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1. Project implementation agency: Sri Lanka Land Reclamation and Development Corporation
2. Estimated project cost; US $ 125 million
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 3 Years

The Project

Due to heavy traffic burdens on main road corridors within the Colombo Metropolitan Region it has proposed to identify the potential uses of waterways which can be used as inland water transport system. As the first step the Kirulapone canal and the Kotte canal which connects Wellawatte to Battaramulle will be considered as an inland waterway and passenger boat service with many facilities to the passengers to be introduced.

Since this is a new experience to the present day Sri Lankan public it is necessary to study the potential uses of the canal transit and estimate the demand for the new transit mode for public transport, leisure activities and other social activities.

The study area is the surrounding area of the Kirulapone and Kotte canals within Colombo Metropolitan Area (CMA) which consists of around 20 Gramaseva Niladhari Divisions in both Timbirigasyaya and Sri Jayawardhanepura Kotte Divisional Secretariat Divisions (DSD). The main roads which runs through the study area are Galle Road, High Level Road, Sri Jayawardhanepura Kotte Road and Baseline Road that categorize as A-Class Roads. Other major corridors namely Havelock Road, Nawala Road, Bauddhaloka Mawatha, Park Road and W. A. de Silva Mawatha, within City of Colombo, are categorized as B-Class Roads. The population in the study area is around 200,000. They live in around 50,000 housing units including single housing units, flats and underserved settlements.

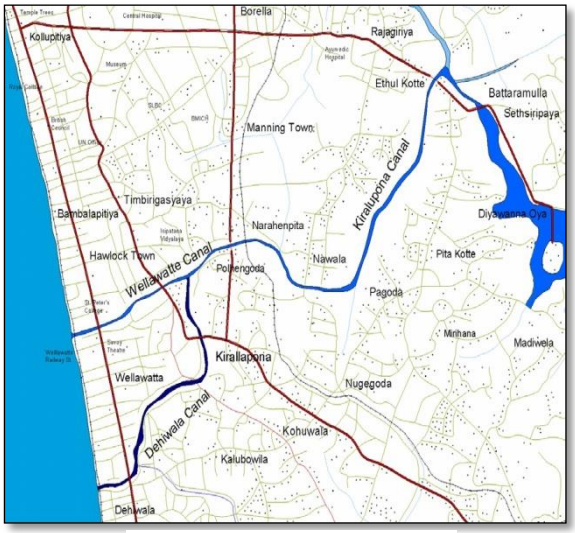


Figure 1.2: Study Area

Available information on passenger transport patterns prove that more than 50% of the traffic in most of the roads consists of cars, vans and jeeps. This indicates the higher tendency of private vehicle

Usage due to inefficient public transport system in the study area. Percentage share of buses on roads that runs along the canal is less than 5% of the total. This shows the potential of the canal transit system developing as a public transport mode provided affordable, faster and comfortable service which is not available at present. The public presently have to lose their effective working hours by spending more time on road. The second highest percentage of transport accounted by three wheelers from 13 – 33 % depending on the traffic of the area. As the three wheeler usage is high we can expect people to use boats as a transit mode even though the travel cost is more than the normal bus fare. At the same time the private vehicle owners would prefer the boat transit since their travel cost will be reduced. The freight transport vehicle usage along the canal corridors is not available and there is no potential to develop the boat system for freight transport.

Public attitudinal studies on the canal transport system cannot be explained correctively because there was no system available in the study area in the past. This would be introducing for the first time along the Kirulapone Canal and it will be a new experience to the public. It is difficult to explain to the public about the advantages and facilities available in the canal system. People generally think that they would use this new service for leisure and recreation purposes. However, people in Borrella, Rajagiriya and Welikada areas like to use it as a public transport mode for work due to high traffic congestion experience on roads in these areas during the peak time. There will be less demand in the day time and high demand in the night time for leisure activities which will demand more recreational activities along the canal banks.

Presently, there is no proper connecting mode in the East-West direction in the Colombo region, unless the prevailing bus services cater to that necessity. The use of available canal network could provide this facility and has the potential to reduce the travel time drastically on these and other travel corridors. By using the existing canal systems, strong east-west transport connectivity can be generated for the commuters' convenience.

A feasibility study on waterborne transport in the Wellawatte - Battaramulla corridor was carried out in 2004. The study concluded that many people would prefer to use canal transport for leisure and recreational activities. Moreover, the study indicates that passenger vehicle users would be willing to shift to canal transport even at a moderately high fee. Therefore, it can be deduced that the implementation of the water transport system would significantly reduce the traffic congestion on the Wellawatte - Battaramulla corridor.

Implementation of the water transport system will also benefit travellers in other ways. Comfortable air conditioned boats will ensure a smooth comfortable ride for passengers. At the off peak periods, especially at night time this system can be used to promote ecotourism around the Colombo city making this city an active and an attractive area during night time as well. This will add a facet to the city's transport infrastructure. Boat jetties can be placed at main linking points where the canals cross the main roads and in other places where necessary improving the accessibility and the inter connectivity between other modes.

The following three inland water transport lines have been identified by the Megapolis Transport Committee as potential routes,

1. Wellawatta – Battaramulla Line
2. Fort – Union Place (along Beire Lake)
3. Mattakkuliya – Hanwella (along Kelani River)
4. Any other lines proposed by the project proponent.

In addition to these, any other routes (including ocean connectivity), if found to be feasible by the Investor, will be considered subject to the presentation of a feasibility study on the same.

The Wellawatta-Battaramulla route has the most potential to provide an urban transport solution. It intersects 6 main roads including Marine Drive, Galle Road, High Level Road, Baseline Road, Nawala Road and Parliament Road out of which 3 of them are main 7 corridors. This is one of interventions identified under the Megapolis plan that can come in to action immediately. The detailed feasibility study for this line, conducted in 2004, has to be updated to reflect current conditions, and also to determine whether the route can be linked or extended to the surrounding ocean.

The shuttle boat service proposed in the Beira Lake from Fort to Union Place route will save a lot of time for passengers who have to use bus service to connect these points especially during peak time. The feasibility of the line has to be conducted.

The line along Kelani River from Mattakkuliya up to Hanwella route has high potential to provide an alternate mode for the low level corridor where the public transport is poor. The feasibility of the line has to be conducted, including determination of whether the route can be linked or extended to the surrounding ocean.

The total cost for the project is estimated at USD 125 million. Each route of the project will be treated as a separate mini-project, and will be implemented via a public-private partnership mechanism (PPP), on a design-build-operate basis. The updated feasibility study for the Wellawatte-Battaramulla route, as well as the detailed feasibility studies for the Fort – Union Place route and the Mattakuliya - Hanwella route, will also be conducted separately by the investors chosen to design, build and operate the relevant route.

There are two main activities to be completed prior to commencement of water transport in the three routes. These are:

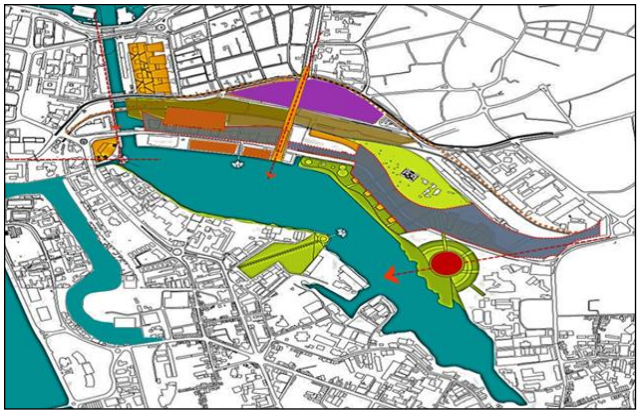
i. Manufacturing and supply of boats – It is estimated there should be at least 30 boats to be deployed in all the three routes. Time required for the manufacturing and supply of this number of boats will require approximately two years.
ii. Construction of Jetties for embarking and disembarking of passengers in the three routes. Depending on the passenger traffic the number of jetties to be constructed in each route should be determined and a prospective commuter survey have to be undertaken for such determination. The construction period of jetties and connected infrastructure needs will require another one to two years, where I and ii could be implemented simultaneously.

1. Project implementation agency: Urban Development Authority
2. Estimated project cost; US $ 7 billion
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 7 Years

Project Location:

Project will be located using Colombo Fort Railway Station and Pettah Manning Market sites. Entire project area covers with the following three sites.

i. **Fort Area**: Through the entire colonial period and even after gaining of independence, the area has been the centre of trade and business activities in Sri Lanka and was the centre of administration. However, at present, it is mainly the business district of the country, shifting the administrative centre to Sri Jayawardenepura Kotte, Battaramulla. The proposed development site of the MMTH is located centering the Fort railway station.



There are many offices and large buildings in this area, such as the World Trade Centre and Headquarters of all Commercial Banks and the Central Bank. It is also noted that there are many colonial style buildings maintaining as archeological sites, some of which have been renovated nicely.

ii. **Pettah Area: Pettah** is famous for its open air bazaars and markets, and it's the busiest commercial area in Sri Lanka. The area is spread across the northern side of the development area. The buildings are not large, many of them are 3 or 4 story buildings and small retail shops occupy this area.

iii. **Manning Market:** This is the biggest wholesale vegetable market in Colombo next to the railway station. The land covers nearly 2 ha in size and will be used for a part of MMTH. In order to resolve the over-crowded situation of Manning Market (Vegetable Market) and other wholesale and retail shops in Pettah area, plans are underway to relocate it in Peliyagoda.

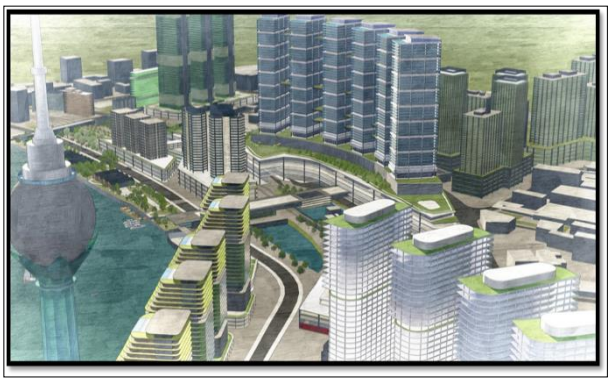
In order to make the entire project, a technically and financially feasible investment, it is proposed to include the following development sites to be included within the single MMTH site. These are:

iv. Sebastian Mawatha Private Bus Stand
v. Goonasingha Mawatha western Province Private Bus Stand

vi. Central Transport Bus Stand,
vii. Chalmers Grannery's Warehousing Site

Background of the Project:

At present there is no connectivity of passenger transport systems. Even though Colombo Pettah and Fort centralizes all forms of passenger transport modes, Railway transport and Bus Transport together with road taxi systems, passengers travel by one system cannot change to another system without undergoing severe hardships. There are three locations where passenger bus stands are located, viz. Central Transport Board bus terminal in Pettah, Western Province private bus terminal in Gunasinghepura, Pettah and National Transport Corporation private bus terminal in Bastian Mawatha, Pettah. Distance from one bus terminal another is half kilometer, a passenger travelled from rail to change to a bus has to walk almost about one kilometer to reach his destination. In addition, local busses transporting passengers within an outside Colombo City limits has no prescribed terminal and used to park some place and start its destination as a round trip travel.



Colombo city is rapidly transforming into a metropolitan complex and mix of variety of activities, a place of increasing higher volume of traffic and multi models of traffic, and more and more social, economic and environment activities creating many social and cultural issues. The emerging needs and urban issues, for a more integrated transport network creates an opportunity for the development of interchange hub facilities, which can serve as the gateway to the city. It also needs facilitating efficient interchange from one mode of transport to another. This interchange Hub can become the fulcrum of inter-modality and provide seamless journeys and accessibility for all, and further promoting the appeal for an efficient public transport system.

With the visioning of Megapolis development plan, provision for smart space allocation for urban life, infrastructure and smart connectivity to the national and local contexts is crucially important. As a solution for the current government urban development policy, megapolis plan highlighted the importance and the role of Fort/Pettah existing multimodal transport cluster transforming into a mono centric Transport Hhub with smart mix of urban uses with the vision of city within the City.

Rationale of the Project:

A feasibility study was carried out by JICA in 2014 on the establishment of a Multi Modal Hub at Pettah/Fort, Colombo. The study conceptualized the MMTH as a single building complex comprised of a Transport Hub, Market Place, and Urban Park. This study was reviewed by the Megapolis Transport Planning Committee in 2015. While the Committee is in broad agreement with the concept and design recommended by the JICA study, however, adopting the current Mega developments and national economic and social priorities there were initiatives to develop the transport hub covering the following aspects.

The vision of the Western Region Megapolis Planning Project (WRMPP), in general, is to promote the intense infection and integration of land use and transportation, while the rate of growth in the Western Province is developed to take the entire country to a developed country. In this context, Colombo Downtown has been identified as the "Central Business District" of the country and as the focal point for servicing and developing into the "Multi Modal Transit Hub". In addition, the Plan encourages opportunities for intensification and redevelopment of existing buildings, land areas and infrastructure transforming the area as vibrant, attractive, world class, brand city center for all.

Urban Planning and Urban Design:

- Pedestrian friendly and walkable City Hub,
- Mainstreaming of public transportation system,
- Opening up the city economy by unlocking key sites for world class living environment,
- Prioritizing social integration,
- Integrating the Lake front for economic, social, & environmental sustainability,
- Preserving & celebrating the urban heritage,

Transport:

- LRT system (Light Rail Transit) to be introduced to Colombo and its suburbs by linking Colombo MMTH accommodating LRT station within the Colombo Hub,
- Intra-provincial buses do not need a separate parking area; short term parking will be required for these buses and the Colombo MMTH should feed by local busses which collect the passengers from surrounding MMTH,
- Provisions must be made in the MMTH to accommodate a boat station at the Beira Lake Waterfront, in line with the proposed Inland Water Transport System under the Megapolis Transport Plan,
- Port Expressway will link with the proposed development area even though it will not physically ramped out to the Pettah area.

