

The Functional Zones of the Colombo City

THE Colombo City covers an area of about 8,711 acres comprising the built-up areas (5,700 acres), lake (about 213 acres) public parks (about 200 acres), marshy and open land (about 1,000 acres) towards its northern and eastern margins which are in the flood plain of the Kelani Ganga. Most of the built-up area is contained within ten and thirty feet above mean sea level and this is widespread, stretching north-south than east-west, but prominently protruding south and south-eastwards. (Fig. 1; and Table 1).

TABLE I
Surfaces and their approximate area in acres

Below 4 feet	1,000
4-10 feet	1,775
10-30 feet	5,350
30-50 feet	425
above 50 feet	150

Commerce, residence, industry, transport, institutions, agriculture and open spaces all play their own role in the differentiation of functional zones in the city. The following zones (Fig. 2). were delineated and established¹ after detailed field investigations, careful inspection on the ground in conjunction with analysis of 1: 3,168 plans of the Town Survey series published by the Ordinance Survey, Ceylon.

I—Commercial Zones

1. The Port Premises.
2. The Fort-Multifunctional Core.
3. The Pettah-Wholesale and Retail Centre.
4. The Retail Shopping Centres at Junctions and the Business-Ribbons.

1. The suggestions and techniques of A. J. Hunt were applied with necessary modifications.

A. J. Hunt, *The Techniques and Value of Urban Land-Use Survey*. *Indian Geographical Society Silver Jubilee Souvenir*, 1952, p. 106-113.

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II—Residential Zones

5. Inner-Mixed Zone.
6. Outer Residential Zone.
 - A. First class houses.
 - B. The cottages.
 - C. Storeyed-flats.
 - D. Sub-standard houses, shanties or hovels.
 - E. Professional areas.
7. Sub-urban Housing Areas.

III—Industrial Zones

8. Dangerous and Offensive Trades Areas.
9. Rubber Smoking Area.
10. Coconut Storage Area.
11. Special Trades Area.
12. Industrial Enclaves.

IV—Transport Zones

13. Railway Yards and Stations.
14. Central Bus-Stand and Secondary Stands.

V—Open Spaces

15. Public Parks and Playgrounds and Semi-public Open Spaces.
16. Open Land and Marshes.
17. The Lake Surface.

I—Commercial Zones

1. *The Port Premises and the Mutwal Fishery Harbour.*

The Port Premises occupy the crescentic shape shoreline extending from Custom's House Point to Mutwal Point. From Mutwal Point, a protection mole projects north-west to the sea and another mole in the same direction affords shelter to the Trawler Harbour and fishery harbour for the local fishing boats. The harbour wall fronting Church Street, Leyden Bastion Road, Reclamation Road, Sea-Beach Road, Kochchikade Road, and Korteboam Street separate the Port Premises from the Fort-Multifunctional Core area. However, the areas under the jurisdiction of

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the Colombo Port Commission includes the port area, the lake, the San Sebastian Canal, Kimbulawala marshes, the Chalmers Granaries and the Manning Market.

Three modern quays, Queen Elizabeth, Delft and Vijaya, numerous jetties, patent slip, graving dock, coaling jetties and depots, warehouses, stores, workshops, offices and Customs buildings constitute the form elements of this zone. (Fig. 3). These structures and equipment facilitate the main functions of the zone, namely the export-import trade, the passenger traffic, transshipments, ship repair and marine engineering.

Functionally, there is segregation of special areas and a general demarcation of the western sector of the harbour for imports and the eastern sector for exports. The passenger-cargo traffic is confined to the western sector, making good use of the berthing facilities along Queen Elizabeth Quay. The discharge of foodstuffs and general cargo is carried out in the Delft Quay which has mechanical equipment for direct delivery of bagged grain, flour and sugar cargoes to the granaries and the stores. This quay is also used for the regular South Indian transshipment trade. Along the eastern sector, facilities are installed for the discharge of oil, coal, and the bunkering of vessels. Oil is transmitted by pipeline to Bloemendhal storage depots and central depots at Kolonnawa. These two sites combine dual advantages of isolation, yet situated close to the port and site suitability so essential for an enterprise of this nature. Railway coal and phosphate cargoes are handled at the coal jetties and stored in the depots. For the storage of coconut oil, there is a special area in the north-east. Since this area is under the jurisdiction of the Port Commission, it is included as a port industry. Another functional change is that the modern arrangement for berthing facilitate direct discharge of food cargoes to the lorries, so that lorry congestion at Chalmers Granaries (Lotus-Norris Roads) is partly removed. Warehousing also show differentiation of functions in the port area. The new one-storeyed warehouses on Queen Elizabeth Quay are for general cargo, the Kochchikade warehouses for grain, those along Harbour Canal for timber and metals. The five export-warehouses are situated to the east of the canal. The perishable cargoes are handled in the transshipment warehouses, especially the Kochchikade group.

The shift of the Passenger Terminal and the functions connected with passenger traffic to its new location on Queen Elizabeth Quay has brought functional changes. York Street which was formerly at almost right

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angles to the Old Passenger Jetty has lost some advantages as a tourist shopping area. Consequently the flow of traffic is more intense along Commissariat Road and Marine Drive than along York Street.

