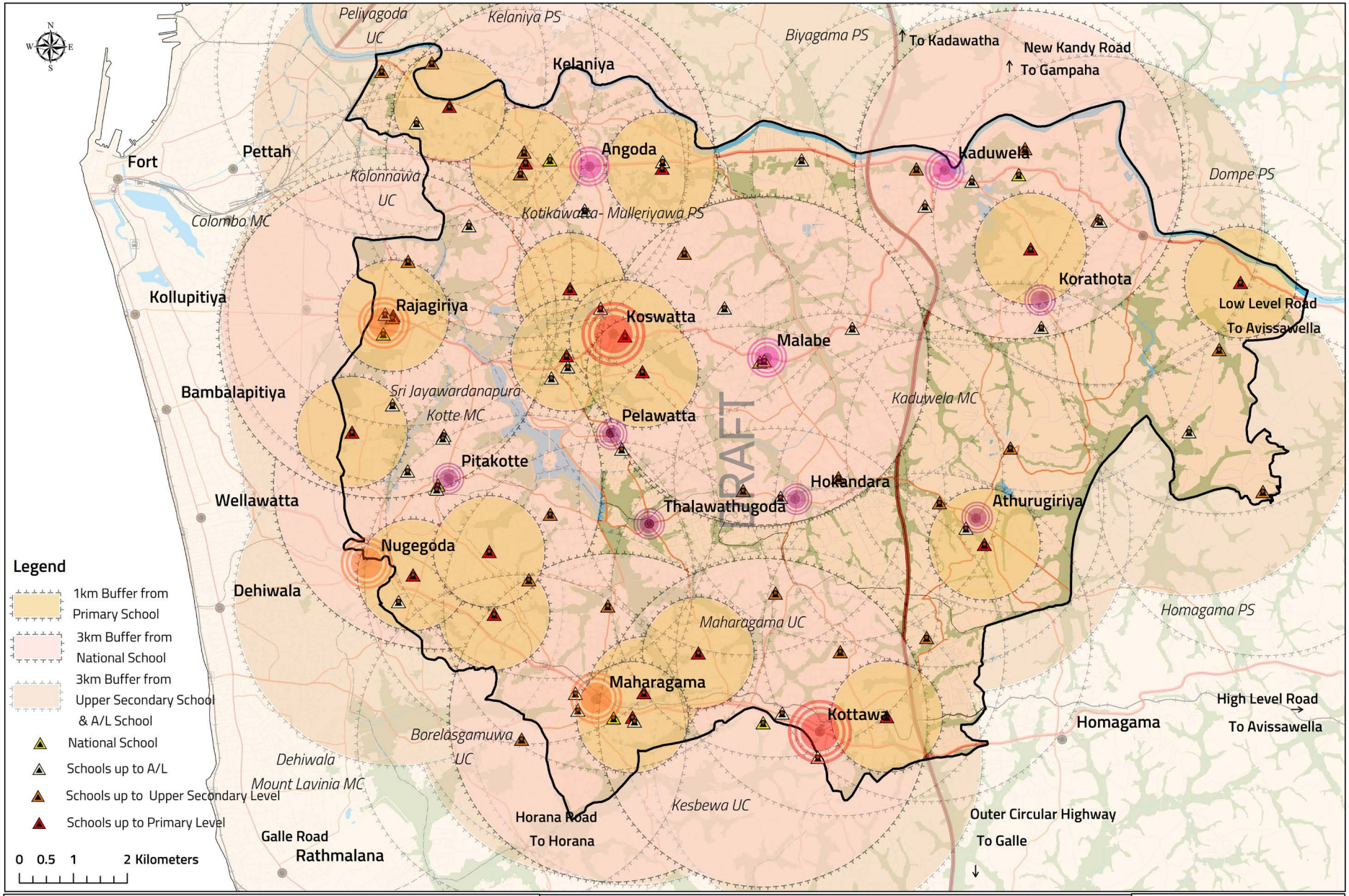
1. *The population which belongs to the age group of 5 to 19 years in the planning area attends schools which are located within the planning premises.*
2. *The total number of students of each school is identified as the maximum capacity of the given schools.*

The predicted student population for 2030 is 169,715. Hence, a government student population can be identified as 100,132 by applying the same percentages which was identified before.