Forecasts show by 2030, Colombo City will be the commercial hub of South Asia and an International Tourist Center. Population in Colombo will be consisting of mainly a touring population visiting from the rest of the world and other parts of the country employed in commercial enterprises. The transport facilities have to be provided to a visiting population with transfer facilities to be moved from one mode of transport to another. The **MMTH will therefore be the most promising investment fulfilling the transport demand of the social fabric in future Sri Lanka.**

Project Objectives:

The size of a multi modal hub is dependent on the volume of passenger flow, the types of transport modes that need to be catered to, and the role it plays in local and regional context. The planned MMTH will cater to a large number of persons travelled by different modes through different transport corridors. At present, all passengers travelling through four rail corridors (coming from Chilaw – Colombo, Polgahawela – Colombo, Avissawella – Colombo and Matara/Galle – Colombo) and from busses using highway corridors to Pettah/Fort. All these transport corridors/routes, including those operating within the city and suburbs as circular routes, connect with Pettah/Fort as the focal point. The planned MMTH, therefore, proposes to develop to meet the following objectives.

i. **To develop as the passenger transfer centre:**
ii. **To develop as the Gateway to Colombo City:**

iii. **To coordinate with high density mixed development in the City**
iv. **To create minimize traffic congestion within the City**
v. **To provide easy pedestrian access**

Project Components

Planned MMTH consists of three main components, namely

i. Transport interchange
ii. High density mixed development, and
iii. Public open spaces.

The transport interchange is created to gather and distribute passengers as efficiently as possible by linking outward-bound urban passenger transport facilities, such as railway stations, LRT stations, as well as various inner-city transport systems, such as buses, taxis, three wheelers etc. Proposed MMTH also features people-oriented amenities and services, such as restaurants, cafes, barrier free facilities, offices, customer service centers, entertainment centers, internet connectivity, to make the travel experience more enjoyable and meaningful.

Apart from transport network integration, the interchange hub can also feature high density mixed development towers where world class commercial and retail facilities are linked with surrounding mixed-use development close-by. This integration maximizes land use through resource sharing, minimizes travel requirements to satisfy other requirements and makes a journey to the City more convenient. The visioning process of MMTH reflects the transport interchange and high density development project components are proposed to integrate in feasibility study and detail design.

Public open spaces are located next to the MMTH, just in front of Beira Lake, and other open spaces close to Fort Pettah area. Gall Face Ground and present Air Force Ground would be two other open places available for public use in the vicinity.

Economic & Social Viability

Planned Colombo Pettah/Fort Multi Modal Transport Hub (MMTH) will be to establish a place of connecting all modes of transport in the country together with future economic activities such as tourism, retail trade, professional services, creative industries, engineering and entertainment, allowing Sri Lanka's principal talents capitalizing inter and intra regional and foreign markets. It will be an economically vigorous region of Sri Lanka that generates more in public revenue than making public expenditure in the country.

As mentioned earlier, the present passenger transport services commences from four places in the heart of Colombo; the rail passenger transport from Colombo Fort Rail Station; public bus passenger transport from Central Bus Terminal in Pettah; private inter provincial bus transport from Bastian Road Terminal and private provincial passenger transport from Gunasighapura Terminal. These four terminals are located quite a long distance from one place to another and commuters arriving/departing from one terminal and change to another terminal has to walk a quite a long distance of almost half kilometer through heavy vehicle traffic. Other than the rail terminal and public sector bus terminal, other two private bus terminals do not provide detailed information about destinations and, therefore, frequently commuters have go from one place to the other to look for busses reaching their final destinations. In addition, the city transport system and several other short distance but routes do not have a exact starting point and therefore, operate as circular trips. The other important public transport mode, taxis, do not have parking places and used to park all corners of streets creating immense difficulties to the traveling public.

The planned MMTH in Pettah/Fort is a reasonably acceptable solution to the passenger transport system to the entire passenger population of the country, where the proposed MMTH will be functioning as the country's central transport system. With the introduction of the proposed Light Rail Transit (LRT) system in Colombo and suburbs, those passengers will have a better coordinating system to meet their transport needs.

The Western Region Megapolis Transport Plan proposes a set of new transport projects/routes to improve the passenger transport system in the Western Region. Electrification of the main railway line from Panadura to Venyangoda in the 1st phase and extending the same line to Polgahawela in the 2nd phase, electrification and double tracking of Kelani Valley line from Colombo to Avissawella, Establishing of another electrified railway line from Dematagoda to battaramulla, new railway line from Kottawa to Horana, establishment of LRT system as a circular line and another 6 lines along the main transport corridors, and establishing new expressways to ease both passenger and goods transport in Colombo and suburbs include the new Transport Plan. Since all these systems coordinate through Pettah/Fort area, the MMTH linking all the existing and planned transport networks centralizes the connectivity of all transport systems with different locations and different modes.

Since all passenger transport modes are connecting with Pettah/Fort MMTH, commuters do not have walk from one location to another and could change within MMTH itself to travel to their destination. Information and guidance for the transfer will be provided easily. Although the benefits cannot be easily determined, it is possible to estimate the economic value of such benefits through saving of commuter time and money, in addition to other benefits people could enjoy at the MMTH and complexes attached to it. The transport operators may also benefit from improved connectivity. Their lagging time in the prescribed locations and ability to operate on standard time tables provide better facilities to operators. Accordingly, more efficient utilization of existing assets will be achieved, while identifying areas for new capacity generation without creating over capacities and, in the long run, a role for changing to ration at times of peak congestion.

The population projections show that the expected population in the Western Region Megapolis in 2030 will be about 8.8 million. This will be approximately 40 % of country's population. Of the total population, the highest density will automatically be the Colombo Business District (CBD), where the population number will be approximately 2.8 million with a density of more than 20,000 per sq. km. The number of passenger trips generated by this population may be several times the total population. It is assumed that the proposed MMTH will provide better transportation as well as transfer facilities from one mode to another, while per capita income of Western Province people may reach equivalent to the level of developed countries.

The establishment of Pettah/Fort MMTH together with the implementation of other 8 Transport Hubs within Western Region will no doubt contribute positively to this transformation and come as a package development of other facilities such as living apartments, office spaces, and commercial complexes together with pooling of cinemas, entertainment places for other popular events for the use of commuters and general public. All the above components have to be packaged into one project and each component could construct as a series of building complexes with combinations of different services. The spread of space for each of these activities depends on the total operational size of each Hub, especially the MMTH, and the extent of public services proposed to provide within each hub. The types and volumes of public services provided in the MMTH determine the annual cost of operation and maintenance (O & M) cost of it. The annual revenue stream of the operating organization of MMTH should be equivalent to the above O & M cost plus the profit margin to meet the cost of investment. It is important to note that the O & M cost includes the annualized cost of capital investment in terms of interest to be paid on capital loans. This amount should flow into the project as annual revenue.

The development of Pettah/Fort MMTH will therefore be a strategic investment of Western Region Megapolis where a long term approach is needed with an infrastructure development policy suitable to predict land use planning in CBD area. Also proposed MMTH may develop the future transport strategy that considers interfaces of different modes of transport including transformation of private to public transport system. The concurrent establishment of regional transport hubs in the identified areas will encourage this important transformation that will ultimately derive a set of national economies in terms of saving of fuel, reduction of traffic congestions within the urban areas and saving of commuter time focusing improvement of labour productivity. It also defines the priority investment decisions to the Ministry of transport between road infrastructure needs and railway infrastructure development. Although the financial cost of rail infrastructure development is comparatively high, the economic cost of such development is lower in terms of time length of use, the per capita cost of operation and maintenance, and average user cost per capita. Similarly, the development of MMTH together with other regional transport hubs will be a multifaceted development option not only to create direct economic impacts but to determine on future investment requirements.

Stakeholders of the Project

There are several stakeholders for the Pettah/Fort MMTH. Other than the public sector institutions who owns land as investors of the project there are several other stakeholders having positive and negative impacts of the project. There are several parties adversely affecting their present livelihoods and employment due to project implementation. A large number of traders who are having a trading volume with hundreds thousands of rupees per day and involved in wholesale trade and small traders who are selling vegetables on daily basis and a large number of other traders of Manning town vegetable market and a large number fancy traders by the sides of private bus terminals and the CTB bus terminal and areas in between these sites include one set of stakeholders. With the acquisition of their business premises, these traders may think that their businesses were severely affected due to the construction of MMTH even though every one of them would be finally given permanent alternative sites inside the MMTH they may have adverse comments on the development project. Traders of present world market will also affect adversely. However, since the volume of trade presently enjoying these traders could be clearly benefitted as a result of relocation. There could be organized objections as a result of these adverse impacts.

The bus operators will also affect to a certain extent and could be considered as a negative stakeholder of MMTH project. In fact, bus operators will get better chances as a result of the new MMTH and they do not have to unnecessarily operate busses after the construction of MMTH. However, their unethical earning sources will be damaged could be more disciplinary in bus operations. All commuters may be satisfied about the services provided after the establishment of operations of MMTH, since they do not have to run around for busses and transfer to other vehicles due to the new operations. Taxi commuters will also be satisfied because they have a reserved route and a controlled and guided tour system.

There will be several adversely affecting people working in the private bus terminals. They earn money from bus operators as controllers and will not have any chance to continue with similar activities after the commencement of operations of MMTH. There are other persons who earn a day to day living through functioning as mobile fruit sellers, walking operators and couriers providing some services and earning an income.

There are other people affecting the development of Pettah/Fort MMTH. These are the vehicle operators who will be adversely affected by not having vehicle parking space in the Pettah and Fort areas. Presently two main land sites using as car parks will be taking over for project development. The Charmers Granaries owned by UDA with a land area of 4 ha and land in Pettah depicted as no. 8 in Map 1 owned by Colombo Lands with an extent of 0.89 ha are the two main lands use as car parks.

Since parking space is not available in Colombo, until such tima few multi-storied car parks are constructed, vehicle owners will face immense difficulties as a result of non availability of parking space.

Land Availability

The blocks of land given in table 2 below have been identified for the establishment of proposed Pettah/Fort MMTH. The map showing the land identified is presented in figure 1.

Table 2: Lands identified for the establishment of MMTH

No.	Lot No.	Present Occupant	Present Use	Ownership	Extent (ha)
Lands for Vesting					
1	01	People's Bank	Leased by Railway	Government/CGR	0.13
2	02	Sampath Bank	Leased by Railway	Government/CGR	0.12
3	03	Postal Dept.	Mail Exchange Centre	Government/Postal Dept.	1.21
4	04	Lanka Sathosa	Vehicle Yard & Stores	Government/CWE	1.39
5	05	Shops along Olcott Mawatha	Fancy Shops	Government/CGR	0.89
6	06	Bastian Mawatha Bust Terminal	Bus Terminal	Government/CGR	1.66
7	09	Railway Department	Railway Station, Rail Tracks, Office, Stores, Workshop, etc.	Government/CGR	11.83
Sub Total					**17.23**
Lands for Acquisition					
8	07	Bodhiraja Mawatha Market	Fancy Shops	99 Year lease by UDA	0.51
9	08	Cooperative Dept.	Office & Shops		0.76
10	10	Colombo Lands Co.	Car Park & Shops		0.89
11	11	CTB Bus Terminal	CTB Bus Terminal and Buildings		1.47
12	12	Gunasinghepura Bus Terminal	Private Bus Terminal		0.95
13	15	Colombo Lands Co.	Bus Terminal		0.54
14	13	People's Park Shopping Complex	Shopping Complex & Car Park		1.07
15	14	Commercial	Shops, Banks, Hotels, etc.		0.28
Sub Total					**6.47**
Lands of UDA					
16	16	Manning Market	Vegetable Wholesale Market	UDA	2.28
17	17	Charmers Granaries	Car Park	UDA	4.03
18	18	World Market	Textiles and Fancy Shops	UDA	0.54
Sub Total					**6.85**
Grand Total					**30.55**

Total extent available for MMTH will be 30.55 ha. As depicted in the table, UDA land ownership will be 6.85 ha and UDA land leased out to other uses is 5.12 ha.

Environmental Sustainability

The implementation of Pettah/Fort Multi Modal Transport Hub of Colombo will have an overall impact on the environment. The large number of commuters pass through the hub to reach their destinations throughout the will be several hundred thousand a day using different modes of transport. Other than the passengers, thousands of other people will be visiting the MMTH complex and other housing, office and commercial complexes attached/linked to MMTH complex. The facilities available in the MMTH and other complexes will provide enjoying and entertaining facilities, in addition to fulfilling their requirements. Unless the possible environment impacts are properly managed, final outcomes during the project implementation period would be negative and non-manageable.

During the project construction stage, the impact on environment will always be negative due to air pollution, as a result of material loading and unloading, concrete mixing and other labour work. Since this will be a massive construction site consisting of several components of construction works, the total number of workers employed in all the sites would be large so that the impact on moving population and traffic in the area being congested. In order avoid such public disturbances, an effective work site management system without disturbing the work process need to be implemented. The Fort Railway Station is a historically valuable site with an archeological interest and every attempt should be taken to preserve that site without causing damages. Waste management should be a major concern in the site.

Much more environmental concerns have to be implemented during the project operation period due to the large number of people daily visiting through MMTH. It is not possible to forecast the negative and positive impacts of MMTH operations now and as a result, a detailed environmental impact assessment study has to be carried out at the time of project implementation. It will also become a basic requirement to conduct a detailed study to estimate the possible users and the number of visitors of MMTH prior to its implementation. In fact without such a study, it may not be possible to conduct a proper and detailed environmental impact assessment together with solid waste generation, use of sign boards and guiding ways to direct commuters to different transport routes etc.

Estimated Cost

Preliminary cost estimate of the completion of MMTH has been calculated as approximately US $ 7 billion. However, packaged project considered that the developer needs not to find resources for the construction of the total project at its commencement.

Project could be implemented stage-by-stage basis, where the cost recovery potential through sale of outputs (for example buildings with mixed development components) could be implemented initially and thereafter moving on to other components such as revenue potential is high with rental arrangements and finally to end up with components to be developed for just service provision. In other words, the construction of the entire complex could be planned on cost recovery basis and costs recovered from one section to be used for financing of other components. Accordingly, the initial fund requirement of the whole MMTH construction will not be more than US $ 3 billion or so.

Time Period for Implementation

The project implementation period of MMTH may not be less than seven years, of which the investor has to spend a minimum of two years to conduct the comprehensive feasibility study and preparing the engineering Designs, both will require a period of at least two years. The construction period will be not less than 7 years but could be reduced provided the investor rush up to undertake the immediate selling components initially while the feasibility and designs of other components are being carried out. Accordingly, in practical terms, the project will be implemented in stage-wise basis depending recovery of cost of selected components.