Though the lake (popularly known as the Beira) is classified in the category of open spaces, functionally, its role is more commercial than recreational. The Beira is a commercial annexe to the harbour, consequently its waterfront has attracted many industries connected with the port. The canalisation of the Beira and the installation of locks enabled a greater commercialisation of the Beira premises. A new surface about 200 acres in extent was reclaimed from the shallow margins of the lake and this was put under a balanced pattern of land use, namely parks, playgrounds, government offices, commercial store-houses and firms.

The influence of the Beira on the micro-climatology of the city is considerable. However, in the absence of detailed investigations in this respect, it can only be said that the quality of the atmosphere in and around the lake is considerably affected by the water surface. From the point of view of recreation, the Beira is used exclusively by the high classes for boating and other aquatic sports. The Beira certainly improves the natural setting of the city.

2. The Fort-Multifunctional Core

The Fort is the focus of the entire city and the metropolitan region. It is the place associated with the highest land values, (ranging from two to six million rupees per acre), tallest buildings (about sixty to one hundred feet high), high density land-use, and the greatest concentration of people during the day hours. The central area offers the convenience of both "accessibility and availability". Accessibility is the ease of movement to this area and has to be measured in terms of roads, transport, ease of movement and the time taken to travel certain distances. Due to the rhythmic movement of the people in and out of the centre, where so many urban functions are carried out, the time-distance varies with the time of the day and in terms of parking space for motorists. There is a phenomenal increase in the numbers of vehicles circulating in the Fort for an average day in 1957, when compared with an average day in 1951. The numbers have increased from about 1,000 vehicles at 8 a.m. to about 2,600 by 10 a.m., reaching a peak volume of about 2,800 vehicles between 10 and 12 noon. A secondary peak is noticed between 2 and 3.30 p.m. A sharp decrease in traffic begins about 4 p.m. and about 5.30 p.m. the core

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is almost deserted.² It is to be expected that the recent "Origin—Destination Survey" of traffic conducted by the Public Works Department in conjunction with the United States Operations Mission may reveal its nature, intensity and the dynamic pattern of this relationship which exists between the core and the commuters' areas.

Owing to the congestion of vehicular traffic in the Fort and the scarcity of parking space there, the Fort area is declared an "one-way zone" during the busy hours of the day. This "uniflow" circulation has certainly increased the mobility of traffic and thereby reduced traffic congestion. Availability is the number and kind of services and activities found within this area. The multifunctional core serves as the centre of business and commerce, finance, insurance, banking, wholesale and retail distribution and government administration. Consequently, it is the greatest area of employment and business concentration. This has resulted owing to functional convenience and functional magnetism of the core.

The Land-Use Map of the Fort (Fig. 4) shows the following functional sub-areas:

- (a) The areas of the government offices and public buildings.
- (b) Multifunctional area.
- (c) Residential enclaves.
- (d) Open enclosures.
- (e) Port premises.

(a) *The areas of government offices and public buildings.*

The Fort is the centre of government administration. More than forty per cent of the offices are located there. Although the offices are found throughout the central area, their distribution is not entirely haphazard, but owes much to tradition and inertia. The Queen's House, Prime Minister's Office, the Senate, the New Secretariat, General Post Office are along Queen Str et. Lotus Road frontage is exclusively occupied by the Parliament, Old Secretariat, Cooperative, Central Bank and Fort Police along the lower section, Central Telegraph Office and the Postal buildings along the upper section. The offices of the Surveyor-General, Public Works, Registrar-General, and Y.M.C.A. are along Chatham Street (east). Bristol and Gaffoor blocks accommodate few government offices showing

2. Data is from Department of Town and Country Planning, Colombo, 1958.

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typical mixing of functions vertically. The Navy Quarters are along Flagstaff Street. It is seen that in the core, administrative and commercial functions are juxtaposed. It is possible to demarcate certain other areas in the city which are predominantly devoted to government administrative functions.

Government departments and offices have expanded and new offices opened especially after Ceylon's independence (1948). A scatter from the Fort to other areas has taken place. Three such areas are (i) Along McCallum Road occupying the reclaimed land from the Beira, are the Departments of Postal Services, Town and Country Planning, Electricity and Cooperative Wholesale Establishments. (ii) At Edinburgh Crescent, some of the offices occupy government and private storeyed residences. (iii) Torrington Square—Bullers Road sector another locus of some government offices. A recent trend has been the decentralisation of offices towards the city-fringe and the suburban areas. This is shown in the transfer of the Departments of Motor Traffic, Agriculture, Agrarian Services, Marketing and the Milk Board to a new location at Narahenpita. Satellite towns of Ratmalana and Maharagama are likely to be secondary administrative centres in the future.

(b) Multifunctional area—mixed retail services.

This area is between Queen Street (west), Lotus Road (east), Canal Row (south), and the Port premises (north). The main business and shopping is along York Street. Here is found the greatest concentration of department stores, commercial firms, banks, insurance companies, jewellery shops and hotels. The three multi-storeyed department stores, however, occupy the largest floor-space, for each block has about sixty to eighty yards road frontage, considerable depth, about eight feet wide arcade, and about ten feet wide pavement. Wholesale and retail sales for china, glassware, stationery goods, electric appliances, scientific instruments, jewellery, silverware, drugs and pharmaceuticals, luxury articles, textiles, shoes and children's goods are carried out.

The floor space-use of the buildings is different. The ground floors are usually used for retail services, the first and second for offices, the higher floors for living apartments, as in the Grand Oriental and Bristol hotels.