Further, the growth of government school capacity is predicted as 17 % by the year 2030. In order to facilitate the said growth, suitable areas are identified based on the distribution of predicted student population, proposed road network and proposed concept plan.

The buffer zones are identified by using 3km for national schools and secondary schools and 1km buffer for primary schools. This indicates that there is an equal distribution of schools across the Capital City, Hence, the need of the plan is not to increase the number of schools but to enhance the facilities and capacity of the above.

According to the Suitability Analysis, Knowledge City Area and a part of the Peripheral Residential area are identified as the most suitable areas for educational facilities improvement in the planning area.



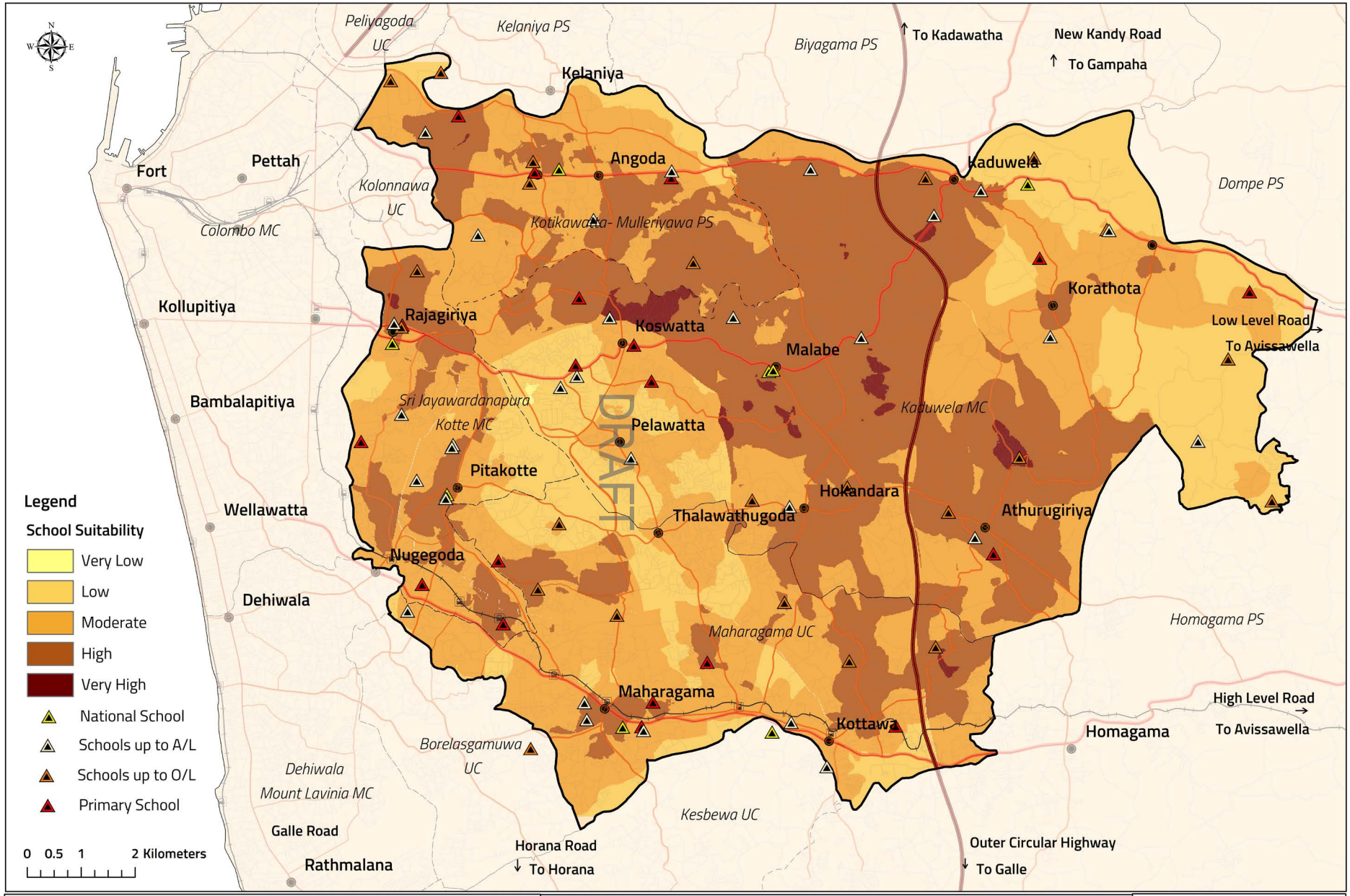
School Buffer
Social Infrastructure Strategy of Capital City Development Plan

