



2.2 ANALYSIS OF DATA AND PRESENT SITUATION

2.2.1 Population and Demographic Features

(1) Population in Melaka Bandaraya Bersejarah

Of the 99,700 people in the Melaka Tengah Town about 64,600 are living within the Melaka Bandaraya Bersejarah (MBB) area, and the remaining in Bukit Bahru (15,800), Ayer Keroh (9,200), Klebang (6,000), Batu Berendam (2,000) and Sg. Udang (1,000).

There is out-migration of people from the historic core of the city to the newly developed hubs such as Ayer Keroh, Bukit Bahru and other residential areas.

Table 3.1.3 show this shifts in population among local authority areas between 1991 to 2000. The population of 75,909 in 1991 dropped to 64,626 in 2000. There was a drop of over 3 % in the Town population from 103,166 in 1991 to 99,673 in 2000.

Table 2.2.1 : Population of MPMBB in 1991 and 2000

Town Area	1991	2000
MPMBB	75,909	64,626
Ayer Keroh	6,504	9,283
Bukit Bahru	14,755	15,878
Batu Berendam	*	2,191
Klebang	5,998	6,010
Sg. Udang	-	1,237
Other Area	-	448
Total Town Area	103,166	99,673

Source : Department of Statistics, 2002

As more and more housing and industrial estates are developed in the outskirts of MPMBB more and more people can be expected to shift out of the core city. Figure 2.2.1 shows the distributing population within the MPMBB Area.