Retail shops of a lesser degree, especially for textiles, silk goods, cottage products are along Chatham Street (west). The small shops for grocery, tobacco goods, and miscellany goods are along York Street (south) and

Prince Street (east). The absence of such shops as butchers, green grocers, hardware stores and bulky goods clearly shows the prohibitive effects of high rents on these products in this area. There is high density of pedestrian traffic along the arcades and pavements of York Street especially at the peak shopping period. The concentration of banks, the head offices of the largest commercial firms, oil firms, insurance companies, shipping, travel agencies and the Chambers of Commerce in this small and compact area is of immense functional significance and exerts a functional pull over the entire metropolitan area. The absence of commercial banks elsewhere has made the core the only centre of all banking, financial, and credit activities, in fact for the whole of Ceylon.

(c) *Residential enclaves.*

The Army and Navy quarters and barracks along Queen Street, Flagstaff Street, and Galle Face Road are historic functional enclaves emphasising their original defensive function in the Fort. These institutions have maintained and safeguarded the property rights and have not shifted from these locations elsewhere despite competition for land from more profitable uses.

(d) *Open enclosures.*

The core has retained Gordon Gardens enclosed in the Queen's House Square and Echelon Square as its open spaces. The Galle Face Green extends southwards as an appendage.

(e) *Port Premises.*

This has been discussed already in section 1.

3. *The Pettah—Wholesale and Retail Centre.*

A loosely built-up tract which was formerly the areas of Lotus Pond and Racket Court, now occupied partly by the Chalmers Granaries and the Harbour Canal separate the Fort from the local business areas of the Pettah. The contrast between the Fort and the Pettah may be as great as West-End and East-End of the London townscape. However, in Colombo, these features are on a miniature scale.

The Pettah business centre extends from the Reclamation Road (north) to Norris Road (south) and Front Street (west) to Gasworks Street (east). Wholesale and retail trade is carried out in all the major and cross streets.

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However, Main and Norris Streets are the two major ribbons of shopping. Main Street is flanked on each side by an almost continuous line of retail shops, the quality, the size and dominance of which decrease steadily eastwards. The shops to the west have about forty to fifty feet road frontage and considerable depth. These are mainly for textiles, ready made garments, tailoring and light manufactured goods. Those along the eastern section are small with about ten to fifteen feet road frontage and are mainly for grocery goods oilmen goods, paints and green groceries. Retail trade is entirely confined to the ground floor, the upper floors being used for storage or offices, or even as bed rooms for the shop-keepers. Though the Main Street is about fifty feet wide, it has only a twenty feet wide carriage way. It is therefore an one way traffic (west to east) during the shopping hours. In contrast, the location of retail shops along the northern side of Norris Road has been much influenced by, and in relation to the Fort Railway Station, the lorry and taxi-stands, the Manning Market all located along its southern side and the Central Bus-Stand close by. The retail pattern shows hotels, snack-bars, sweetmeat marts, cool refreshment stalls and miscellaneous stores catering to the needs of the vast transit passengers of the railway-road transport services. The retail pattern of the parallel streets and cross streets is extremely mixed. The size, shape and appearance vary from shop to shop showing unplanned building development in small land blocks. None of these shops have access from the rear, thus resulting in traffic congestion along the road fronts when loading or unloading the goods. It is interesting to note that the Second and Third Cross Streets retail more in leather goods including shoes and Dam Street is popularly known for brass, aluminium and pottery goods.

Another aspect of the Pettah retail pattern is the hawker stalls. These occupy the pavements and are adjusted to the limited open spaces. As the stalls are sometimes moved along the carriageways these interfere with both pedestrian and vehicular traffic. Besides, Pettah looks a crowded petty trading area comparable to Crawford Market of Bombay or Quiapo of Manila cities respectively. One of the important elements of the retail pattern is the public market and its satellite stores. The public markets such as the Municipal, Edinburgh, Municipal grain market are along Gasworks Street. The Tripoli, Manning and Cooperative markets are close to the Pettah market foci, situated along Norris Road. These are permanent structures with allotment of space for stalls. Around them many retail stores crowd as close as possible to take advantage of the customers attracted to them. A good number of artisans usually specialising in tin smithing, shoe repair, local tailoring and wood working are also found around these areas.

4. *The Retail Shopping Centres at Junctions and the Business-Ribbons.*

The development of retail business at favourable road junctions has brought some functional change which has altered significant place relationships giving rise to basic structural shifts in the arrangements of land-uses. The growth of these centres was consistent with and appropriate to population increase and areal expansion of the city. Traffic congestion, inadequate mass transport to the core, lack of convenient parking in the core areas have changed the shopping habits of the customers who to some degree show a preference for retail shops at the junctions.³

(a) The Central Junction at Maradana, located at the intersection of three busy traffic routes of Panchikawatta, Maradana and Darley Roads, close to another crossing at Symond's Road, is one of the busiest foci, of vehicular and pedestrian traffic. The growth of retail trade at this junction reflects the advantages of the location, since the railway station, the bus-stand bring in a continuous flow of people. The retail structure consists of, few one-storeyed-hotels, photoshops, many ground floor eating houses stalls for light refreshments, sweetmeats, local and imported fruits and miniature stalls for chew-betel. The Maradana is comparable to the Main Street (Pettah) in retail pattern. Unlike Main Street, Maradana Road has some intermediary spaces for institutional uses as schools, hospital and cinema. In the central business areas of the Fort and the Pettah, land values are more than one million rupees per acre and space for large stores for bulky and low priced goods is scanty. Besides, as the carriageways of the roads of those areas are narrow, access to large conveyances is not possible. For these reasons the stores for hardware, building materials, bricks, cement, tiles, metal, gravel, sand, timber and sanitary ware are located along the wide accessible roadways of South Skinners Road, Armour Street, Panchikawatta, extending along the Barber and Messenger Streets. Adjoining these hardware stores are repair shops, spare parts depots and a few motor garages.