Data Source:
Urban Development Authirity,2018

Prepared By:
Western Province Division & Research & Development Division

Urban Development Authority
June 2018

Map 4.2 Availability of SCHOOL INFRASTRUCTURE S in CAPITAL CITY PLAN
Source: Western Province Division and Research & Development Division, UDA 2018



Suitable Areas for Schools
Social Infrastructure Strategy of Capital City Development Plan

Data Source:
Urban Development Authority, 2018

Prepared By:
Western Province Division & Research & Development Division

Urban Development Authority
June 2018

Map 4.3 Suitability Analysis for Schools
Source: Western Province Division and Research & Development Division, UDA 2018

4.4.2. Strategic Intervetion – Health Institutions

4.4.2.1. The Current Situation

Currently, a number of 22 government and private hospitals are located within the planning area including 3 hospitals which belong to the Teaching Hospital Category (Sri Jayawardhanapura Hospital, National Institute of Mental Health and Apeksha Hospital).

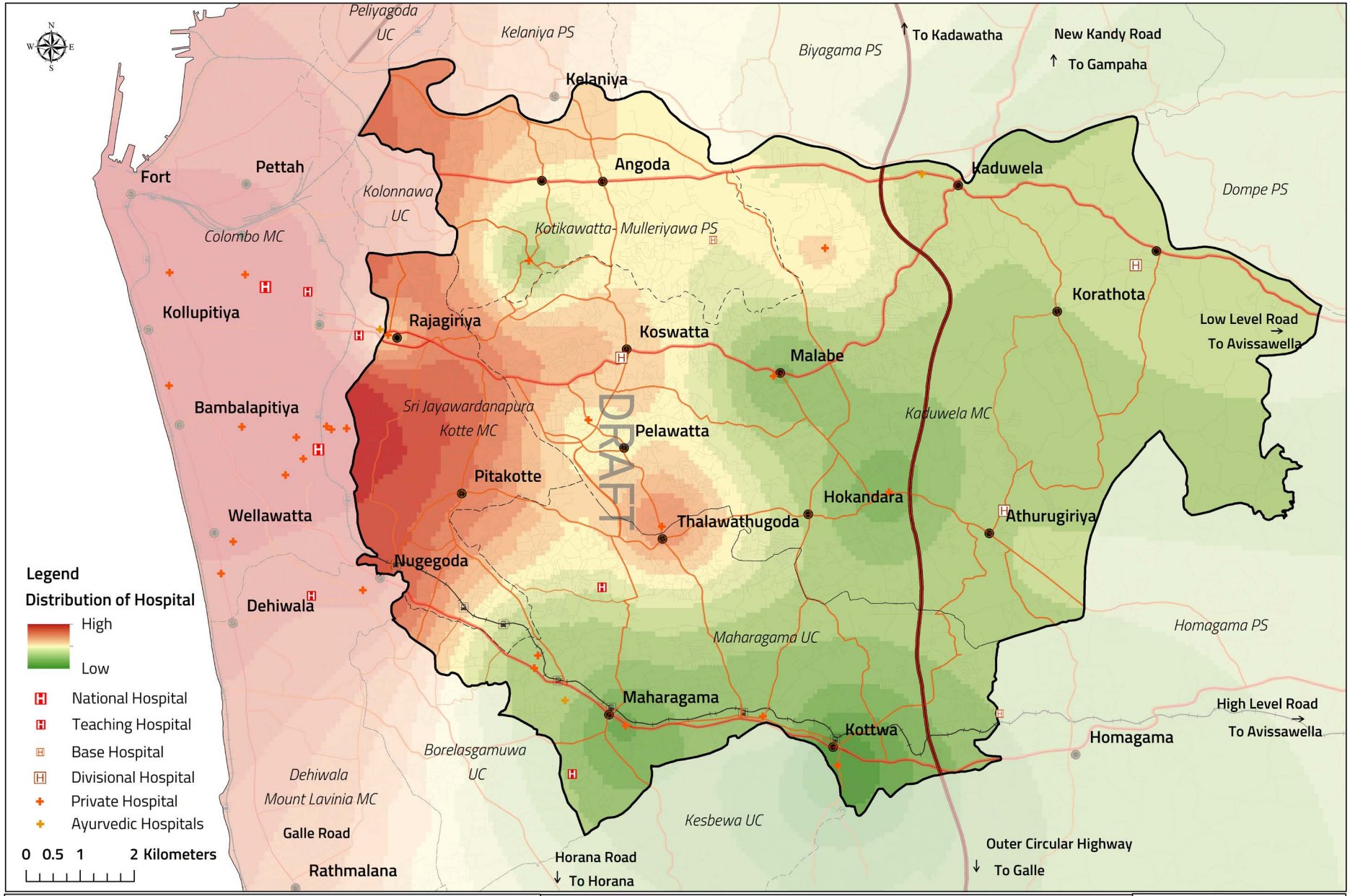
It is noticed that health facilities are distributed across the planning area and most importantly, many government and private health facilities are located towards Colombo.

4.4.2.2. The Projected Situation in 2030 to 2050

When the population and hospital ratio in 2012 is considered, it is recorded as 10,000:0.32. By the year 2030, it is projected to be 10,000: 0.26 with the predicted population.

According to the World Health Organization - World Health Standards, the hospital bed density is 5 beds per a number of 1000 persons. In 2012, it was recorded as 2.4 beds/1000 persons. The projected bed density in 2030 is 1.95 beds/1000 persons with the predicted population.

Two sites are identified as alternatives to relocate the IDH Base Hospital with required capacities in order to achieve the WHO World Health Standards.



Distribution of Health Facilities
Social Infrastructure Strategy of Capital City Development Plan