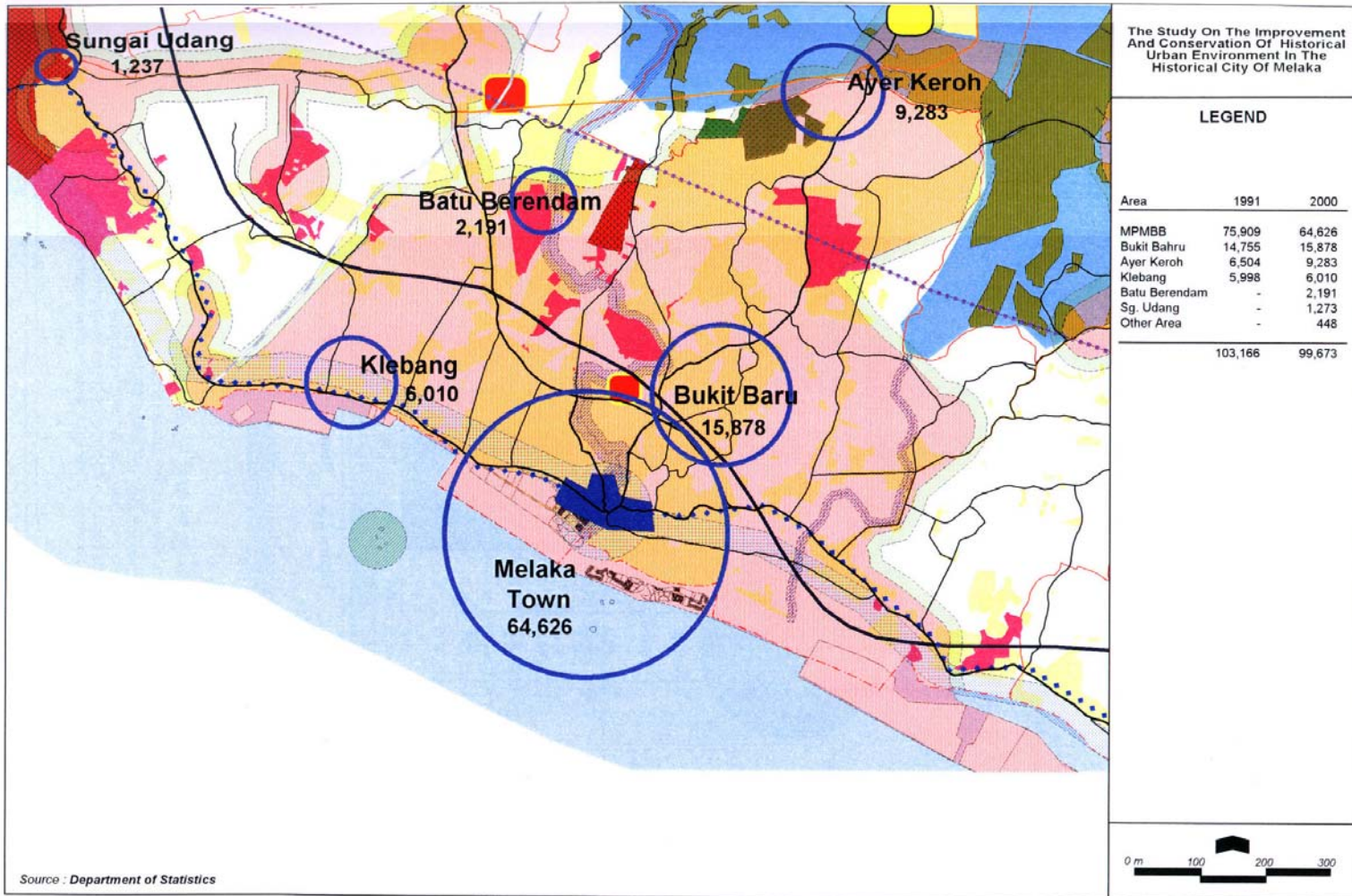


Figure 2.2.1 : Distribution Population in MPMBB

(2) Population in the Study Area

The total population in the Study Area encompassing the eight zones is 2,790 or 4.3 % of the MPMBB population of 64,626. As no details on the MPMBB population is available at this juncture a comparison is made with the State profile. In Table 2.2.2 and Figure 2.2.2 below the profile of the population in the Study Area is compared with that of the State to show their similarities and dissimilarities¹.

Table 2.2.2 : Distribution of Population by Gender, 2000

Gender	Study Area	State
Female	1,408 (50.5%)	293,850 (48.7%)
Male	1,382 (49.5%)	309,017 (51.3%)
Total	2,790	602,867

Source : Department of Statistics, 2002

While the female population in the State is 51.3% it is lower in the Study Area with only 49.5% of the people being female.

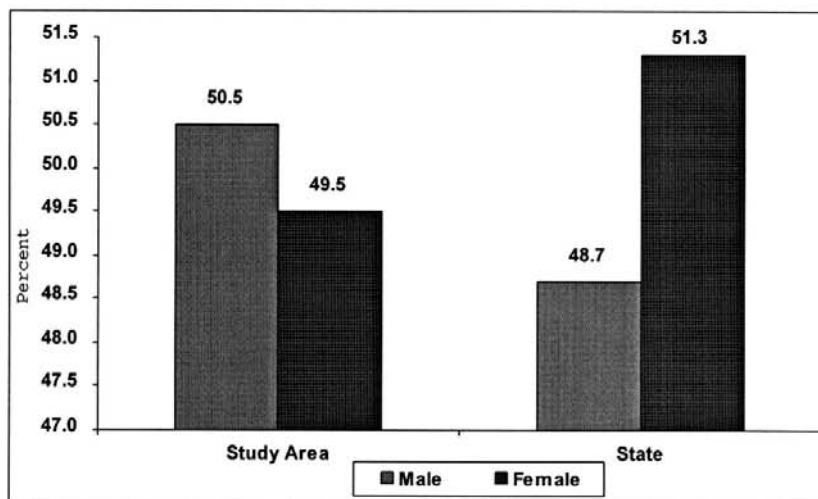


Figure 2.2.2 : Distribution of Population by Gender, 2000

¹ The Study Area covers the historical core of the MPMBB area. From a request made to the Department of Statistics the 2000 Census data on the principal attributes of the population in the Study Area was obtained. It is to be noted that the data provided was based on aggregates of Enumeration Blocks (EBs) within the Study Area. There is a possibility that dwelling units on the fringes of the Study Area may be either included or excluded in the count. This error is however only marginal.