(b) The Maradana Road, the Ward Place, the Base Line Road, the Kanatte Road and the Cotta Road all meet at the Borella Junction. The retail vegetable market is its central feature, very well situated in relation to the Borella bus-stand and the market gardening areas of the south-eastern sub-urban districts. The market is popular for vegetables supplying both the residents and the hospitals nearby. There is contrast in this

3. "Social Survey of shopping habits." *Ceylon Sessional Paper 1, 1959.*

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junction area between the storeyed-hotels, the small shops, boutiques and kiosks on the one hand and the temporary wooden and cadjan stalls on the other.

(c) Along the city's southern major thoroughfare (the Galle Road) there are three shopping centres at Colpetty, Bambalapitiya and Wellawatta Junctions respectively. The Colpetty centre, at the junction of Colpetty with Turret Road is closest to the Fort. Some of the retail shops are extension depots of the big shops of the Fort. This retail centre has developed because it is close to the Fort and Pettah, has adequate ground floor space for display of goods and storing, relatively low rentals than in the core areas, has the public market, the railway station, the junction bus-sub-stand and affords easy parking close to the shops. The retail structure is of the mixed type. Textiles, general goods, jewellery, stationery, bakery, photoshop, laundry, barber shop, petrol filling station and the cinema provide the necessary services for the residents of the locality.

(d) At the Bambalapitiya shopping centre, retail trade has grown particularly owing to easy accessibility and availability of parking space. This is a women's shopping area, for fashion goods especially sarees, silk, shoes and sandals are displayed in the shop windows providing a wide assortment within small compass, facilitating comparison and competition. The choice of a site at this junction for a super-market is a rational one, because it is the geographical centre for the residential districts of Colombo South.

(e) The southernmost junction is at the Wellawatta-High Street intersection. The retail pattern has developed mostly as a market for vegetables, fruits, poultry, meat and fish. Satellite growth of small eating houses and tea kiosks is found around the market square. The road front utilization is mixed and confined to the ground floor. The small shop-retail varieties of consumer goods. There are very few shops for expensive imported goods. Local furniture shops flank the main road taking advantage of low rentals for their show rooms.

Three other junctions have developed to a lesser degree than those mentioned already. The centres of Slave Island, Thimbirigasyaya and Dematogoda function as sub-service centres for these localities respectively.

II—Residential Zones

The city has a population of about 425,881 within its administrative limits. (31 wards). The numbers and density for each ward in 1953 are

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given in Table 2. It is seen that in the inner-mixed zone comprising the wards of Kochchikade, St. Paul's, Grandpass, New Bazaar, Aluthkade, San Sebastian, Slave Island, Wekande and Hunupitiya, the average density is about 175 persons per acre. In contrast, in the outer-zone, it is about thirty persons per acre. These density variations show zonal differentiations closely related to, and based on house types and their related spatial characteristics. Table 3, presents a classification of the general house types, space per type expressed in the number of living rooms, per unit block (land) for each household, the rates of rent and general income per month per household, the percentages of these various types and their general distribution areas in the city (Fig. 5). This attempt to analyse the residential areas into these types and their related features show many physical, social and economic characteristics which form individual geographical patterns and which might be used as a basis for delineating residential sub-areas.

TABLE II
Area, Population, Density of Colombo, 1953.

<i>Wards</i>	<i>Area in Acres</i>	<i>Population</i>	<i>Density per acre</i>
City of Colombo	8,711	425,881	48.9
Modera	465	14,798	31.8
Mutwal	270	15,574	57.7
Madampitiya	574	18,866	32.9
Kotahena East	153	11,380	74.4
Kotahena West	204	16,493	80.8
Kochchikade	65	12,105	186.2
St. Paul's	71	18,863	266.0
Grandpass	104	13,936	134.0
New Bazaar	115	10,592	73.0
Alutkade	88	15,534	176.5
San Sebastian	120	17,160	143.0
Pettah	145	10,592	73.0
Fort	242	4,537	18.7
Slave Island	250	11,020	44.1
Wekande	95	10,028	105.6
Hunupitiya	201	9,038	45.5
Maligawatte	305	10,274	33.7
Maradana	177	14,976	84.6
Suduwella	328	18,521	56.5
Maligakande	85	15,958	187.7
Dematagoda	180	12,460	69.2
Kuppiyawatte	178	11,572	65.0
Borella	390	17,394	44.6
Cinnamon Gardens	960	17,559	18.3
Timbirigasyaya	935	19,417	20.8
Colpetty	272	13,841	51.1
Bambalapitiya	400	12,187	30.5
Havelock Town	353	11,783	33.4
Wellawatte North	328	15,140	46.2
Wellawatte South	267	14,266	53.4
Kirillapone	391	10,112	25.9

Sources—Memo No. 2 Department of Census, 1954.