Project No 3
CONSTRUCTION OF KELANI BRIDGE TO PORT CITY AND ORUGODAWATTA JUNCTION TO PORE (THROUGH RAJAGIRIYA) ELEVATED EXPRESSWAYS

1. Project implementation agency: Sri Lanka Roads Development Authority
2. Estimated project cost; Kelani Bridge to Port City US $ 261 million Orugodawatte Junction to Pore through Rajagiriya US $ 860 million
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 5 Years

Background

As the Southern Highway ends at Kottawa, at the peripheral of Colombo city the traffic from south has to join the local traffic within Colombo area and take equal or more time of travelling from Galle to Kottawa to reach the destination in Colombo area. Extending the Southern Expressway to the economic, administrative and transport hubs in Colombo area has become necessary to improve the overall transport efficiency. The option of widening the existing roads has become prohibitive due to the large scale land acquisition and resettlement requirements. By by-passing the local traffic at grade level and providing effective linkages to other trunk roads, the Southern expressway extension effectively relieve traffic congestion, substantially reducing travel time from Colombo to other regions of the country.

Justification

There is a significant traffic congestion in Colombo Fort/Pettah area presently and around New Kelani Bridge due to the high travel demand existing between these two locations. And there is a severe traffic congestion being generated in Maligawaththa, Kotahena and Aluthkade areas due to the through traffic between New Kelani Bridge and Fort/Pettah. This road is to be connected to the proposed extension of Marine Drive road in front of the Port City at grade. The traffic coming from Negombo and other areas beyond Kelani River will be connected to the marine drive by-passing Colombo city eliminating a lot of congestion. This will on the other hand provide access to the proposed port city and proposed Multi Modal Transport Hub at Fort/Pettah.

Development of the port city will generate a significantly large volume of traffic and attract a lot of traffic as well. Releasing this traffic on to the Galle road in front of Galle Face will generate a severe traffic congestion in the surrounding area. Therefore, the proposed port access elevated road will transfer the generated traffic to distant areas with less effect to the traffic movement in Fort area.

The traffic congestion in the areas of Orugodawaththa, Rajagiriya and Battaramulla is very significant and this has caused a lot of inconvenience to the people by making them to stay a considerable share of their valuable and efficient time at roads wasting money on fuel and polluting the environment with emissions. Mainly the through traffic faces a lot of problems due to this while it on the other hand contributes to the congestion in those areas. In the same way, the traffic coming from Kelaniya, Peliyagoda area and needs to avoid Colombo city to go downwards of the Colombo city or the traffic which needs to go to Kottawa area (east side of the city) have to go through all these congested areas and it increases the congestion in turn.

Therefore, having an elevated expressway connecting New Kelani Bridge and Outer Circular Expressway near Pore will address the issue effectively and ease the traffic congestion in the above said affected areas (Orugodawaththa, Rajagiriya and Battaramulla).

Proposals

With regards to financing the elevated expressways, the following are the recommendations of relevant Ministries,

i. The New Kelani Bridge to Port Access Elevated Expressway (with an external connection to Fort Railway Station and the proposed Multimodal Hub) is identified as a project that needs to be implemented immediately and it is proposed to be designed and constructed with ADB funding.
ii. The Orugodawatta junction to Rajagiriya Expressway is proposed to be designed and implemented with JICA funding.
iii. The Rajagiriya to Pore Expressway connecting Outer Circular Expressway via Rajagiriya and Battaramulla which is proposed in the Megapolis Transport Plan is recommended to be implemented on a PPP basis. The selected investor(s) will perform the evaluation of available studies and perform a final feasibility study for this section; Design and build this section, and; Manage and operate the entire elevated expressway from Fort to Pore (Port Access Road, Orugodawatta to Rajagiriya and Rajagiriya to Pore).

The proposed Port Access Elevated Expressway is 5.6km in length and is estimated to cost US $ 251 million. The proposed Elevated Expressway from Orugodawatta junction to Pore via Rajagiriya and Battaramulla is approximately 15.9 km long and estimated to cost US $ 860 million approximately.

Present Status

The feasibility study is done by the Asian Development Bank for the elevated expressway from New Kelani Bridge to Port City with the link to the proposed Fort/Pettah Multi Modal Transport Hub. For the elevated expressway from Orugodawatta junction to Pore, the feasibility study is yet to be conducted.

ADB has agreed to fund the cost of elevated expressway from Kelani Bridge to Colombo Port City. The other expressway from Orugodawatte to Pore is to be offered to a private developer on BOOT basis where the feasibility is to be carried out by the investor himself.

Project 04
DEVELOPMENT OF RECREATIONAL BEACH AREA FROM KOLPETTY TO DEHIWALA

1. Project implementation agency: Coast Conservation Department
2. Estimated project cost; US $ 155 million
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 5 Years

Introduction and Background

The Government of Sri Lanka (GOSL) is interested in creating a beachfront from Kolpetty to Dehiwala located in the Western coastal belt, south of Colombo. The beach front is expected to fulfill the needs of pubic for their recreational activities along with the space reserved for future Transport Development Plan.

The recreational facilities at Galle Face Green will not be sufficient to fulfill the current and future demands due to lack of adequate beaches in the proximity of Colombo. The City of Colombo is experiencing a major transformation as a business, tourism and entertainment destination for both local and foreign tourists. City has recognized the need for additional beach space in order to draw larger local and foreign tourists to Colombo area and to make Colombo more competitive in tourist industry.

Therefore, the necessity of a beach front along the Western coastal belt (from Kolpetty to Dehiwala) is considered as an attractive development. The proposed off-shore development from Kolpetty to Dehiwala will offer more financial and aesthetic value to the Colombo city; it will create large/diverse open coastal space for public in the Colombo region, enhance tourist attraction, and create new investment opportunities for locals / foreigners and for the betterment of general public life. By implementing the project, sea erosion in this area will be mitigated and public health (mental / physical) will be improved by providing adequate space for relaxation & recreational activities. Further, it is expected to enhance the environmental standards through developing a methodical drainage/ storm water system along Kolpetty to Dehiwala area for the betterment of the coastal eco system.

Creating a space for development of existing transportation along the western coastline is another objective of this project, since present road and railway lines need to be expanded to cater to the future demand. Hence, it is necessary to create an

adequate space to develop third and fourth railway tracks to fulfil the demand of current/future train commuters. Further, an elevated toll expressway is proposed to be built on top of the railway tracks along the beachfront to reduce the city traffic in Colombo.

The proposed area currently does not have any beach front except in Wellawatta area. Presently, approximately 20-50 meters beach front is available in Wellawatta north to Wellawatta south and Dehiwala south to Dehiwala-Mount Lavinia. Hence, it is highly appropriate to develop a beach area for pubic recreational purposes particularly from Colpetty to Dehiwala area considering the necessity and long felt need to have a beach access for the public living in and around Colombo temporarily and permanently.

Project Requirement

The proposed development plan is aimed to attract interested/potential investors (local/ foreign) to invest in design and building of proposed beach reclamation to generate a new coastal beach extent of approximately 100 hectares with the following minimum facilities by year 2020. (Proposed land fill expected to be extended 150 to 200m perpendicular to the shore line creating approximately 100 ha in total.

- Recreational activities (walking paths, safe bathing area, water related sports)
- World class aquarium
- Sport zone for public
- Children area
- Multi activity zone
- Turtle park
- Amusement park/ leisure park
- Attractive landscaping
- Solid waste / waste/storm water disposal and management
- Public open space, public access roads and car parks
- Sanitary facilities
- Establishment of Automatic Teller Machine (ATM) centers,
- Tourist police posts together with informative display boards, public announcement centers etc.

Project Scope

It is expected to receive proposals that will develop the beach areas to meet its highest standards and best use. Such use should not only result in revenues to investor, but should create a sufficient beach area for the recreational activities of the public and direct / indirect job opportunities for the society.

It is proposed to develop the beach area under a long-term ground lease agreement between GOSL and the investor.
The reclamation of the beach areas should be completed by the year 2020. A minimum of United States Dollars **(US$) 150 million** investment is expected in developing this beach areas. The beach area/land created and developed on investor's choice (not exceeding 20 ha) and elevated toll road (Four Lanes) on a long term lease to a suitable investor on the selection of a suitable proposal.

Project Site

Project site is located in the coastal belt of Western province from Colpetty to Dehiwala approximately 7 Kilometers long. There are two railway tracks located alongside to the proposed area. There are approximately 50 families settled in the proximity of the proposed area.

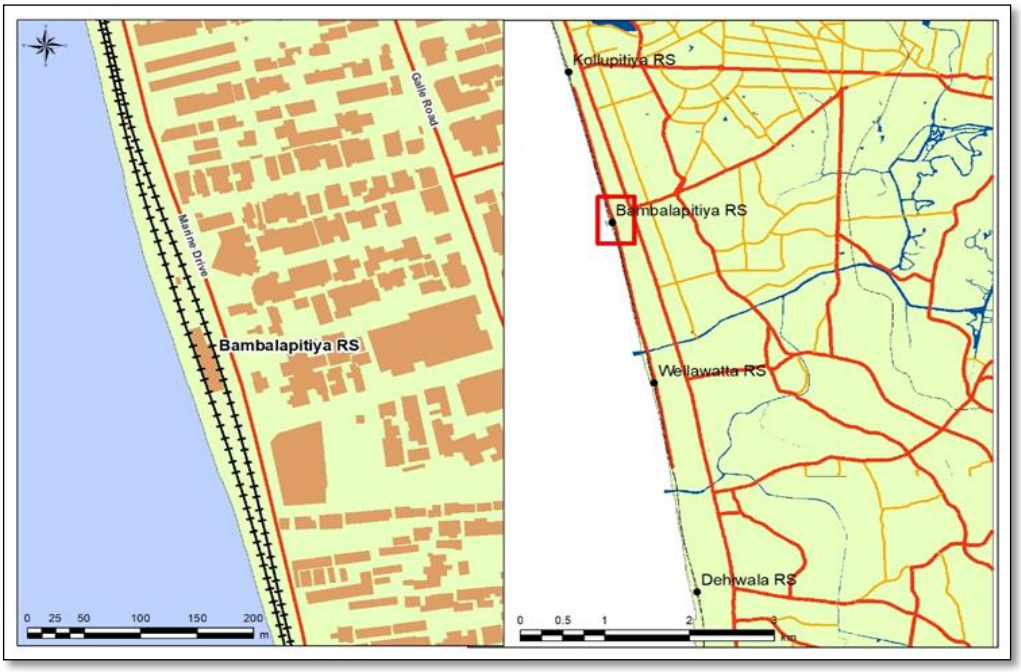


Figure 01-present condition of the proposed area

Project Components

Since the proposed beach development needs to be an innovative activity, it should be designed to match with Sri Lankan identity and culture, where impact on environment has to be protected to the highest possible level. Accordingly, potential developer should necessarily undertake a comprehensive Environmental Impact Assessment (EIA) along with a sound feasibility study. Potential investors are expected to employ suitable techniques that lessen adverse environmental impacts of the project. This will result in a development, which will be efficient to operate, maintain and protect the health, well-being of the public in the surrounding area and the beach users. Identified below are several important techniques suggested for enhancing the environmental benefits of this proposed beach development.

- **Green Concept:** Investors are encouraged to adopt "Green Concept" throughout the project. Eco friendly, energy efficiency structures, facilities, equipment and appliances, to be used during the construction and operation of project facilities.

- **Waste Management**: An effective and efficient waste management practices and adaptation of internationally applicable storm water drainage, waste water and sewage management practices.

- **Urban Heat Mitigation**: Construction of paved surfaces for large parking areas are significant contributors to the urban heat island effect. This effect can be minimized

through introduction of landscaped islands and perimeter strips that are planted with shade trees.

- **Parking:** The project parking needs should be accommodated by developing a maximum number of parking lots to cater future demand arising through beach users/railway commuters. All parking facilities should be appropriately landscaped.

- **Sanitary/Drinking Water/Electricity**: Facilities for sanitary/drinking water/electricity needed to be catered for the large crowd expected to the beach front.

- **Safe Bathing Area**: Since there is inadequate safe sea bathing area in and around Colombo it is expected to fulfill this high demand requirement by incorporating safe sea bathing area as a project component.

- **Landscape Design:** Adequate landscaping should be provided to the beach area as much as possible. The landscape should feature plants that are either indigenous to the area, or are well-suited to Colombo climate. The proposed plantings should complement and reinforce the beach architecture in addition to enhancing the lush character of outdoor spaces with texture, color, and visual interest. On-site street trees are required in order to provide enclosure and shade.

- **Streetscape:** The site design should provide for and encourage a range of outdoor activities. The proposal should include both formal and informal spaces that are harmonious with the surrounding creating an exciting streetscape.

Ministry of Megapolis and Western Development (MM&WD) expects proposals incorporating above environmental strategies to the extent possible.