Table 2.2.3: Distribution of Population by Ethnicity, 2000

Ethnicity	Study Area (%)	State (%)
Malay	10.9	59.3
Chinese	82.3	31.1
Indian	3.0	6.5
Other	3.8	3.1
Total	100.0	100.0

Source : Department of Statistics, 2002

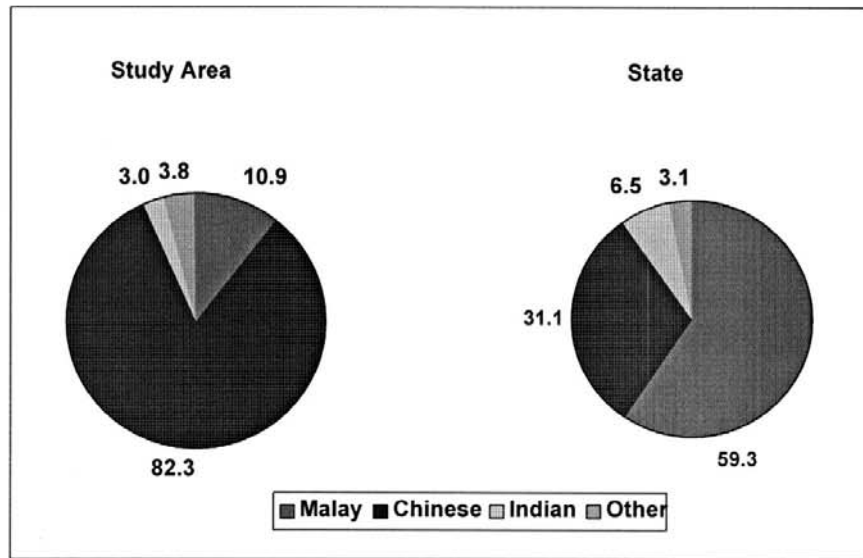


Figure 2.2.3 : Distribution of Population by Ethnicity, 2000

While the Chinese population in the State is less than a third (31.1 %) of the total, the Study Area is predominantly Chinese at 82.3 %. The Malay and Indian population are 10.9 % and 3.0 % respectively. There is a relatively large proportion of “others” but this is mainly the non-Malaysian residents in the Area.

Table 2.2.4 : Distribution of Population by Age Group, 2000

Age Group	Study Area (%)	State (%)
Below 15 years	17.9	30.7
15 to 64 years	68.8	62.8
Over 64 years	13.3	6.5
Total	100.0	100.0

Source : Department of Statistics, 2002

From the table above it is evident that over 82 % of the population in the Study Area are adults, that is, over 15 years of age compared to about 69 % in the State. This is expected given the fact that most of the premises in the Study Area are shop houses and commercial units rather than residential units.

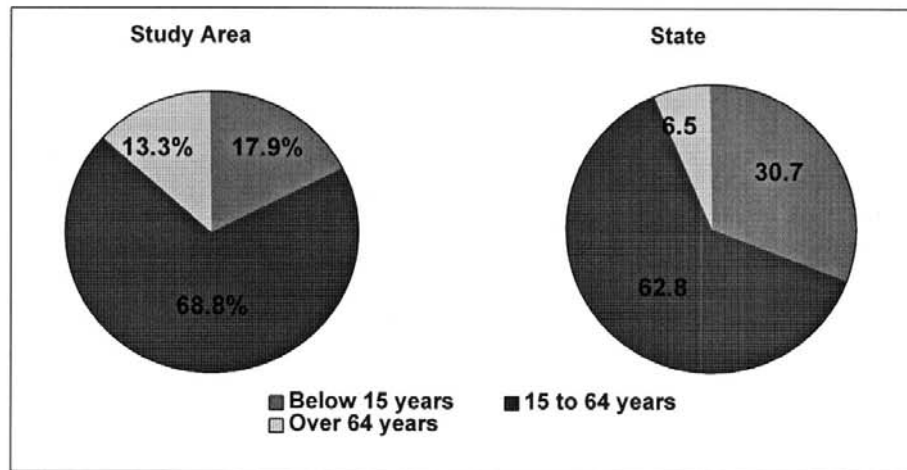


Figure 2.2.4 : Distribution of Population by Age Group, 2000

In addition the Study Area has twice the proportion of the aged population (those over 64 years) compared to the State. It is clear that part of the strategy to arrest the decline of the population in the historic hub is to improve conditions that are amenable to living as well as to encourage the town-house concept of living.