Data Source:
Google Maps, 2018

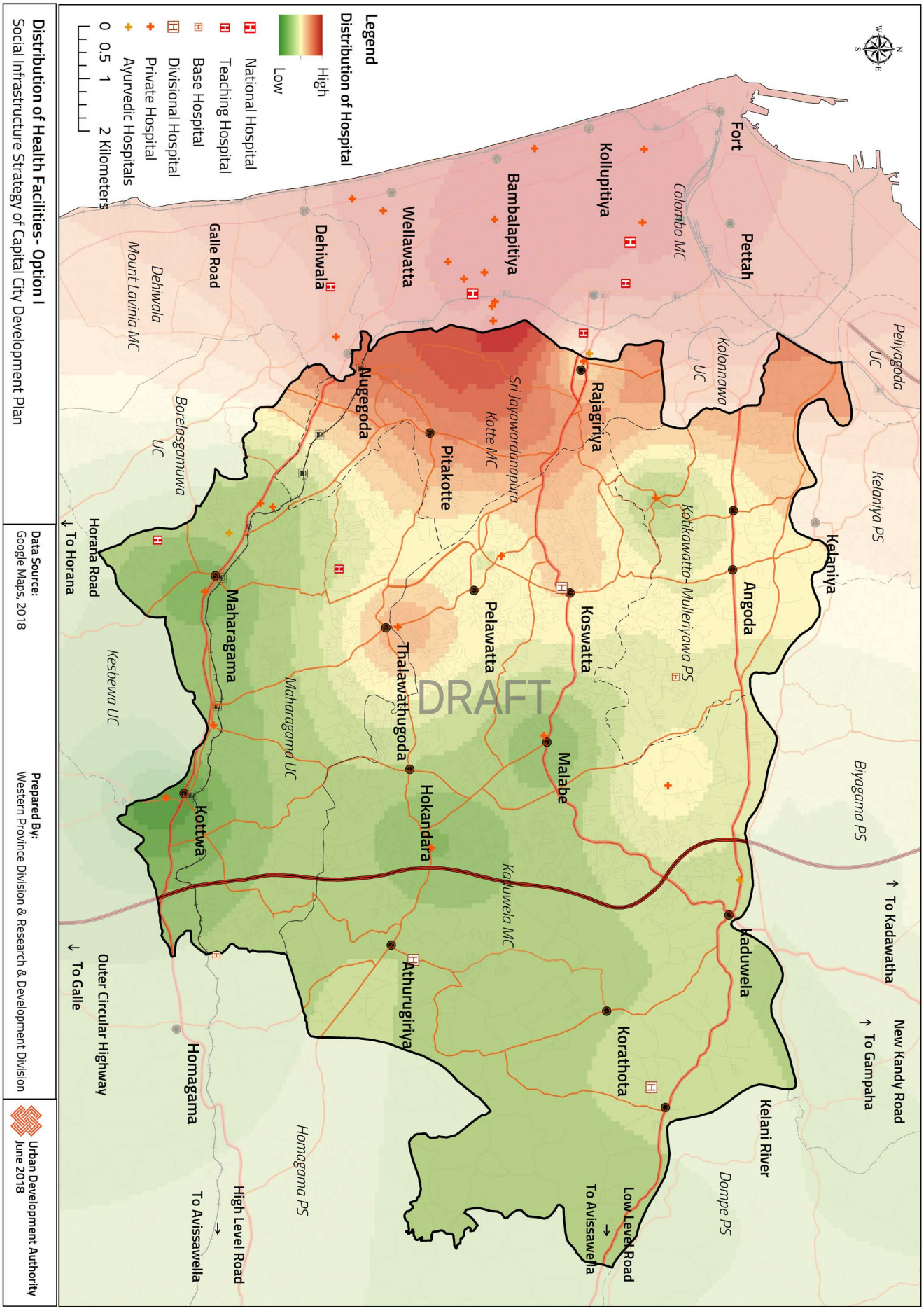
Prepared By:
Western Province Division & Research & Development Division

Urban Development Authority
June 2018

Map 4.4: Distribution Of Health Facilities
Source: Western Province Division and Research & Development Division, UDA 2018