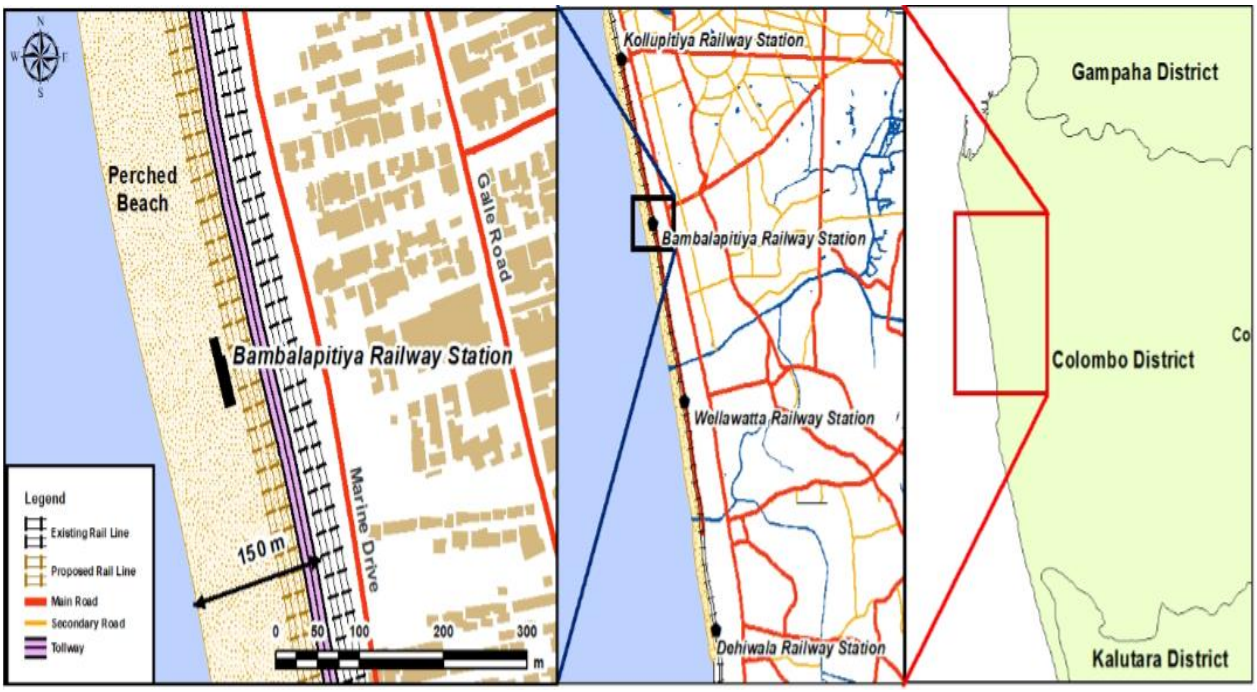


Figure 02-proposed perched beach development project

Beach Development Plan

I. Acquisition, relocation, clearing, landscaping and development of lands to Sri Lanka Railways and the proposed beach front,

- To prepare a detailed plan to relocate and accommodate approximately 50 families, 20 fishing families, 03 restaurants & 03 government institutions who occupy the coastal stretch along the proposed recreational beach area from Colpetty to Dehiwala and to be finally decided by the Urban Development Authority (UDA)/Sri Lanka Railways (SLR).
- Relocation and Resettlement of approximately 50 families, 20 fishermen families, 03 restaurants & 03 government institutions who occupy the coastal stretch along the proposed recreational beach area and to be finally decided by the UDA/SLR.
- To provide compensation/life upgradation for 20 fishing families and to be finally decided by the UDA/SLR.
- All 14 drainage outlets currently exposed to the beach area between Colpetty to Dehiwala to be connected & stretched outwards as appropriate and to be finally decided by the Colombo Municipal Council (CMC).
- Clear approx. 7 Km land stretch belongs to SLR from Colpetty to Dehiwala and to be finally decided by the UDA/SLR.
- Landscaping the existing land /beach stretch along with the perched beach [inclusive root bowling of trees, street lighting, water supply, drainage/sewage system and to be finally decided by the UDA.

II. Recreation and development of Beach Area

a. Construction of beach area from Colpetty to Dehiwala, as public recreational space and for tourism related activities with necessary landscaping with a Sri Lankan Identity and to construct public parking spaces/conveniences and ensure utility management and to be developed by the potential investor, subject to respective project approvals by Coastal Conservation Department (CCD) and CEA.
b. Construction of car park, wash room complex each near Colpetty, Bambalapitiya & Wellawatta railway stations
c. Construction of 03 overhead bridges (for pedestrian) at Colpetty, Bambalapity & Wellawatte for the public to access the beach from Marine Drive.

III. Development of activities within the Beach Area

d. Provision for component/activities development related to recreation and leisure activities of maximum 20 ha within or in addition to the proposed beach development for commercial benefit of the investor.
e. Construction of a suitable boundary wall (minimum six feet high, to safeguard safety of the public and the tourists visiting the recreational area and to isolate disturbances coming from the rail movements) along the perimeter to separate third/fourth rail track from beach area.
f. Establishment of Amusement Park.
g. Establishment of Aquarium
h. Establishment of Turtle Park.
i. Building of walk paths
j. Establishment of 02 extra life guard stations [Coast Guard] along with tourist police posts at Bambalapitiya &Colpetty.

k. Establishment of two Reverse Osmosis (RO) plants at Bambalapitiya & Wellawatta to provide public with free drinking water.

IV. Options For The Potential Investor

- Renovation/construction of high rise buildings incorporating Colpetty, Bambalapitiya and Wellawatta railway stations as per investor's choice and to be finally decided by the SLR in consultation with MM&WD.
- Construction of an elevated road (Toll) on top of railway tracks as per the investor's choice and to be finally to be decided by the Road Development Authority (RDA) in consultation with MM&WD.
- Construction of beach boutiques along the walking path [inclusive concrete chairs & garbage collection system / bins etc.]
- Building of a pier incorporating the ship model.
- Small boat service between Wellawatta to Colpetty and Wellawatte and Nawala could be commenced with the participation of fisherman in area.
- Extended pier to be created near Colpetty towards sea (to facilitate safe small boat anchorage and launching of boat service for the intended wreck diving sites).
- Operate ferry service between Colombo-Dehiwala vice versa.

Cost Estimation and Calculation

Estimated cost for the project by the potential investor is as follows:
Estimated Total Cost of the Project includes the following two components.

i. Cost to be borne by Private Developer = Rs. 21,261.9 million (US$ 142)
ii. Cost to be borne by Government = Rs. 1,474.6 million(US$ 13)
iii. Total Project Cost = Rs. 22,736.5 million (US$ 155)

Costs to be borne by Private Investor:

Description	Sri Lankan Rupees Million{LKR (Mn) }	United States Dollar Million { US$ (Mn)}
Design and Construction of recreational beach area from Colpetty to Dehiwala		
• Design and constructions of perched beach inclusive of marine structures (breakwater and revertments) from Colpetty to Dehiwala –approx 100ha(including creation of a safe bathing area in the proximity of Bambalapitiya)	16500	110
• Landscaping the existing Land /beach stretch along with the perched beach.[inclusive root bowling of trees, street lighting ,water supply, drainage/sewage system	300	2
• Building of a walking path	30	0.2
• Construction of beach boutiques along the walking path [inclusive concrete chairs & garbage collection system / bins etc.]	9	0.06

• Construction of boundary wall along the perimeter to isolate third/fourth rail track & beach area	150	1
• Building of a pier incorporating the ship model	150	1
• Extended pier to be created near Colpetty towards sea(to facilitate safe small boat anchorage and launching of boat service for the intended wreck diving sites)	150	1
• Small boat service between Wellawatte to Colpetty and Wellawatte to Nawala could be commenced with the participation of fishermen in area	75	0.5
• Amusement park establishment	750	5
• Aquarium establishment	300	2
• Turtle park establishment	15	0.1
• Procurement and consultancy services	900	6
• Contingencies@10%	1932.9	12.886
Total Cost (A)	**21261.9**	**141.74**

Cost to be borne by the Government:

Description	LKR (Mn)	US$ (Mn)
Design and Construction of recreational beach area from Colpetty to Dehiwala		
• 14 drainage outlets including Wellawatte canal outlet & Dehiwala canal outlet to be connected or extended outwards	150	1
• Clearance, preparation of land along the coastal belt from Colpetty to Dehiwala	9	0.06
• Preparation and leveling of land area for development	150	1
• Establishment of 02 extra life guard stations[Coast Guard] along with tourist police posts at Bambalapitiya &Colpetty	9.6	0.075
• Construction of car park, wash room complex each near Colpetty, Bambalapitiya & Wellawatte railway stations	150	1
• Establishment of two RO plants at Bambalapitiya &Wellawatte to provide public with free drinking Water	15	0.1
• Construction of 03 overhead bridges (for pedestrian) at Colpetty, Bambalapitiya & Wellawatte for the public to come from Marine Drive towards beach	750	5
• Other expenses (socio economic survey, bathymetric survey, hydraulic reports, media campaign professional charges etc.)	60	0.4
• Contingencies@10%	129.36	0.86.
Total Cost (B)	**1422.96**	**9.49**
Relocation of Housing, Restaurants & Government Institutions		

• Land acquisition [50 perch approx.] cost for relocating 50 families and construction of 10 storied building	300	2
• Payment of compensation for 20 fishing families	11.5	0.07
• Payment of compensation for relocation of 03 restaurants	30	0.2
• Land acquisition [30 perch approx.] cost for relocating SLN , Coastguard, Police and Police inspector's mess and construction of 07 storied building	160	1.06
• Contingencies @10%	50.15	0.33
Total Cost(C)	**551.65**	**3.66**
Grand Total (B + C)	**1974.61**	**13.15**

Time Line for Project Implementation

Proposed time allocation for the implementation of this project will be approximately 3years from the date of issuing the award letter to the prospective developer. However, it is estimated that a time line of one year will be required for the preparation of the pre-feasibility study and other documents essential for the call for proposals and selection of a competent investor.

Project No 5
COLOMBO PORT EXPANSION PROJECT UNDER PUBLIC PRIVATE PARTNERSHIP (PPP) BASIS

1. Project implementation agency: Sri Lanka Ports Authority

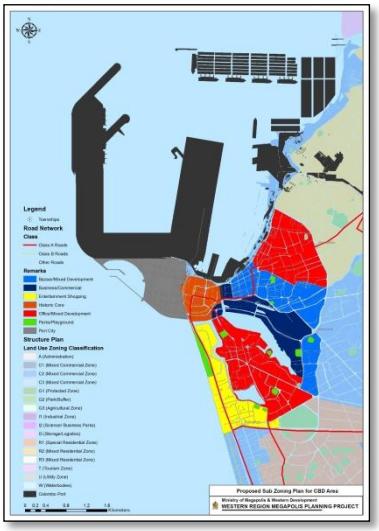
2. Estimated project cost; US $ 850 million

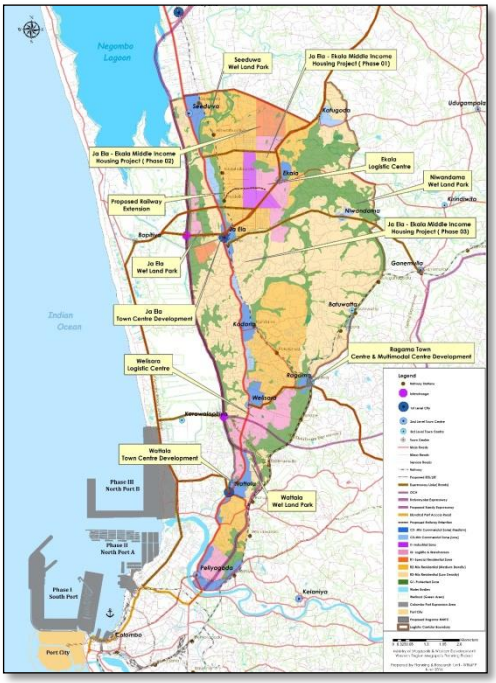
3. Method of procurement: By open tender.

4. Development model: Joint Venture under PPP system

5. Implementation period: 15 Years

Background:





The Colombo Port is one of the major economic drivers in the Western Region Megapolis Plan. It has great potential to grow as a regional economic hub, thereby generating many employment opportunities and propelling development in the port and industry sector. Colombo Port Expansion Project has been planned for the period 2015-2030 by Western Region Megapolis Planning Project (WRMPP), considering the locational, economic and social potentials and taking an innovative strategic approach by integrating future demand attraction, creation of new demand, and the provision of infrastructure and attractive facilities. The project has been conceptualized and planned upon review of Port Expansion development projects and plans done by Sri Lanka Port Authority and the CESMA International Western Region Megapolis Master Plan (2003), in order to drive national policies in line with WRMPP economic targets.

The Port of Colombo, owing to its close geographic proximity to major arterial global East–West shipping lane and its central position to the greater Indian Sub-Continent and adjacent markets, enjoys a unique strategic advantage, marking it as one of the world's most lucrative transshipment hubs for liner shipping. Since Sri Lanka is the only stop over between Singapore and Dubai, the port of Colombo has vast potential to expand its operations.

Justification

There is a long-term trend in the container market towards larger vessels which provide operators with high economies of scale. With the completion of the project, the number of vessels arriving at Colombo Port is expected to increase by 25 million (approx.) Twenty-Foot Equivalent Units (TEUs) in 2030.

The amount of TEUs currently handled by the port of Colombo is 5.2 million (2015). The projected capacity of Northern Port 'A' is 10 million TEUs with the introduction of new technologies it will be possible to increase the capacity up to 15 million TEUs. The projected capacity of North Port 'B' is 10 million TEUs.

The port-related manufacturing, service providing industry and service providing township are the leading economic markets in the world, which Sri Lanka has yet to capture. Moreover, due to arrival of new shipping lines as berth operators, increasing demand in the global container market, as well as proposed trade agreements between Sri Lanka and China, Korea, Singapore and India, additional demand will be generated.

The Vision of Megapolis Plan revealed the need of attracting larger conventional cargo vessels and improving the infrastructure by expanding Sea Port and introducing Free Port concept by integrating the Seaport and Logistic hub. In addition to Sea Port activities, industrial and related activities such as, transshipment, Dry Port infrastructure, storage and warehousing, ship building and repairing, etc. are also proposed to take place in this area.

Due to physical constraints in existing berth, it is not possible to accommodate world class target economies of agglomeration in existing Port of Colombo. By expanding the Sea Port with attractive township facilities connecting inland logistic hubs and providing efficient services/facilities, massive demand will be created for port and related activities. WRMPP targets to generate 5.9% of National GDP from the project in 2030 which is about 35% increase.

By implementing the port expansion projects and simultaneous facilitating the proposed development activities to be accommodated in the surrounding areas of the Colombo port under the Western Region Megapolis Plan, the expected increase of 25 million TEUs in 2030 van be achieved.

Proposals

By considering the importance of hub status and essential functions of the Port of Colombo, SLPA and WRMPP have identified first phase, second phase and third phase development plans for Port of Colombo. Some of these development plans have been studied up to the extent of approved Environmental Impact Assessments, while some of them are at the preliminary conceptual stage. However, SLPA and WRMPP have identified the potential requirement of timely implementation of these developments in the Port of Colombo.

Phase 1 - South Harbour (2015-2020) - The proposed South Harbour development projects are currently under construction and procurement process has been completed. It should accommodate the largest container vessels expected to come into service in the near future.

Phase 2 - North Harbour 'A' (2020-2025) - The phase 2 proposal encompasses reclamation works to gain 150 ha from the coast off Crow Island and another 100 ha of existing land to be improved and converted to support the new port & other port related types of development. Sri Lanka Port Authority is in the process of identifying a consultant for feasibility study by ADB funding. The Phase 2 development has the capacity to cater for 4 main container berths and 1 feeder berth.

Phase 3 - North Harbour 'B' (2025-2030) – Phase Three includes the CESMA International, Megapolis Plan 2003, 'New North Port Phase Three' proposal. The subsequent phase of the New North Harbour 'B' development will involve an area of 350 ha. About 250 ha on new reclaimed land can be dedicated to port related operations and another 100 ha on land side will be for port related commercial and mixed developments. The proposed reclaimed areas in this phase have the capacity to accommodate 9 main container berths and two feeder berths.