Proactive measures to encourage Malay and Indian families to live in the town centre would have the twin objectives of arresting the declining population as well as providing a better mix of the races and culture in the Study Area.

2.2.2 Land Use Distribution

The major land use in the Study Area is commercial and followed by institutional. Below is the distribution of land use within the Study Area. This distribution pattern is illustrated in Figure 2.2.5

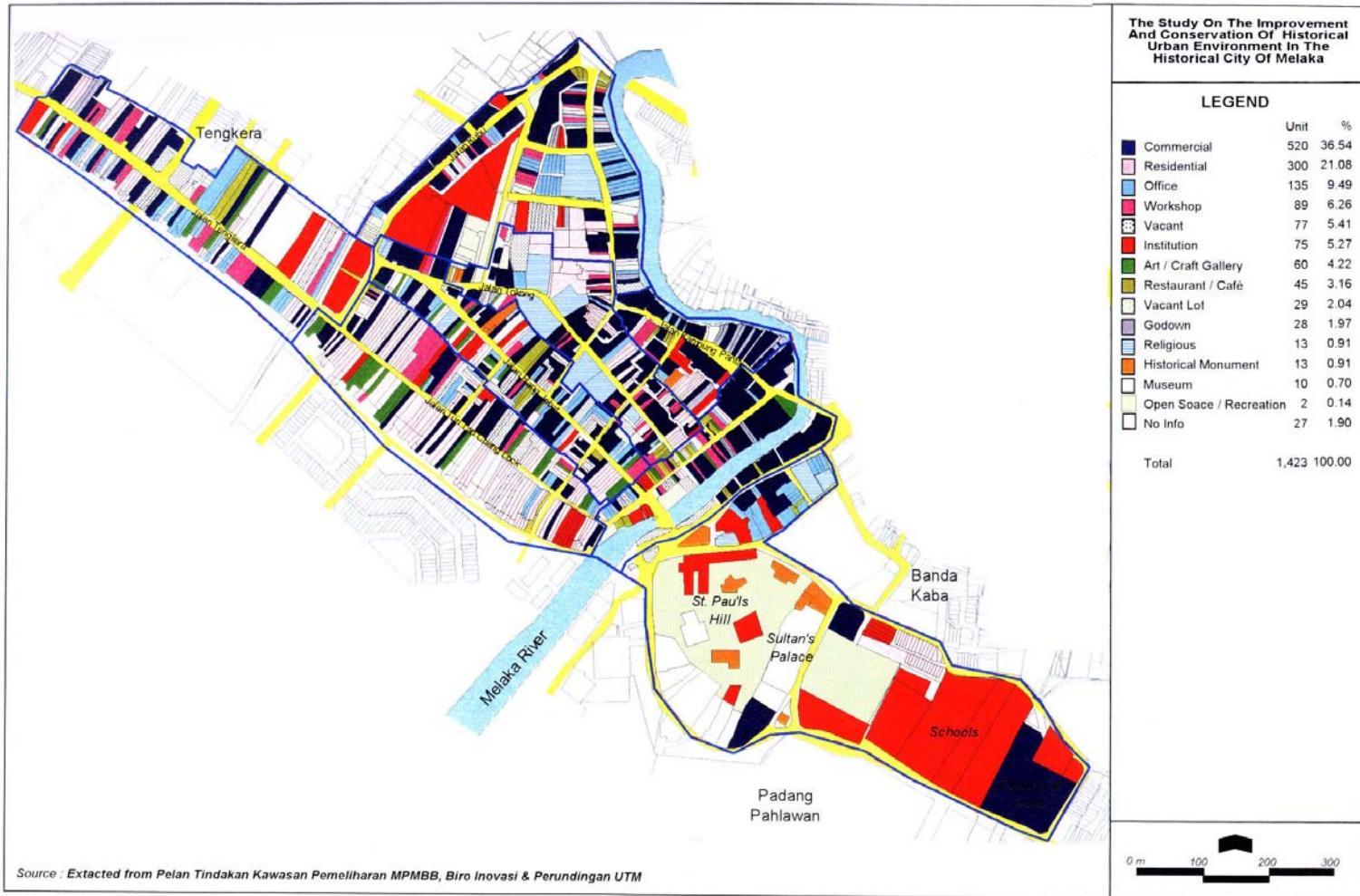


Table 2.2.5 : Land use Distribution in the Study Area

Land Use	Area (acre)	%	Unit	%
1. Commercial	29.19	24.28	520	35.76
2. Institution	20.60	17.13	75	5.75
3. Residential	17.91	14.90	300	20.63
4. Open Space/Recreation	10.40	8.65	2	0.89
5. Office	7.26	6.04	135	9.28
6. Muscum	5.33	4.43	10	0.69
7. Vacant Building	5.22	4.34	77	5.30
8. Workshop	4.78	3.98	89	6.12
9. Religious	4.46	3.71	13	0.89
10. Vacant Lot	2.84	2.36	29	1.99
11. Art Craft/Gallery	3.03	2.03	60	4.13
12. Restaurant/Café	2.21	1.84	45	3.09
13. Historical Monument	1.14	1.45	13	0.89
14. Godown	1.50	1.25	28	1.93
15. No Info	3.76	3.13	27	3.99
TOTAL :		100.00	1,423	100.00

Commercial land use accounts for 24% of total land area, followed by institutional uses at 17% and by residential at 15%.

(1) Commercial Area

Commercial areas are located within Zone 3, 4, 5 and 6 in the form of shophouses. The main focus is along:-

- Jalan Kampung Pantai
- Jalan Laksamana
- Jalan Hang Jebat
- Lorong Hang Jebat
- Jalan Hang Kasturi



(2) Residential Area

Main focus of residential area is along:-

- Jalan Tun Tan Cheng Lock
- Jalan Kampung Hulu and Jalan Masjid

Most of the residential units comprising double-storey houses in Jalan Tun Tan Cheng Lock are owned by the Peranakan community. Since the Dutch period, this area has been used as residential for the elite group. Meanwhile, in Jalan Kampung Hulu most of the houses are in the form of traditional houses owned by the Malays.



(3) Institution