TABLE III
Residential Types and Characteristics¹

Type	No. of rooms.	Unit block area ² in square feet.	Percentage ³ in the city.	Average monthly rates of rent income per unit. Rs.	Average monthly general income per unit Rs.	General distribution areas in the city.
1. Tenement	1	300 sq.ft. }	55—60	10—20	100—125	Inner-mixed zone.
	2	750 sq.ft. }				St. Paul's, San Sebastian etc.
2. Small house	3	4,080—5,440	13—15	30—40	150—250	inner-mixed zone—intermediate zones—Slave Island, Grandpass, Maradana, Kotahena.
3. Cottage	4	5,440—8,160 }	12—15	100—150	300—600	outer-zone—Kotahena, Wellawatta, Modera.
	5	5,440—10,880 }				
4. Spacious bungalow	6,7	10,880—27,200	5—6	300—450	800—1,500	outer-zone—Kotahena, Wellawatta, Modera.
5. Storeyed bungalow	8,9	21,760—43,520	—	500—1,000	2,500	Cinnamon Gardens.
6. Flats, apartment hotel	10,11 } 12,14 }	10,880—13,600	2	1,000—1,500	3,000	widespread (outer-zone)
7. Multi-storeyed blocks ⁴	40	43,520—87,040	1—2	x(a)30—50 (b)x150—200	150—250 300—600	inner-mixed zone. widespread (outer-zone).
8. Shanties, hovels ⁵	1	400—500	—	—	100—125	widespread (inner-mixed and outer-zone).

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- This Table is based on a reconnaissance survey. The percentage figures result from sample surveys of each representative type, and the figures are therefore only approximations.
- This is the total area occupied by (a) the building block itself and (b) the area of the land lot of the respective building.
- (Approximations only) expressed as a percentage of the total households in the city.
- These are either of the government, or departments, or corporations.
x(a) working classes.
(b)x middle class.
- These are temporary structures, and are not included in the percentage calculations.

5. *The Inner-Mixed Zone.*

Since the inner-mixed zone is crescentic in shape and lies adjacent to the core areas which attract labour for various services of the Port, the business of the Fort and Pettah, it is the closest dormitory area for most of the working class, who live in rented tenements. Most of these households (invariably may be one or two rooms) accommodate more than four persons per unit. The buildings have spread out horizontally than vertically, consequently, the zone has got congested with one-storey-tenements, cooly lines, contiguous small houses. The numbers and the households are so vast that it is really a big problem to move them out from this zone and house them elsewhere either in the city or in the region. Construction of multi-storey flats capable of accommodating more households is not a complete solution because the proletariat class may not afford to pay high rent. In the absence of alternative housing elsewhere or better houses in these areas, the working class is contented to live here in congested and unhygienic conditions because of the advantages of short distance from their homes to their places of work.

The contiguous lines of tenements face either the street or a common path or alley. These have very limited backyard space. A few have a common tenement garden. Private conveniences are lacking, but public conveniences and a water service are provided. In general, most of these tenements are dilapidated and are badly in need of repairs. This zone is rather an old, low rent, congested and poor housing area.

Retail trade in products of food, drinks, utility articles, clothing and other socio-civic institutions are ubiquitous. Retail units are interspersed with the dwellings and flank both sides of the streets. Even small and contiguous houses with shop fronts combine residential and commercial functions. Small industrial units connected with tin smelting, blacksmithing, goldsmithing, carpentry, brass works, cottage crafts, cigar, beedi rolling and snuff making, repair shops, scrap yards, timber depots and garages are part and parcel of the functional ensemble. However, the industrial premises of British Ceylon Corporation exists as an enclave. In the wards of Slave Island, Maradana, Grandpass, and Kotahena (an intermediate zone) there are a fair number of small three-room houses either contiguous or separated from each other. The front room is used either for a small shop or tea kiosk, the living rooms are to the rear. Market oriented light manufacturing industries compete for sites within the residential areas. Bakeries, laundries, aerated water plants, rattan works are

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some of the industries in Slave Island. At Grandpass, residences are interspersed with stores for copra, oil mills, exporting and importing firms and general stores. It is an area of non-conforming uses. Similarly at Maradana and Kotahena, it is possible to identify multi-uses in both land lots and buildings. In general, there is such a great mixture of activities, tenement residences, retail trade, light industrial and institutional functions so mixed up and intermingled, that it is quite incapable of separation except on a map showing individual houses. In contrast, the location of the law courts along Hulftsdorp Street, the professional character of Hulftsdorp Street itself with numerous lawyers' offices and their name-boards are unique features and explain the strong ties of historical and traditional factors. The Hulftsdorp law quarter, certainly breaks the monotony of the zone because of the planned and pleasing arrangement of the law buildings and their premises.

6. *Outer-Residential Zones*

The outer-zone is associated with self-contained, compact, single family dwellings varying in size from the spacious bungalows and storeyed-residences of Colpetty, Bambalapitiya and Cinnamon Gardens, an area of 'First class' houses, in large land lots of about 10,880—43,520 square feet, to three room cottages in about 4,080—5,440 square feet lots and four and five room cottages in about 5,440—10,880 square feet lots.

A. *First class houses; the spacious bungalows and storeyed-residences of Colpetty-Cinnamon Gardens.* This was once the European residential quarter and gradually changed ownership to the Ceylonese people of high social and economic levels. The entire area is well drained, provided with large parks and open spaces, well ventilated, free from the nuisance and noise of industries and petty retail stores. The building density is low per acre. Land values and rentals are high because of the excellent disposition of the area and the social values attached to this district. Most of the bungalows have spacious front gardens and extensive backyards in land blocks of about 21,760—43,520 square feet. Lawns and flower gardens enhance the general appearance of the district. These spacious bungalows flank shady avenues which add to the natural beauty of the area.