It is important to attract more shipping lines; therefore, shipping agents can also apply for Public Private Partnership (PPP) individually or as a consortium (with builders) on Design Build and Operate basis (DBO).

Time Line

The Port expansion is planned for three stages to be implemented between 2015 – 2030, each stage broken down into 5 years. The first stage is under construction and will be completed early 2020. Other two stages will be commenced after selection of funding agencies and selection of contractors. The Government of Japan shown interest in financing the second stage too.

Project No 6
DEVELOPMENT OF LOGISTICS CENTRE AND URBAN RECREATIONAL PARK IN BLOEMENDHAL AREA

1. Project implementation agency: Urban Development Authority
2. Estimated project cost; US $ 1.75 billion
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 5 Years

Development of a logistics centre at Bloemendhal area will pave the way to clear the four warehouses with conventional cargo at Bandaranayaka Quay for its intended development into a fully-fledged 'Passenger Ship Terminal' and the 'Yatch Marina' I n the adjoining area.

This development will regularize and speed up the logistic handling process to a considerable extent by negating the necessity of logistic corridor development outside the port premises in the future. Further, efficiency of cargo handling in Colombo Port will increase and thereby ensuring high/ uninterrupted activities. This development will reduce the cost of cargo handling and boost up the import export industry through fast track operations. National income will also be enhanced through conducting port operations more efficiently.

It is very important to implement the relocation plan of the people living in the shanties, slums and low living conditions in the proximity of the Bloemendhal garbage dump area, to facilitate a logistic centre in the proximity of port access road as per the Master Plan appeared by Ministry of Megapolis and Western Development

Further the above relocation plan once implemented, will pave the way for the community currently in dangerous living spaces to be converted to a safer, environmental friendly, improved level of living. Health hazardous environment will also be mitigated to greater extent, thereby saving colossal money to the government.

Existing Infrastructure Facilities

The existing and proposed infrastructure facilities promote the harbour based development mainly by using the main road corridors. The proposals for the area includes following.

- Port Access Highway (Elevated) from New Kelani Bridge to Colombo Harbour (along Port Access Road)
- Upgrade of Railway Link from Peliyagoda to Harbour
- Proposed LRT Line (Elevated) from Pettah to Hekitta (along Aluthmawatha Road)

Housing Projects in the Vicinity

There are number of housing projects implemented in the vicinity mainly by UDA for the underserved settlements of Colombo City. It is expected to build about 70,000 housing units in the Colombo North. The projects are as follows.

Master Plan

Concept

Integration of harbour activities both by road and rail network Liveable residential area with 'live – work – play' concept.

Strategic Approach

The optimum use of existing lands for the best use while synergizing with cohesive neighbourhood community, Co-existence of people, industry and logistics activities by creating mutual benefits of community and harbour.

Key Projects

The projects for the implementation can be classified under Port related projects, Residential related projects and Infrastructure Projects.

Port Related Projects

- Rail Cargo Scan & Delivery Facility
- Custom Scan Facility
- Entrepot Operations (Logistics)

Residential Related Projects

- Proposed urban park on former Bloemendhal garbagedumping site
- Proposed Wetland Park around Kimbula Ela
- Social Housing Project
- Housing Development for Harbour Staff
- Public Walkway and gathering areas around Bloemendhal Urban Park

Infrastructure Projects

- Proposed Super elevated Expressway Project (linking New Kelani Bridge and Harbour)
- Improvement of existing Harbour connected Railway Track and terminal at Bloemendhal)

Public Parks, Open Spaces and Utility Space

It is about 42.7 Acres of land allocated for public parks and recreational activities while 12 Acres of Madampitiya Cemetery is considered as green space. The proposed projects can be listed as follows.

- Bloemendhal Urban Recreation Park (19.7 Acres) – Part of Garbage Dumping Site Kimbula Ela Urban Wetland Park & Marsh (14 Acres) – Kimbula Ela & Marsh.
- Public Path and Pedestrian Walkway (2 km) – Port Access Road/ New Road connecting the Sirimavo Bandaranaike Mawatha

Port Related Activity/ Logistics Zone

The area has already number of ware houses and logistics related activities. Also by considering the proposed plans by Sri Lanka Ports Authority, following zones are identified.

- Rail Cargo Handling Centre (8.9 Acres)
- Custom Gate and Cargo Value Added Service Area (5 – 10 Acres)
- Entre-port Operations Area (18.7 Acres)
- Private Cargo Handling/ Storage Facilities Area (53.3 Acres)

Residential Development Zone

The area facilitates the housing need of underserved community. Also there are number of residential precincts available in the area. Since most of new housing units are high rise, public open space and common recreational grounds are mandatory in the area.

Also the opportunities must be given to the existing residents to engage in port related activities through employments.
Public walkways and recreational facilities are expected to provide for the residents. These include:

- Pedestrian Walkways/ Green Boulevards
- Community centres and Technical Training Centres
- Schools and Learning Centres
- Religious places
- Playgrounds
- Commercial facilities

- Banks and administrative services

Commercial Development Zone

A land area of 40.9 acres are allocated for commercial development in the planning area. The purposes of the commercial development are:

- Facilitate the residents **with goods and services** for the day to day use.
- Provision of **market opportunities for the businessmen** with increased residential population.
- Facilitate **port related activities** by providing related services

As per the Master Plan key commercial nodes in the Master Plan are **Ingurukade Junction** and **Thotalaga junction**. It is expected to facilitate through following activities.

- Shopping Malls and Supermarkets
- 24 hour banking services and restaurants
- Lodges and Sales Outlets

Project Cost

Detailed cost estimate is not prepared. However, preliminary cost estimate base on similar activities undertaken recent past in other projects, works out to almost US $ 1.75 billion excluding those components that have to be constructed by identified investors for the implementation of activities under private investment. These include the development of commercial zone, the infrastructure related activities and development of public parks, open spaces and public utilities covers the above cost indicated in the project activities. The cost of residential areas allocated to the Colombo Port to construct houses for the staff is not included in the above costs and has to be incurred out of own resources of Colombo Port.

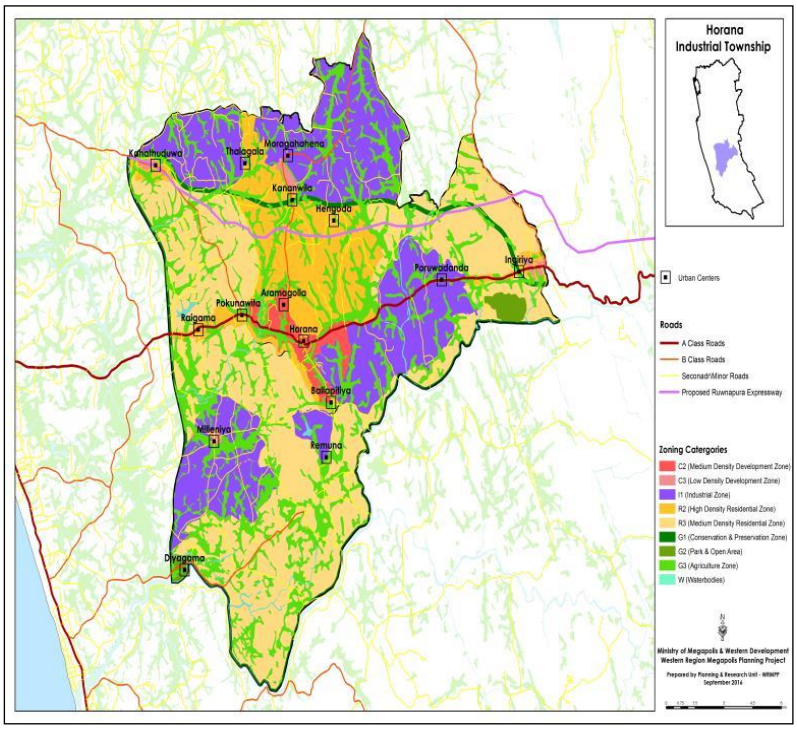
Time Plan

Project is expected to implement within a period of three years, taking into account 2 years for the relocation of households presently living in the area and construction of other facilities. The construction of infrastructure facilities and residential construction by the Port will take another year.

1. Project implementation agency: Urban Development Authority
2. Estimated project cost; US $ 375 million for stage I
3. Method of procurement: By open tender.
4. Development model: PPP Company
5. Implementation period: 4 Years

Project Location:

Horana Industrial City Project is located in the Kalutara District covering the Divisional Secretariat Divisions (DSD) of Horana, Madurawala, Millaniya, Bandaragama and parts of the Bulathsinhala and Ingiriya DSDs. However, in none of these DSDs, only some lands identified are included and the proposed industrial city project covers three locations in Millewa, Millaniya, Poruwadanda and Ballapitiya areas covering a total land area of 3334 acres. Since Horana is the main town cebtering the four areas selected for establishing all industrial ventures, the project is named as Horana Industrial City. The project location is depicted in Map 1.



Horana is a major transport centre connecting the western coastal area of the region, Sabaragamuwa and Uva Provinces through Ratnapura district (via Pandura – Ratnapura Road). Proposed Ruwanpura Expressway running from Kahatuduwa to Ratnapurs will also passes through Horana will make Horana a central location. Further, its proximity to the Southern expressway no doubt benefit the mobility to the industrial city project a time saving transportation facility that provide major requirement for investment attraction. There are two interchanges to the Southern expressway (Gelanigama and Kahathuduwa) with a distance of not more than 7.5 km from the proposed industrial city development. More over the proposed electrified railway line from Kottawa to Horana will connect the industrial city area with the rail network and Colombo harbor generating easy transport of materials and finished goods.

Background of the Project

Based on the economic development vision of the Western Region Megapolis Plan a strategic development framework has been formulated to meet the future needs in the region marking Sri Lanka a high income developed country. Several projects have been identified as investment initiatives, of which Horana Industrial City Development City will be one such project.

Physical, social, economic development in WRMP is aimed at ensuring equitable, inclusive and sustainable development region. Moreover, the potential for sustainable development is to be harnessed while placing much focus on the need for minimizing income and regional disparities. In the Western Region, therefore, development of modern, self–contained and fully fledged urban centers will be a dire need to accommodate people in a rapidly developing economy with social growth. Thus, the present imbalance between services and productive sectors based on various industries has to be addressed by developing productive resources through establishment of viable and sustainable industries focusing on international markets, utilizing locally under-utilized resources as well as underemployed human resources.

Horana Industrial City Project is justified by the fact that there is a felt need for a multi-sector and integrated city development to reduce the pressure on Colombo by increasing demand for job opportunities. It is designed to promote competitiveness by encouraging companies to maintain and expand their operations while attracting foreign direct investment in branded products geared to meet demand of export market.

Similarly, it is important to harness the various demands for the influx of people to Western Region in future. In such a situation, Horana will be an 'integrated industrial township' which could effectively address the social, economic & environmental concerns by enriching, uplifting and inspiring the spirits of future urban users such as employees, employers as well as migrated population of megapolis by 2030.

Maintaining the identity which embosses the Horana Industrial City from the other industrial areas in the region will be the large scale production industrial operations blended with the conservational approach as this areas is comparatively consists with eco sensitive features in the region. Locating comparatively unruffled area in the Western Region, existing industrial estate of BOI, low density of built up areas, comparatively higher availability of developable lands, proximity to Colombo CBD, connectivity with existing expressway and main road network to Colombo Sea Port and Katunayake International Air Port, further strengthening the development capacity of Horana as a well competitive integrated industrial city in Sri Lanka.

Project Objectives

In Horana, there already exists an Export Processing Zone in Poruwadanda, established by the Board of Investment (BOI) of Sri Lanka in 1999. In addition, there are other industrial areas located proximity to the project area, namely, Waulgala Industrial Zone, Wagawatta Industrial Zone, Millewa Industrial Zone and Aramanagolla Industrial Zone implemented by the Industrial Development Board of Sri Lanka. These industrial ventures have already helped the population of the area to experience a

factory based living habits and disciplines. Under this background there is a large scope for the establishment and development of an industrial city in Horana. The main objectives of Horan Industrial City Project will be as follows.

- The project aims to accommodate the large numbers of large scale industries which are scattered in the Western Region without referring to objective planning principles;
- To attract large scale foreign investment ventures producing "Branded Goods" to capitalize the international market facilities
- To provide industries with readymade infrastructure facilities to house their establishments in strategic areas identified as pollution free zones;
- In line with the economic growth, to house large scale industries are also expected to improve in technology and value;
- To add value to primary products in the area and exporting the same for hundreds of years and convert the country's exports to high value products (establishment of natural rubber processing cluster is an example);
- To establish electrical and electronic industrial cluster producing electrical and electronic goods as inputs to Science and Technology City.
- To establish a location for medical and pharmaceutical products presently scattered in the country and attract new investments in the same field.

Since the major lacking element of Sri Lanka's industrial sector is identified as non-availability of properly integrated and connected infrastructure facilities, a main objective of the proposed project will be to build a modern industrial township equipped with supportive facilities for investment attraction that would not only lure foreign-affiliated investment but also to open-up the available facilities for the local investors, too.

The Integrated Industrial Township will be to create a "high-tech and skills based investment environment" integrated with industries focused on the export market. Other secondary objectives associated with proposed industrial city include;

- To operate as the catalyst for fuelling rate of growth of industry by attracting skilled human resources;
- To encourage creation and growth of new businesses through transfer of technology;
- To foster a collaboration between industries and supportive facilities;
- To strengthen the status of Horana as an export manufacturing destination;
- To provide a cordial living environment for the targeted and vibrant families in the neighborhood;
- To create an environment of sense of ownership feeling amongst communities; and
- To maintain compatible land uses and regulatory measures.

Project Components

The proposed Horana Industrial Township will mainly be comprised of 5 industrial clusters located separately from one another.

- Rubber based industry Cluster – **MILLANIYA**
- SME Development Cluster - **BALLAPITIYA**
- Value added Textile and Apparel Cluster - **PORUWADANDA**
- Biotechnology, Pharmaceutical and Modernized Ayurvedic Cluster - **MILLEWA**
- Electrical and Electronic Industry Cluster – **THALAGALA**

In the selected clusters, there are some industries already established. Approach of the proposed project will be to scale up the existing potentials to establish new industries to develop into fully fledged industrial city. The base of Horana Industrial Township will be to integrate all industries with supportive facilities, such as development of Horana city, development and upgrading of infrastructure facilities, development of housing and workers quarters, upgrading of inter and intra region connectivity and mobility, provision of facilities for health, education, vocational training, and provision of waste management services.