1. Alternative 1- Ranala Site

DIADEM SOVEREIGN SRI LANKA



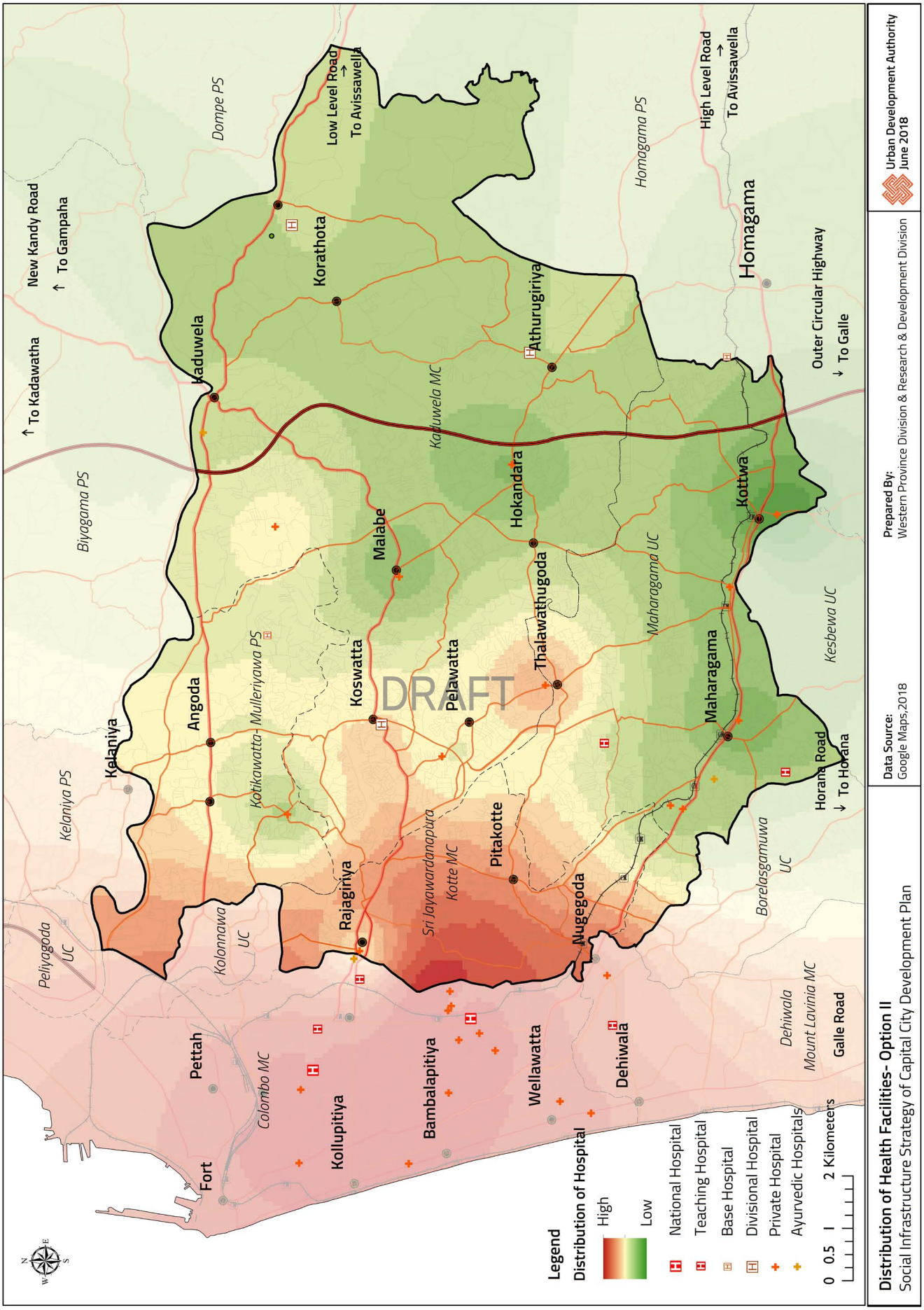
Distribution of Health Facilities- Option I
Social Infrastructure Strategy of Capital City Development Plan

Data Source: Google Maps, 2018

Prepared By: Western Province Division & Research & Development Division

Urban Development Authority
June 2018

Map 4.4. Distribution Of Health Facilities - Option 1
Source: Western Province Division and Research & Development Division, UDA 2018



Map 4.5: Distribution Of Health Facilities - Option II
Source: Western Province Division and Research & Development Division, UDA 2018