B. *The Cottages.* The cottages are widespread in the outer-zone. The land lots vary regionally reflecting differences in house density. In the Wellawatta and Kotahena areas the cottages are small with about twenty—twenty five feet road frontage, has about forty yards depth with

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small back gardens. The Bambalapitiya—Borella areas show a broader road frontage, more depth and considerable backyards. These are very well built with considerations for air drainage and direct sunlight.

C. *The residential storeyed-flats.* The residential storeyed-flats are also widespread in the outer-zone. These flats are conspicuous because these dominate the low accordant ridge shape roof surfaces. The Ministry of Housing has constructed blocks of flats at Bambalapitiya and Torrington Avenue mainly for the middle classes; at Wolvendaal—Armour Street for the working classes. The proposed twenty million rupees housing scheme at Wanathamulla is another project. The Police Department flats are at Slave Island, Parson's Road, Maradana, San Sebastian and Havelock Town. The Bours flats (Fort), Regents (Parson's Road), Galle Face Court, Yalta (Flower Road), Bogala (Dickman's Road), are exclusive high class living apartments. The flats of Spathoda, Borella and Maradana are for mixed uses. Many one-storeyed-residential flats have been constructed recently in the outer-zone and are rented to people of high income groups.

The construction of multi-storeyed-flats may be regarded as one of the ways to relieve the acute problem of city housing. However, such a proposition needs to be considered from the financial and social aspects. High floor residences are bound to be unpopular and uneconomical too. High rent owing to site factors and high cost of building would bar the low income groups renting them. The high income groups on the other hand, may not prefer high floor residential apartments because spacious bungalows with gardens, lawns, and even tennis courts may be rented or leased out in the outer and suburban areas which are about eight to fifteen miles from the core areas.

D. *The Shanties and hovels.* The shanties and hovels are springing up like mushrooms and are widespread. These are however, numerous along the lake, river, canals and have spread over to the open spaces, unbuilt crown land and even open marshy tracts. In the city this blight is spreading fast and shanty-colonies comprising rickety little structures made out of packing case wood, discarded zinc sheets, hard board and thatched with cadjans thrive in nooks and corners. This unorderly and unauthorised spread of these sub-standard housing is detrimental to the health of the city.

E. *Professional areas.* Ward Place may be distinguished as a special residential quarter for medical specialists and consultants. They prefer to reside close to the hospitals, nursing homes, clinics located in the Regent

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Street-Ward Place-Maradana triangle. Another area of government bungalows situated along Buller's Road and Stanmore Crescent is for the high government officials and diplomatic personnel.

7. *Sub-urban Housing areas.* High land values and rentals associated with high demand and special preference of particular localities of the city have caused a sprawl to the urban fringe and along the circulatory systems to the region also. Private investments, building societies, government and company loans are largely responsible for the construction of new houses in these areas. This is a clean and healthy dormitory zone close to the city centre, possessing the basic amenities such as electricity and water services. As the dormitory area has been extending south-eastwards to Rajagiriya, Nawala, Nugegoda and even as far as Maharagama and southwards to Ratmalana, Moratuwa and Panadura, there has been difficulties in the provision of amenities especially water service and drainage. Consequently in most of the cottages, drainage and water services are entirely private concerns. This is a pleasant housing zone, the cottages are well situated in spacious, regular shaped land lots.

III—Industrial Zones

The city is the focus of industrial location because it is the only developed port-city, the node of the route system of the island having a thick concentration of people and therefore enjoying most of the factors essential for location. The industrial structure of the city may be divided into four groups:

- (a) Industries and services involved with the working of the port.
- (b) Manufacturing industries dealing with the processing of raw materials exported through the port.
- (c) Light manufacturing industries characteristic of a big city.
- (d) Dangerous and offensive trades.

The port-zone of industries comprise the following : (a) marine engineering works, ship repair yards, boat building and repair yards, (b) loading and unloading services, fuelling of vessels, oil storage and distribution, landing, stevedoring and food chandling services, (c) storing, warehousing and dock services.

All these industries are located along the waterfront, the fore-shore and the lake premises. Limitation of space along the eastern foreshore,

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(the location of its marine industries) has undoubtedly prevented either the establishing of new industries, or the expansion of existing ones. Alternative location along the lake's waterfront is neither practicable nor feasible for ship repair.

The manufacturing industries based on agricultural raw materials are inter mixed and function jointly with the commercial firms. Their location in the city depends mostly on the advantages of transportation costs. The tea firms which carry out mixing, testing, grading, packing, storing and exporting of tea are located in an area about Slave Island—Union Place. Here, there is adequate space, easy access for lorry transport and close to the port.

General engineering industries connected with the public utilities as the railway, bus, trolley, gas, electricity, water service, sewage disposal and treatment are sited in special yards, resembling "industrial enclaves" in the city.

Industries associated with sales, service, repair, assembly, etc., of automobiles, machinery, equipment, etc., are mostly along Prince-of-Wales—Panchikawatta-Darley-Union Place and Turret Roads. These are wide and accessible, providing suitable and large spaces for display rooms, stores, repair yards, assembly plants etc.,

Industries processing food, drinks and tobacco are ubiquitous.