Rubber Based Industry Cluster: Sri Lanka is the world seventh largest exporter of natural rubber products. These products are manufactured by 4530 organizations consisting of small, medium and large scale industry units. Sri Lanka produces about 153,000 metric tons of natural rubber annually. Country also produces high quality latex crape rubber to the world market and one of the exporters of solid tires for off road vehicles, which accounts for nearly 20% of the global solid tire market. The global rubber industry experiences a good potential for future growth having an annual rate of growth at 4-6%.

- Approximately 526 acres of state land presently leased out to Kotagala Plantations Ltd located in Millaniya area has been identified for the establishment of rubber based industry cluster;
- Population density in the area is low and presently planted with rubber;
- Close proximity to Kalu Ganga, major source of water supply to Kalutara district, with a precise distance of approx. 3.5 km, as rubber industry consumes high quantity of water;
- High concentration of productive rubber plantations to collect raw materials.

The newly identified and facilitated industrialists will establish their factories during the period 2017 – 2020 and start production at least by 2020. It is proposed that at least 10 large rubber based industrial establishments will initiate investment in this cluster to produce and export rubber goods to the value of approximately US $ 20 billion per year during the period 2020 – 2030. All raw materials will be based on locally produced latex, rubber sheets, crape rubber and other rubber products, presently export as primary products, and convert the country's total local rubber production into finished products or to be used by other industries such as vehicle manufacturing or air craft industry etc.

Apparel and Garment Industry Cluster: Sri Lanka is well geared to meet global market demand for supplying high quality and fashionable readymade garments with world's first LEED certified platinum rated environmental friendly production facility. Sri Lanka also a producer of "Garments without Guilt" under the principles of ethical working conditions, free of child labor, free of forced labor, free of discrimination on any grounds, free of sweatshop practices. Hence, international reputation as a reliable and a quality garment manufacturer with highly competent, skilled and literate workforce. With these advantages, it is proposed to establish a specialized industrial to produce textiles and apparel products especially for the world market.

- Approximately 1,235 acres of state land, presently leased out to Mabok Plantations Ltd situated in Poruwadanda area has been identified for this cluster;
- Entire land area is presently cultivated with rubber and Palm Oil;
- Existing Poruwadanda Export Processing Zone under BOI is located in the area and supportive activities related to textile and apparel industry in available;
- Availability of garment industry based work force living in the area is an added advantage;
- Availability of developable land with all infrastructure facilities;
- Transport facility with two lanes wide road network to Southern Expressway.

At present, the export value of textiles and garments in Sri Lanka is recorded approximately US $ 8 billion per year and accounts for nearly 45 % of total exports, of course the largest export earning single product. Although with the withdrawal of GSP Plus facility by European Union, export of garments has fallen at the initial years of withdrawal but subsequently recovered due to diverting of the structure of garments industry products. Today basically, the development of garment design industry is the major revenue earner.

With the reinstatement of GSP Plus facility by the European Union, the future of garment industry production and exports will have a better situation. Therefore, it is best time to establish new garment manufacturing industries in the country and new investors will come into the country to enjoy the quota facilities available with the reinstatement of GSP Plus facility. HITP proposes to establish at least another 10 garment manufacturing and exporting companies in this cluster and help to increase Sri Lanka's garments export to reach at least 70 % of total exports of the country.

Biomedical and Pharmaceutical Industry Cluster: According to a report published by the Indian Council on International Relations, in December 2014, stated that the global market of pharmaceuticals is about US $ 1 trillion. India's export of pharmaceutical products in 2013 amounted to US$ 13 billion, 30% more than Sri Lanka's total exports. At present, Sri Lankan pharmaceutical companies produce only about 10% of total pharmaceutical products used in the country. Therefore, Sri Lanka shows a large market to fulfill with pharmaceutical products and in this area the Sri Lanka Institute of Nanotechnology should create an ecosystem conducive for the development of pharmaceutical industry in the country. Also with the new government policy of providing pharmaceuticals at reasonable prices, open up an additional reason for the expansion of local production of pharmaceuticals with the objective of meeting at least a segment of external market. To realize this objective, it is important to attract internationally renowned producers with branded names to establish industries in the country.
Sri Lanka also has a good potential for development and export of Ayurveda medicine and medical treatment facilities, utilizing the emerging world trend for indigenous medicine and treatment methods. Introduction of latest production techniques and advanced methods is considered as another potential area to be introduced in this cluster.

- App 1,013 acres of land from Millewa area has been identified for this industry cluster;
- Presently there are several pharmaceutical and cosmetic based industries available in the area;
- Availability of developable land together with infrastructure facilities;
- Proximity to Science and Technology City Project under WRMP to which novel experiments related biotechnology products has been planned using modern technology.

Present structure of the industrial production of Sri Lanka indicates that the chemical and pharmaceutical production sector contributes only 3.2 % to the national product and the value of production in this sector is approximately 10 % of the total industrial production. Accordingly, almost 90 % of the country's requirement of annual pharmaceutical products imports to the country and annual import expenditure of pharmaceutical products amounts to about Rs. 20 billion per year (12 % of total imports).

HITP proposes to call for foreign investors to establish pharmaceutical production companies to produce the total local market requirements and export the balance. The information analyzed in the previous paragraph prove that the import substitution volume alone would reflect an increase in the industrial structure by approximately from the present level of 3 % to almost 30 % by 2030.

Electric and Electronic Industry Cluster: Sri Lanka's electrical and electronics industry sector has grown during the past 4 decades into a key industrial manufacturing sector contributing towards the country's industrial growth. The Industry contributes over US $ 300 million in value added products

and employs over 40,000 skilled workers in its multi- faceted activities. The workforce is drawn from a pool of skilled young men and women with basic academic and technical knowledge. Major products exported include boards and panels (41% of electronic components), electrical wires (23%), and transformers (21%) while other miscellaneous products account for the balance. Employment generation in this industry is approximately 30,000 excluding top-caliber researchers and design engineers. Preferential market access under the Indo-Lanka Free Trade Agreement, Pakistan-Sri Lanka Free Trade Agreement and the European Union Generalized System of Preferences Plus (GSP Plus) Scheme is an added advantage for Sri Lankan exporters of electronic/electrical products.

- Approximately 400 acres of land from Thalagala area has been identified for this industry cluster;
- Population density is relatively low;
- Availability of developable lands with infrastructure facilities;
- Proximity to Science and Technology City of WRMP to supply with electric and electronic goods.

Demand for electric and electronic goods is increasing at a faster rate in the local market as well as in the world market. The rate of increase of demand for electronics is estimated at 12 % per annum during the past decade and for electric goods it was in the region of 8 % per annum. With the rate of urbanization demand for both electrical and electronic goods tend to increase further. The establishment of the science and technology city under megapolis development plan, there will be an additional demand for electrical and electronic goods components as inputs electronic goods components as inputs may have an additional market.

SME Industry Cluster: Small and Medium Scale Enterprises (SME) constitute a considerable part of the Sri Lanka economy, accounting for 80 per cent of all businesses. SME in Sri Lankan context: Share of total employment is 35%; contribution to the GDP 52%; share of total exports 20%. The Sri Lankan SME in Policy discussions emanates also form their role in promoting inclusive growth; developing entrepreneurial skills, innovation and promoting economic growth.

- Approximately 160 acres of land from Ballapitiya area has been identified for this cluster;
- This cluster is close proximity to Horana town center and located centre of the other industry clusters;
- Attractive natural environment with a lake and accessibility to tourists;
- Widespread road network and other infrastructure facilities;
- SME product exhibition centre and sales outlets have been planned to include in the site'

Presently, SME covers a large number of activities spreading from providing food and beverage services to production of different types of electrical and electronic goods in terms of both final goods and production of components of used in the assembly of final products. There are many small and medium level producers who are involved in the production of final consumer goods. They are mainly engaged in the production of household consumer goods using mostly local raw materials employing basically family labour and, in some cases, employing few hired labour. However, in developed countries, many of the SMEs are engaged in the production of different components of large scale production of major industries such as production of motor vehicles, electronic goods such as television sets and electrical goods such as refrigerators. Main producer buys components from different SME producers and assemble them into final products and market the final product with a 'Brand name' and provide a readymade market for the total supply of SME producers.

At present, even though Sri Lankan SMEs are mostly not organized into a small producers linked to large producer basis, the objective of this project will be to organize and develop a similar structure of SME in this country. While therefore, allocating some land for the establishment of traditional SMEs,

most of the area identified for SME development will be allocated to those SMEs who produce components and other requirements of main industries establish in the industrial township. Through this strategy, the total production of SME sector could be considerably increase and ensure a better economy for those enterprises.

Infrastructure Development: There are other infrastructure facilities identified for development in the Horana Industrial Township. There include:

- Development of several townships, Horana (1st order) Township Ingiriya, Moragahahena, Kahathuduwa, Bandaragama and Millaniya Townships as (2nd order)
- Development of Roads; Horana – Meepe Road – 24 km, Gonapola – Homagama – Thalagal Road – 5.6 km, Gurugoda – Malagala – Padukka Road – 5 km, Thalagalgoda – Horana road – 6.5 km, Moronathuduwa – Horana Road – 9.5 km.
- Development of Kottawa – Horana electrified railway line – 18 km
- Construction of houses – 60,000 middle income houses, 8,000 luxury houses
- Upgrading of Horana Vocational Training Center
- Establishment of a solid waste management system to service all industrial and housing development areas. It is estimated approximately 1,000 mt of solid waste per day would be generated by 2030.
- Establishment of a waste water treatment facility to provide services to all industrial and housing development areas. It is estimated approximately 10,000 m^3 of waste water per day would be generated by 2030.

Economic Viability

Total land area covered by the Horana Industrial Township Project (HITP) has been estimated as 3,334 acres. Since area includes 4 major industrial clusters, namely a rubber based industrial goods producing cluster, an apparel and garments producing cluster, an electrical and electronic goods producing cluster and a bio-technical and pharmaceutical goods producing cluster, and another cluster specifically reserved for the development of SME. In all these industrial clusters, the production are mainly focused on exports almost all industrialists will be establishing their industries through direct foreign investment. If any local investors expect to establish any industry, the production of such industries will also focus on foreign market.

For achieving a faster rate of economic growth, the rate of growth of industrial production and exports is a must. The faster growth experience of South Korea during the two decades of 1960s to 1080s proved that the rate of growth of industrial exports was the key factor of achieving the high rate of growth of the economy which scaled up the South Korea to a developed nation as well as a member of the "four musketeers". Through Megapolis development program, Sri Lanka also proposing to reach the status of a high income earning developed country by 2030, and for this purpose it is essential that Sri Lanka develops its industrial production from the present level of 11 % of GDP in 2014 to at least 45 % of GDP in 2030. This will be approximately four times increase of the present production level. In fact, at least 90 % of this production must come from Western Region economy, if the overall target to be achieved.

The Western Region Megapolis Plan (WRMP) proposes to establish two main industrial townships of large size, with approximately in the region of 3,000 acres per township, in Mirigama and in Horana. While Mirigama industrial township will concentrate in establishment and development of 6 areas of industries (electrical & electronics, vehicle assembly, biomedical and pharmaceutical, IT software, agro-based and SME), Horana industrial township has been proposed to concentrate on 5 areas

(electric and electronic, apparel and garments, rubber based, pharmaceutical and SME). In both these townships, it is proposed to establish industries mainly under foreign private investment with the objective of exporting bulk of the output.

In these industrial townships, it is only large industries are proposed under foreign private investment and sales in the local market of course not restricted but expected mainly to export depending on the high capacity utilization and large output expected. However, with the objective of achieving the high rate of growth expected, it is proposed to provide an incentive package mainly consistent of fiscal incentives and executing an institutional structure to oversee whether the export industrialists are actually receiving those incentives proposed rather than offering traditional tax holidays and implementation of export facilitation roles. Accordingly, incentives such as high percentages of reduction of profit taxes and charging of nominal taxes for raw materials used for export industries would be introduced. With similar incentives, it is expected that more and more high value added industries will be established and the expected targets could be achieved.

Since the industrial township project as a total will be managed by a company established with the participation of public sector organization as a shareholder (owning land as equity shareholding) and private investors as other shareholders, investors do not have to bear the cost of land and for development of infrastructure as part of capital investment, the rate of profits earn by the investors will be comparatively high. This will be a better incentive for the investors to invest in new industrial townships, an incentive package hitherto not implemented in Sri Lankan industrial estates. At the same time, the cost of investment is reduced; the financial rate of return expected out of the industrial investments will also be relatively higher.

Since there are some basic development work has to be carried out, the actual cost of the project cannot be estimated, at this point of time. For example, although the total extent of land of the identified industrial clusters, the land utilization pattern of is not concluded and therefore it is not exactly aware of whether the identified land as it is could be utilized for the project or not. Bulk of the identified land is presently owned by the Land Reforms Commission. Some sections of these lands are being leased to persons for development and there exists with recently planted rubber. When acquiring land for the use of industrial purpose, it is not yet decided what land to be excluded from acquisition and what lands should be included in the acquisition process.

Similarly, the taken over land has to be distributed into different sizes of industries and decision on the number of investors to be recruited has to be taken. After completing such activities only, a valuation of land to be considered and included in the project's Books of Accounts. However, as stated above these costs will not affect the investment of individual industries and they will be paying a leasehold rent as against land. The other payment will be a share of profit towards the project organization. Therefore, the project will be financially viable and the rate of return could be assessed after completing the above mentioned cost components.

Environmental Feasibility

The Strategic Environmental Assessment (SEA) of HITP was completed and cleared by the environmental unit of WRMPP. Subject to observations made in SEA, the project may be implemented and the project implementation organization must take full responsibility of implementing the environmental concerns basically during period of construction of industrial buildings and other infrastructure projects. However, prior to the commencement of industrial production, the solid waste management system and waste water discharging and management systems need to be established and these requirements should be essential components of the entire infrastructure development system. No approval should be granted to industrialists, including SMEs

to discharge of solid waste and waste water in their own and must discharge through the central waste handling systems only.