8. The Industrial zones delineated by Town Planning regulations are for those that have been declared dangerous and offensive (Table 4) These demand a large ground area, they frequently have nuisance features such as noise, odours, pollution, fire hazards, and have serious problems of waste disposal requiring large plant layout. Their raw materials as well as their finished products are bulky so that they require extensive and contiguous water, road, or railway transport facilities. All these conditions drag the siting of plants towards the urban fringes.

Quarrying for cabook, gravel or metal, curing and storing of graphite, digging for coral stones by opening a pit, burning or storing of lime, burning of bricks and tiles, occupy the northern and north-eastern fringes. Those industries that need exclusion and protection from the danger of fire as storage of straw, kapok, occupy the eastern fringes. Industries that give

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out offensive odours, as drying and curing of fish, chank, pearl-oysters, raw hides, boiling of blood, offal, have restricted zones towards the north. The fertilizer, bricks, tile manufacturing firms are along the Kelani flood plain and have extended along the river to the sub-urban region.

TABLE IV

Dangerous and Offensive trades

A. *Industries (Mineral products).*

1. Quarrying for cabook, gravel or metal.
2. Curing or storing of plumbago (graphite).
3. Digging of coral stones by opening a pit.
4. Burning or storing of lime.
5. Burning, storing, curing or rendering of lime.
6. Burning of bricks and tiles.

B. *Industries (Danger of Fire).*

7. Manufacture of Copra.
8. Extracting oil by apparatus.
9. Storing of Copra.
10. Storing of straw.
11. Manufacture of desiccated coconut.
12. Storing of fibre.
13. Storing of cotton wool (Kapok).

C. *Industries (Offensive Smell).*

14. Chank fishing.
15. Pearl fishing.
16. Storing of cured or dry fish.
17. Storing of perishable articles of food.
18. Manufacture of compost or artificial manure and storing.
19. Keeping a tannery.
20. Curing of arecanuts.
21. Boiling of blood or offal.
22. Storing of raw hides.
23. Storing of bones.
24. Curing of planks.
25. Keeping of kraal for soaking coconut husks.

D. *Industries (Danger in Chemicals—inflammable).*

26. Manufacture of matches.
27. Manufacture of soap.
28. Manufacture of rubber sheets or crepe.
29. Soda manufacture.
30. Dyeing of fibre.
31. Keeping of kerosene oil depot.

E. *Industries (Miscellaneous).*

32. Curing and drying of tobacco.
33. Cigar manufacture.
34. Manufacture of vinegar.
35. Keeping a timber depot.

Source :— From the seventh schedule ; Outline Planning Scheme for the *Regional Development area of Colombo.*

Department of Town and Country Planning, 1955.

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9. Another group of industries are also zoned. The curing, smoking, processing and storing of rubber are restricted to a special zone along the eastern waterfront of the Beira. However, industries which manufacture toys, decorative articles, mats, cushions, and tyre-retreading are widespread, intermingled with the retail business units and the residences.

10. The coconut industries, such as the manufacture and storage of copra, desiccated coconuts, coconut oil, coir fibre occupy exclusive locations towards the eastern fringe, especially along the water course of the Kelani-San Sebastian Canal system. As these products require special protection and handling as export cargoes, a "special trades area" (Tanque Salgado) along the eastern sector of the harbour is zoned.

11. Certain dangerous and offensive industries, however, occupy sites within the residential and commercial zones, as those for the manufacture of matches, soap, dyeing of fibre, manufacture of gas, and certain storage yards. These sites are enclosed by high walls to ensure safety.

A recent trend is the location and growth of new industries along Galle Road, especially in the Ratmalana area. Another industrial estate is being planned at Ja-ela to the north of Colombo. These new industrial estates undoubtedly offer attractive, accessible and cheap sites for the expanding new industries. These measures towards industrial deglomeration, undoubtedly will relieve to some extent the congestion in the city, enabling a planned and controlled growth of industries in the Colombo region.

IV—Transport Zones

12. A distinguishing feature in the morphology of the city is a west-east extending zone of land occupied by the Fort Railway Station, the railway tracks, marshalling yards, the Maradana Junction Station, passenger buildings and yards, the Dematagoda Station, Kuppiawatte yards, workshops, sidings and stores, which forms a barrier and divides the city into two parts. Road transport crosses the barrier at Maradana Junction and about Lake House at Fort by overhead bridges. The southern line almost hugs the coastline and does not interfere with road transport since the Galle Road runs parallel to it within the city. The railway lines, however, intercept road traffic at Slave Island and Base Line crossings, and often cause traffic stagnation. At these two points it is necessary to construct "fly-overs" to enable a smooth flow of both road and railway traffic.

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13. The road mesh of the city certainly gives an impression as observed by Professor C. Holliday "that Colombo is over roaded".⁴ Indeed on detailed scrutiny, it is found that the surface area of the its roads comprises about 700 acres or about twelve per cent of the entire city area.⁵ In the Fort and the Pettah the percentage increases to about twenty to twenty two which is comparable with the ratio of the West European cities.⁶

The Central Bus-Stand having parking space for about forty buses, mostly outstation, is at Gasworks Street and at Norris Road for about fifty buses. But these are merely bus parking places, unprotected, exposing the passengers to the vagaries of tropical weather, without any facilities or terminal buildings for their convenience. This is because this site is in the chief market foci of Pettah, too crowded with retail trade and petty business. It is the responsibility of the state to provide a Central Terminal with all conveniences. Since the present site is hardly sufficient, it may be suggested that a new site, the former Municipal tram car garage situated east of the Gasworks Street, very close to the present stand and accessible through a broad road (Saunders' Place) may be converted for this purpose. The Borella sub-stand is another parking place for buses. This is an important junction linking up the bus services of the dormitory areas of south-eastern Colombo region with the town services. Since this stand serves the junction centre, market, hospitals, schools, colleges and the cemetery, it is a busy passenger transit centre and needs to be provided with more facilities.

V—Open spaces

14, 15 ; Parks and open spaces may be regarded as the 'lungs' of the city. The total acreage of public open spaces is about 215 acres, which is about two per cent of the total area. There are about 600 acres or about seven per cent semi-public open spaces. Besides, Colombo has also an appreciable acreage of minor parks, playgrounds, private open spaces within the built-up areas. These are either provided by the Municipality or are unbuilt crown land or land with disputed ownership. Another about ten per cent of space is occupied by tracts of cultivated and inundated grasslands, marshes, along the fringe. Thus considering (a) the acreage of public open spaces, (b) the extent of semi-public open spaces, (c) private un-built areas,

4. C. Holliday, *City of Colombo, Memorandum on Town Planning*. Colombo, 1940.

5. Computed from data obtained from the Municipal Engineers Department, Colombo Municipality, 1958.

6. R. E. Dickinson, *The West European City*. London, 1951, p. 479.

(d) the open grasslands and marshes, it can certainly be said that the city as a whole enjoys adequate open spaces in relation to the built-up areas. However, the geographical distribution is uneven and most of these public and semi-public open spaces are either in the outer-zone, or along the fringes. The effect of these spaces on the city is therefore marginal.

Northern Colombo areas are rather poorly served with public open spaces. There are a few semi-public grounds belonging to educational and religious institutions. A fair acreage of open grass land and marshes is found in the north-east. The use of these areas partly depend on reclamation and flood protection measures. Central Colombo is well served with public open spaces; such as the Galle Face Green (41 acres) Vihara Maha Devi Park (formerly Victoria Park—82 acres), the large semi-public space of race course (116 acres), the golf links (213 acres) and the three lakes, (217 acres), together with the extensive playing fields of the University, the schools and the clubs. These spaces are above flood level, and are therefore of recreational significance throughout the year. Southern Colombo is comparatively poorly served with Havelock Park (21 acres) and Havelock Golf links. (41 acres). As proposed by Professor C. Holliday, a useful intra-urban green belt could be planned around the built-up area giving a continuous park system by linking up these scattered public, semi-public and private open spaces. However, it looks too grandiose a project beyond the finances of the Colombo Municipality.

VI

It is necessary to examine the functional zones delineated and discussed in reference to the accepted zonation system of the Colombo Regional Plan (Fig. 6).⁷

The proposed commercial areas are along the arterial roads that radiate from the core such as the Galle Road up to Moratuwa, the High Level Road up to Homagama, the Kandy Road up to Kelaniya, Negombo Road up to Ja-ela and also along the major thoroughfares leading up to the other suburban towns. But, a close study of the Figs. 2 and 6 shows that along these arteries residential and commercial uses are intermixed. Since different functions along the roads have developed irrespective of any functional

7. P. Abererombie and O. Weerasinghe, *The Colombo Regional Plan*. Colombo, 1947. (unpublished).

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zonation system, non-conforming uses have consequently been established and these cannot be separated easily. This is obviously the result of unplanned and uncontrolled growth and expansion of the city. If, the Colombo Regional Plan Zoning system is strictly followed perhaps, then in the future residential and industrial uses may cease to flank along these arteries giving an entire monopoly of these zones to commercial uses.

The two patterns associated with industrial zoning of the Regional Plan are also identical with those in the Colombo city. For example, the heavy, obnoxious and dangerous industries are zoned along the urban fringe, whereas the light industries are intermixed in the commercial and residential areas, especially along the major thoroughfares.

As shown in Figures 2 and 6, the residential areas are mostly along the cross roads, lanes, avenues and paths. The provisional residential areas both in the city and in the region seem to be widespread. But, it should be emphasized that this wide zone to be made an effective, healthy and safe dormitory area, should necessarily be protected from the menace of floods. Considerable river control measures, reclamation, filling, drainage and poldering operations are therefore essential. Perhaps some of these areas may also come under agricultural or recreational uses. Even within the city, some of these reclaimed areas may be put under recreational uses, especially for parks, playgrounds and open spaces.⁸ In the region, there is no need to plan for open spaces except in the town areas within it.

Finally, planning in the city to be effective calls for the closest degree of cooperation, and collective study between the Municipality and the Town and Country Planning Department. Planning the city in relation to its region,⁹ (Colombo Regional Plan) should be the collective responsibility of the seventeen local government units of the region, the Town and Country Planning Department, Central Planning Commission and other consultants. Absence of coordination between the Municipality and the other local units, lack of integration of plans, financial difficulties and inexperience in this field are the present problems.

B. L. PANDITHARATNA

8. "Report of the Committee on Reclamation and Utilization of the Swamps in and around the City of Colombo. *Ceylon Sessional Paper*, XXI—1957.

9. "An Outline Planning Scheme" for the Regional Development Area of Colombo, (unpublished) Department of Town and Country Planning, Colombo, 1957.