Financial Feasibility

The financial feasibility of HITP has to be conducted on the assumption that the project will be implemented on PPP company basis. As detailing out in Section 11 below, the public sector investment component of the project will be equivalent to the value of land and cost of infrastructure directly affecting the implementation of project. Even though there are some other infrastructure items identified together with the development of the project, those have no direct impact on project implementation and/or satisfactory management of the project. Those shall not include in the cost of the project or as part of the investment of public sector partner and should not be included in the equity investment of the project. Since land is owned by the Government and will be leased out to the PPP Company in the form of a 99 year lease. The Company will pay lease rent on annual basis to the Government.

The public sector equity contribution is estimated as 10 % of total investment and the balance 90 % will comprised of private industry investment. The equity share of each investor will be determined at an initial discussion held the attendance of all investors or their representatives. SME investors willing to participate in the company as shareholders, they are allowed to do so and their equity contribution will be determined later.

The private industrialists will invest in their respective industrial ventures of the project. Each industry will maintain Books of Accounts of individual investments and assess the profits they earn at the end of each financial year. Out of the gross profits each industrial venture, a certain percentage of profits has to be paid to the PPP Company and these profit contribution will be considered as its revenue source. The Company will prepare a profit and loss account and a balance sheet to assess the financial feasibility of the Company.

Estimated Cost

Out of the five lands identified for the Horana Industrial Township Project, the land at Millewa Estate has been already acquired by the government, with an extent of 700 acres, and Megapolis project is planning to implement as Stage 1 of the project in this land. In order to do that Megapolis project is now identifying the infrastructure development needs of this land and develop the same so that suitable investors could be selected and allocated the land for development. It is estimated that the cost of infrastructure development will be approximately US $ 75 million for this stage. Industrial development cost will be approximately another US $ 300 million

Time Line for Implementation

The implementation of infrastructure facilities will require approximately one year. Once infrastructure development is completed, investors could be selected and allocate land for industry development.

1. Project implementation agency: Sri Lanka Railways
2. Estimated project cost; US $ 2 billion
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 7 Years

Background of the Project

Western Province Megapolis Planning unit has made preliminary designs for Light Railway Transit[1] (LRT) project covering Colombo Central Business Division (CBD) and the suburbs. This LRT system is expected to reduce the traffic congestion in the city and suburbs by a considerable level. It would also derive economic benefits such as reduction of private vehicles entering Colombo, saving of fuel, saving of travel time for commuters as well as a comfortable and fast travel option.

The total distance covered by the LRT system is estimated to be around 75 Kms. The system would be linked to existing bus and railway transport systems. The system would operate at grade as well as at elevate levels depending on the terrain of the route.

The past few decades have witnessed a rapid change in urban transport in Sri Lanka and in the Western Region (WR), particularly. The intense traffic crises in Colombo have worsened to such an extent that environmental quality and economic performance of the region are both under threat. As of now, there are about 10 million trips made daily within the CMC (Colombo Municipal Council), of which 7.8 million are motorized trips. New development under the Megapolis plan would further increase the transport demand and hence create traffic congestion. As the nation's busiest international seaport and airport are located within the area, and expansion of such facilities are also in the pipeline, introduction of structural changes to the transport system is of paramount importance to make the metropolitan area a modern, liveable, environment and investor friendly area.

The Western Region Megapolis (WRMP) Transport Plan aims to provide these much needed structural changes by creating an integrated transportation system, comprised of roads, railways, waterways and other modes of transport. One of the flagship projects of the WRMPP Transport Plan

is the proposed Light Rail Transit (LRT) system, which is a form of urban transport similar to a tramway, but which operates at a higher capacity and frequency.

Implementation of an LRT system will increase mode choice for passengers and private vehicle users, boost the level of service in public transport services, improve the accessibility and mobility of commuters and increase public transport coverage. As a result of these interventions, the overloading of existing transit systems will be avoided, the number of private vehicles (especially motor cycles and three wheelers) on roads will be reduced, the quality of ridership will be improved, with better travel time, safety and comfort, more investors and tourists will be attracted to the country and the land acquisition problem for road widening will be solved.
The passenger demand forecast projected in this study is based on an advanced computer simulation technique used by the Megapolis transport team.

Project Description

As defined by the American Public Transportation Association, light rail is "...a mode of transit service (also called streetcar, tramway, or trolley) operating passenger rail cars singly (or in short, usually two-car or three-car, trains) on fixed rails in right-of-way that is often separated from other traffic for part or much of the way. Light rail vehicles are typically driven electrically with power being drawn from an overhead electric line via a trolley [pole] or a pantograph; driven by an operator on board the vehicle; and may have either high platform loading or low level boarding using steps."

Figure 1 shows an image of a typical LRT system, for illustration purposes.

Figure 1: Typical LRT system

Geographically, the proposed LRT will be confined to two areas; the network in the Colombo CBD and the network in the suburbs. All the major points in the core area will be connected by the new system in the CBD, while the system in the suburbs will cater to the major areas that will attract and generate traffic.

The proposed LRT system for the Western Region will operate on 7 main lines. The total length of the system will be 75km, and will include 40 stations as per tentative estimates.. The portion of the LRT system within the CBD (Central Business District) will be a complete elevated system; in other areas, the system will operate at grade wherever possible.
Table 1 shows an overview of the proposed LRT system.

Table 1: Summary of proposed LRT system

	Line	Length
Within CBD		
Green Line (RTS1)	(Fort – Kollupitiya-Bambalapitiya- Borella-Union Place-Maradana)	15km
Yellow Line (RTS2)	Fort- Maradana- Mattakkuliya/Peliyagoda	11.5km
Red Line (RTS3)	Dematagoda-Borella-Kirulapone-Havelock City-Bambalapitiya	10km
Outside CBD		
(RTS4)	Borella –Battaramulla	10km
(RTS5)	Battaramulla – Kottawa via Malabe	9.6km
(RTS6)	Malabe–Kaduwela	6km
(RTS 7)	Peliyagoda- Kadawatha	13km
	Total	75km

The project life time is assumed to be 33 years, with an initial implementation period of three years. The total cost of the project is estimated at 3.909 billion USD if the system is to be developed in three stages and 3.585 Billion USD if the entire system is to be built in 3 years.

Figure 2 illustrates the proposed traces for the implementation of the LRT system. The system is expected to be implemented either in three stages or at once depending on the recommendation of consultants. The stages identified are as follows

Table 2: Stages of implementation of the proposed LRT project

	Stage I	Stage II	Stage III
Total length to be completed (km)	25	21	29
Period (Tentative)	2018-2020	2020-2022	2022-2025
No of stations at grade	0	5	4
No of stations elevated[2]	22	12	9
Tracks at grade (km)	0	5	7
Tracks elevated (km)	25	16	22

Out of the lines listed in table 1, line 1 and line 4 have been taken for feasibility study and finance by JICA. Therefore, the balance 5 lines only included in this project for development. Basically one or more investors will be selected for the development of 5 lines with a time schedule given in table 2.
The preliminary cost estimates show that the total investment will be US $ 2 billion and the Government of Sri Lanka is proposing to implement the project under PPP basis.

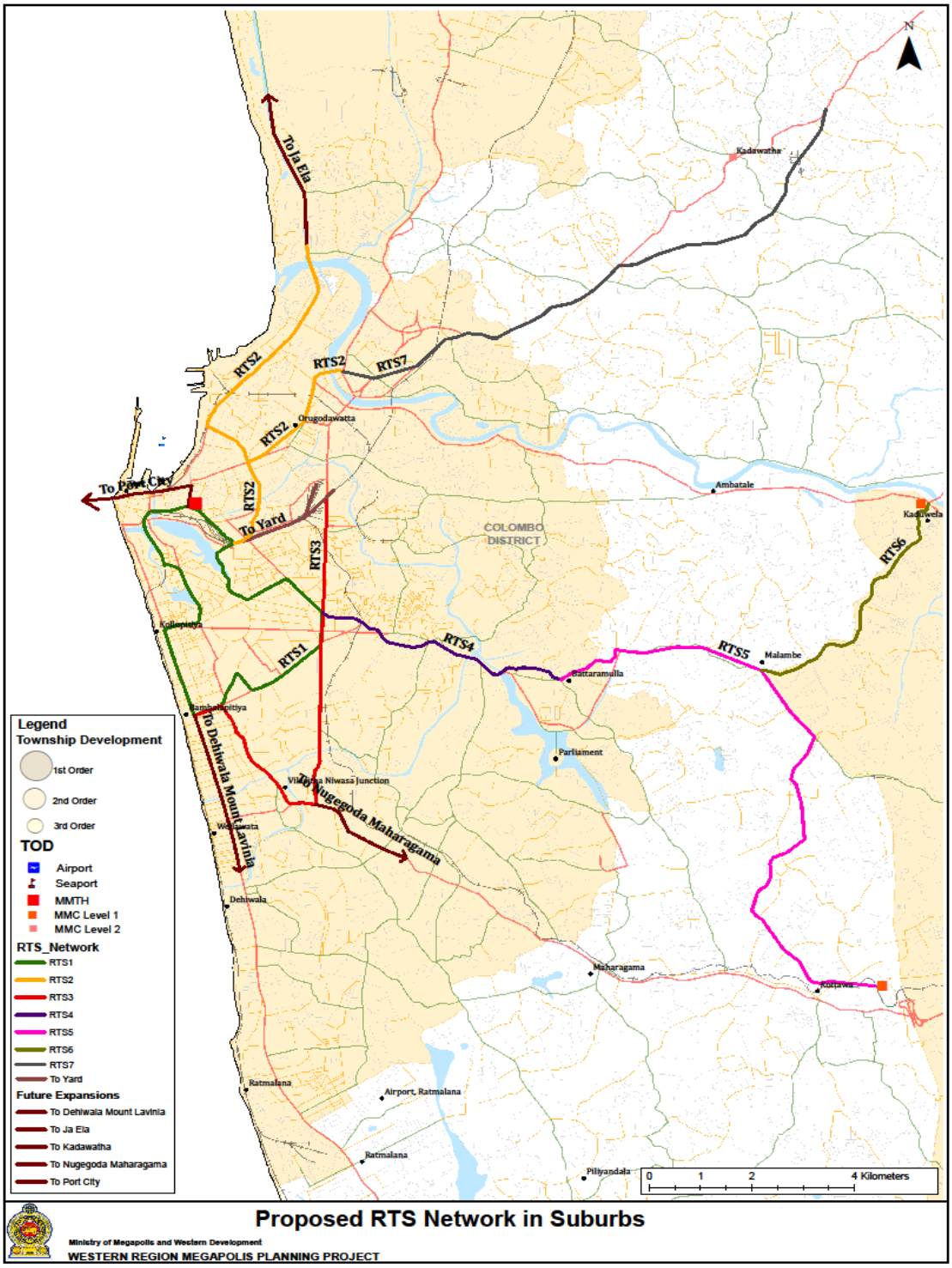


Figure 2: Proposed traces for the LRT system

Project No 9
CONSTRUCTION OF YATIMAHANA RESERVOIR IN MAHA OYA TO SUPPLY WATER TO MIRIGAMA INDUSTRIAL CITY

1. Project implementation agency: National Water Supply and Drainage Board
2. Estimated project cost; US $ 150 million
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 5 Years

Background

The Maha Oya is the main drinking source for the major population centres of Aranayaka, Kegalle, Mawanella, Polgahawela, Mirigama, Alawwa, Giriulla, Divulapitiya, Pannala, Negombo, Warakapola, Wennapuwa, and Dankotuwa. There are at present a number of barrage diversion schemes diverting water to paddy fields. There is also a textile mill water intake for MAS Intimates Thulhiriya.

Various agencies related to water infrastructure have experienced water shortages in the Maha Oya basin for more than a decade, especially during the months of February and September. The water supply and demand situation in Maha Oya basin is not under proper management and hence water shortages in the area have increased substantially in the past few years. Moreover, the existing systems of watershed management, especially for pollution control, are inadequate to ensure the quality of water resources demanded by the rapidly increasing population and level of economic activity in the area. The water demands of the proposed Aero City Project and Mirigama Industrial Township under the Megapolis Plan will further exacerbate this situation.

Justification

A general feasibility study was carried out in 2004 by the National Water Supply and Drainage Board, on the improvement of water availability for water supply schemes from Maha Oya.The study concluded that establishment of a balancing reservoir at Yatimahana is clearly the overall most promising alternative from storage, geologic and environmental standpoints. In addition to the reservoir itself, the study also recommended that a hydropower plant be established at Yatimahana to serve the future energy requirements of the region.

The proposed project will bring many benefits to the people of the areas served by the Maha Oya. Firstly, the quality of life of people depending on the Maha Oya (especially in rural areas) for their potable water requirement will be improved by assured long term supply of water of good quality, as well as elevated income levels and increased job opportunities. Due to diversified crop patterns

caused by the project, the daily intake of fruits and vegetables of people in the area will be increased, leading to positive side effects.

Proposals

Based on the findings from the 2004 study, as well as the water demands of upcoming megaprojects such as Aero City and the Mirigama Industrial Township, the Megapolis Infrastructure Committee has proposed that a reservoir be constructed at Yatimahana.

The proposed site is located 400m upstream of the confluence of Maha Oya and the Tangalle Oya. The water spread of the proposed reservoir is 85.7 ha, and the annual yield is estimated at around 285 million cubic meters. This site can store about 12.7 million cubic meters of regulating capacity that can be made available for assuring adequate water supply from the nine schemes downward from the dam site. If a hydropower plant is also to be constructed at the same site, the estimated potential hydropower from the plant is 2.12MW, or 18.59 GWh.

The positive effects of the balancing reservoir can be augmented by the provision of small regulation weirs at various points along the Maha Oya Downstream. Four sites have been considered for this purpose; Polgahawela, Alawwa, Giriulla and Badalgama. These could be combined with plans already in progress for construction of measuring weirs elsewhere.

A general feasibility study for this project has been conducted by in 2004. A detailed feasibility to be carried out and the government of Sri Lanka is determined to finance this study.

Cost Estimate

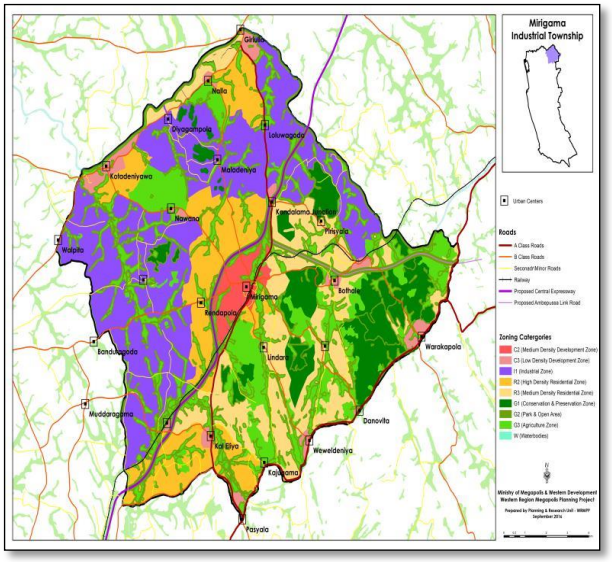
Preliminary estimates show that the project is estimated to cost approximately US $ 150 million.

Project No 10
MIRIGAMA INDUSTRIAL TOWNSHIP DEVELOPMENT PROJECT

1. Project implementation agency: Urban Development Authority
2. Estimated project cost; US $ 700 million
3. Method of procurement: By open tender.
4. Development model: Joint Venture under PPP system
5. Implementation period: 7 Years

Introduction

Mirigama has been identified as one of the key centers for industrial development, as an important project under the Western Region Megapolis Development Plan (WRMDP). The objective of Mirigama Industrial Township is to develop the area as a vibrant industrial township, supplied with high quality infrastructure and utility services. Presently, Mirigama is a transport center with entry point to northern, eastern and central province of the country. Also to the West it is directly connected with Bandaranaika International Airport and Colombo Port and the new contiguous logistics corridor that connects International Airport and Colombo Harbour.



Study Area Overview

Mirigama industrial township development will be a key strategic project of WRMDP linking Sri Lankan economy with the World economy. It is located in the North East section of Gampaha District, occupying approximately an area of 186.6 sq.km. There are 149 Grama Niladhari Divisions including 273 of villages in the Mirigama DSD. The Division has a lot of available land for development with comparatively low cost of labor. Accessibility to the proposed industrial area is highly important with direct rail and highway connections to many parts of the country. Mirigama will be the center of proposed Colombo - Kandy expressway and Colombo - Jaffna expressway.

As per census 2012, total population of Mirigama DSD was 140,057, and estimated to increase to 264,277 by 2030 due to natural increase and migration as a result of the proposed industrial and commercial development. The present housing stock of the Division 37,714 will have to be increased by another 43,668 new housing units to fulfill the residential requirement of increased population.

Present Status of Development

The current land use pattern in Mirigama is dominated by coconut and paddy. Total land extent is 18,389 ha of which coconut plantation dominates with 3,670 ha (19%) and 1,200 ha (6%) with paddy. The remaining land area is forest. Mirigama has an export processing zone (industrial estate) operates under BOI. There is ample land available for future development with comparatively low wages. Details of the present export processing zone of Mirigama are given in table 1, below.

Table 1: Details of Export Processing Zone, Mirigama

Location	65Km North-East of Colombo and 35Km from Katunayake Air Port
Year of Commencement	1998
Total Extent	260.509 Acres
Industrial Area	173.563 Acres
Worker population	3830 (Female:2590, Male, 1240)
Transport	Rail facilities, Bus terminals, Dry Port facility rge
Environmental	Landscaping
Access	Tarred road, security lighting, chain link
Water	Adequate supply treated to WHO standards storage facility within zone 900 meter cubes
Power availability	10 MVA through grid submission
Centralized	Administrative building

(Source- BOI, Sri Lanka)

There are 8 industries within the zone and BOI is providing service of a total of 19 enterprises within Mirigama.

Project Objectives and Components of Industrial Township

Following are the objectives of proposed Mirigama Industrial Township Development Project.

a) To facilitate development of high value added, technology based industries, agro based products and aviation industry related products through provision of modern industrial, infrastructure and utility services.
b) To induce commercial development in and around the township.
c) To make it a preferred township for living with state of urban facilities, including housing, transport and other amenities.
d) Encourage the development of export oriented industries taking into advantage of location facilities (close access to the Airport and logistics corridor.
e) To develop a vibrant urban living environment.

In order to develop Mirigama as a vibrant living city, the following components have been identified to include in the township development plan.

- Use of wetlands and forest areas as green buffers for industrial development
- Develop Mini Logistics Hub with multimodal access

- Expand density in the existing town center to cater to future demand
- Develop Multimodal Transport Hub at city center
- Preserve environmentally sensitive areas through regulation, and
- Establish green link between forest patches.

There are few major zones proposed for development within the industrial township, namely, industrial zone, logistics zone, residential zone, common facility area and the City Center, which consists of commercial zone, recreational area and civic zone. In each zone the following activities and facilities are planned.

Industrial Zone

- Precision Engineering,
- Bio Medical,
- Electronics,
- Associated SME's,
- Agro based Industries,
- Gem & Jewelry,
- Common Health Care Facilities,
- Fire rescue facilities.

Residential Zone

- Workers Quarters
- Housing Units
- Recreational activities
- Day Care nursery
- Retail Shops

Commercial Zone

- Multi modal Transport Hub
- Wholesale/ Retail Marts
- Shopping Malls
- Hotels/Restaurants
- Public Parking Areas
- Banks/commercial Offices
- Professional Offices
- Open Trading Areas
- Customer Care Areas
- Socio Cultural Institutions
- Information Centers
- Service Industries
- Filling Station

Logistics zone

- Container Yard
- Container Handling Facility
- Warehousing
- Cold storage
- Office Space
- Inter-modal transfer Facilities
- Banking and Insurance etc.

Proposed Common Facilities

- Fire Rescue Facility
- Waste Water Treatment
- Solid Waste Management
- Storm /water Management
- Telecommunication
- Rail Connectivity for Cargo
- Multi Modal Logistics
- Transport Facility
- Shuttle Bus Services

Recreational Area

- Public Open Space
- Water Front Public Space
- Eco Park
- Restaurant
- Tree Line/Nature Trails
- Public Parking Areas

Civic Zone

- Administrative Offices
- Educational Facilities
- Convention Center

Project Implementation Plan

This project implementation plan is formulated on the assumption that the Mirigama Industrial Zone is established as a Limited Liability Company land owners and prospective investors to be shareholders.
A total land extent of 657.56 ha has been identified for the Mirigama Industrial Zone in GN Divisions of Giriullagama, Hapugahagedara, Kandangamuwa, Loluwagoda, Loluwagoda South and Madurupitiya in Mirigama Divisional Secretariat. Out of the total land extent only 1.5 ha is owned by the State, of which majority is presently owned by the Land Reforms Commission and the rest of 656.06 ha owns by a large number of private owners. A detailed list of owners of identified land plots are available at Megapolis Planning Project.

Since land owners will be shareholders of the company, Mirigama Industrial Project proposes that it should negotiate with land owners on the methodology and process of transferring their land to company and agree on the terms and conditions of compensating for land other matters relating to the share ownership. A request may be made to all landowners to voluntarily transfer the land to the company provision of alternative accommodation for residence within the same area.

Construct Houses to Relocate Households Living In the Project Area

An estimated number of 600 houses will be required to relocate those families whose land have been taken over. These houses will be of different of sizes extending from 450 sq. ft. to 1,000 sq. ft. supplied with all amenities. Estimated Cost of constructing the houses for relocation will be approximately Rs. 3,000 million.

Provision of Infrastructure Services Up To the Industrial and Commercial Sites

The following infrastructure services need to be provided to the land plots for the benefit of investors.

- Road development to provide access to all land plots; to meet this requirement three types of roads (Internal roads within the industrial zone – 11.6 km of 30 m wide, 8 km of 20 m wide and 46 km of 15 m wide and external roads), including culverts; **Estimated Cost Rs. 6,859 million**.
- Construction of External Roads to improve road transportation to and from Mirigama Industrial City; **Estimated cost Rs. 7,372 million**.
- 5.2 km length of railway line from main rail road (Colombo – Polgahawela) up to industrial zone together with construction of railway terminal; **Estimated cost Rs. 654 million including cost of land**.
- Construction of 80 MW Power Station and distribution lines; **Estimated cost Rs.8,500 million**.
- Construction of a Water Supply scheme with a treatment plant, water towers and distribution system; **Estimated cost Rs. 9,500 million**.
- Construction of a Transport Hub; **Estimated cost Rs. 89 million including cost of land**.
- Storm Water Drainage network with length of 67.6 km; **Estimated cost Rs. 320 million**.
- Solid Waste management system; **Estimated cost Rs. 1,540 million**.
- Waste Water Management system; **Estimated cost Rs. 2,540 million**.
- Other facilities such as Bus-stops, Fire Station with Fire Rescue systems,(**Estimated cost Rs. 40 million**); Medical center (**Estimated cost Rs. 20 million**); Commercial complex (**Estimated cost Rs. 35 million**); Administrative complex (**Estimated cost Rs. 15 million**)

Housing scheme with 10,000 units to provide housing to industrial workers (**Estimated cost Rs. 32,750 million**);

Estimated cost of above infrastructure facilities will be Rs. 107 billion, including the cost of land.

Selection of investors on Industry and Commercial Development

As an initial step of selecting industrial and other business investors, an international tender may be called for applications to be made for the selection of industrialists and other investors. There will be two types of investors to be selected.

i. Industrial Investors, and
ii. Commercial) Investors.

The industries propose to establish inside the Zone will be in the categories of:

- manufacturing of Electrical and Electronic items,
- Manufacturing of pharmaceutical products,
- Manufacturing of computer and computer software systems,
- Vehicle assembling and manufacturing,
- Value added Vegetable and Fruits based Food processing.

These industry categories have been identified to safeguard the prevailing environmental status of the area without polluting the present environment. In order to safeguard the environment, a solid waste collection and disposal system, using incineration technology, and waste water collection and treatment system has been proposed. Cost estimates for waste disposal/treatment systems have been included in the project costs.

Qualifications to be fulfilled by Industrial Investors

Industrialists who qualify to perform the following conditions will be considered in the selection

i. All selected investors have to be shareholders of Mirigama Industrial Zone Co Ltd, and there shareholding will be limited to the capital investment;
ii. Minimum 80 % of capital investment shall be raised from foreign financing sources;
iii. Other than the senior managerial positions, other managerial and employment positions should be filled by local skilled persons;
iv. Industrialists shall be able to transfer production technology to locals;
v. At least 75 % of total production shall be exported;
vi. Only 25 % of the estimated cost of serviced land shall be paid immediately to handover land for investment and the balance cost of land to be paid over a period of 10 years at 7% interest per annum on reduce balance method.
vii. If investor proposes to affiliate with another investor, the proposal will be considered as a joint investment and shares will be issued to all affiliated investors but only one vote will be offered at the shareholder meetings. All details of affiliated investors need to be given to the Company.
viii. All industrialists who are selected as prospective investors need to start construction of industries as early as possible and should start production within a period of two years after selection. Non commencement of work within the first six months, the selection and offer will be cancelled and offered to the next eligible investor.

All tax and fiscal incentives applicable to investors under the Board of Investment (BOI) will be applicable to the industrial investors of Mirigama Industrial Development Co Ltd, and government will take action to grant those tax and fiscal incentives.

Non industrial and commercial investors shall not eligible for BOI benefits.Prior to the calling of applications from investors, WRMP, the major shareholder on behalf of the State and main organizer of the company, shall establish the company and register at the Department of Company Registration.

Establishment of SMEs

There will be two sites allocated for the establishment of SMEs. One site is supplied with all infrastructure facilities and other site also provided with basic infrastructure. The first site is reserved for mainly manufacturing SMEs and priority will be given to those SMEs producing components and spare parts to be used with main industries established in the Zone. The site has an extent of about 80 acres and approximately ¼ to ½ acre will be allocated for one enterprise, on similar terms offered to other investors (25 % of cost of serviced land immediately and balance in 10 years at 7% interest on reducing balance). These SMEs will be given prior information about the industries proposed to establish in the Zone and allow them to negotiate with them and arrive at decisions on the quality of products and their ability to supply regular basis. If they cannot find agreement on supply, respective SMEs have to take the responsibility of marketing their products. However, the SMEs. The second site which is equivalent to about 100 acres will be allocated for trade and services based SMEs but eligible to establish even processing industries (food or vegetable) at same terms of payment for land. Since Mirigama and close by area is within the coconut triangle of the country, the establishment of coconut based industries and production of machinery and equipment for the development of coconut based industries as well as production 'virgin coconut oil' is also encouraging within the SME sector.

These SMEs will not be shareholders of the Mirigama Industrial Zone Co. However, those SMEs will be organized into industrial clusters and organized into few clusters based on the use of raw materials as inputs and similarity of final products. Each cluster will form into a group and organize as a corporative body and be responsible for the supply of inputs and find markets for the group products. The accounting and book-keeping responsibility of all member SMEs will rest in the hand of the group organization. Eventually these individual groups will be given computer knowledge and provided with digital facilities including digital banking and e-accounting etc and promoted with international marketing etc.

Commercial Investors

In the selection of Commercial Investors, too, the same procedures will follow. They will be selected through public advertisement. However, a section of commercial investors will be offered shops constructed within the commercial complexes on full payment of the cost of construction. Those who are willing to construct their own commercial establishments will be offered land to be paid at cost. The building may be constructed, according to individual requirement. No concessions will be given for such investments.

Operations of the Company

For day to day operations of the Company a Board of Directors will be established on the proportional representation of shareholdings. The total number of members of the Board of Directors will be 9, where 2 members (including the Chairman) to be represented public sector and 5 members to represent industrialist and the balance 2 members to represent commercial investors. The Chairman of

the Company will appoint by the public sector shareholder. A Company Secretary will be appointed to undertake the secretarial work of the Company.

Project Feasibility

The estimated total cost of Mirigama Township Development Project will be Rs. 111.1 billion (or US $ 766 million). The project implementation period, land acquisition an provision of infrastructure, will take a period of 3 years. After the allocation of land to selected industrial and commercial investors, it is assumed to take another two years for development. In other words, from the date of commencement of project implementation, industrial production will take a period of 5 years to start revenue generation from project outputs.

The revenue flow of the project has been identified to commence as follows:

- Industrialists and other users to pay for the land on the basis of 25 % down payment and balance to be paid in 10 years, on equal installments, with 7 % interest p.a. on reducing balance method;
- Middle-income Houses to be sold in 5 years on equal proportion;
- User charges for electricity and water to be paid from the 1st years of project implementation
- Profits to be distributed among shareholder after 5 years of industrial production (Government to get 20 % of dividends as its profits share).

Total Estimated cost will be US $ 700 million.

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