Consisting of buildings used by the government, educational institutions, and private colleges, the main focus of government buildings is in Zone 1 which also includes the following schools: Sekolah Rendah Sacred Heart, Sekolah Kebangsaan Banda Hilir and St. Francis Institution. Some other government offices and institutions like the BOMBA are found in Jalan Kubu.

Financial institutions are located at Lorong Hang Jebat (OCBC Bank and Overseas Union Bank).



2.2.3 Building Uses and Building Height

Most of the buildings in the Study Area are two-storey shop houses. Since they are in the form of shop houses the built-up area covers the entire lot .

The building use pattern corresponds to the land use pattern as in Figure 2.2.5. As described above, the dominant use is commercial in Zones 4 and 5; residential in Zones 2 and 7 and institution in Zones 1 and 7.

In most buildings, first floor level is used as residential. It is common for the shop owners to turn their level two to residential. This type of use is commonly found in Zones 2, 3, 4 and 5. The second major building use for this level is for offices. Most of them are located in Zones 7 and Zone 8. The study found that these two latter Zones are less attractive in terms of tourism compared to Zones 1, 2, 3 and 5 (Figure 2.2.6)

Use of second floor level is dominated by commercial where most of them are budget hotels and guest houses. Other uses are godowns, institutions, and offices. (Figure 2.2.7)

There are only a few buildings in the Study Area that are built up to third floor level and above. The study found that almost all these buildings are categorized as new, built after 1980, such as Equatorial Hotel at Bandar Hilir, Hallmark Hotel at Jalan Masjid and also a row of shophouses at Japan Kampung Hulu. Most of them are used as hotels, and offices.(Figure 2.2.8).

The building height distribution is shown in Figure 2.2.9. As described above, most of the buildings in the study area are two storeys or 73% of all the buildings.

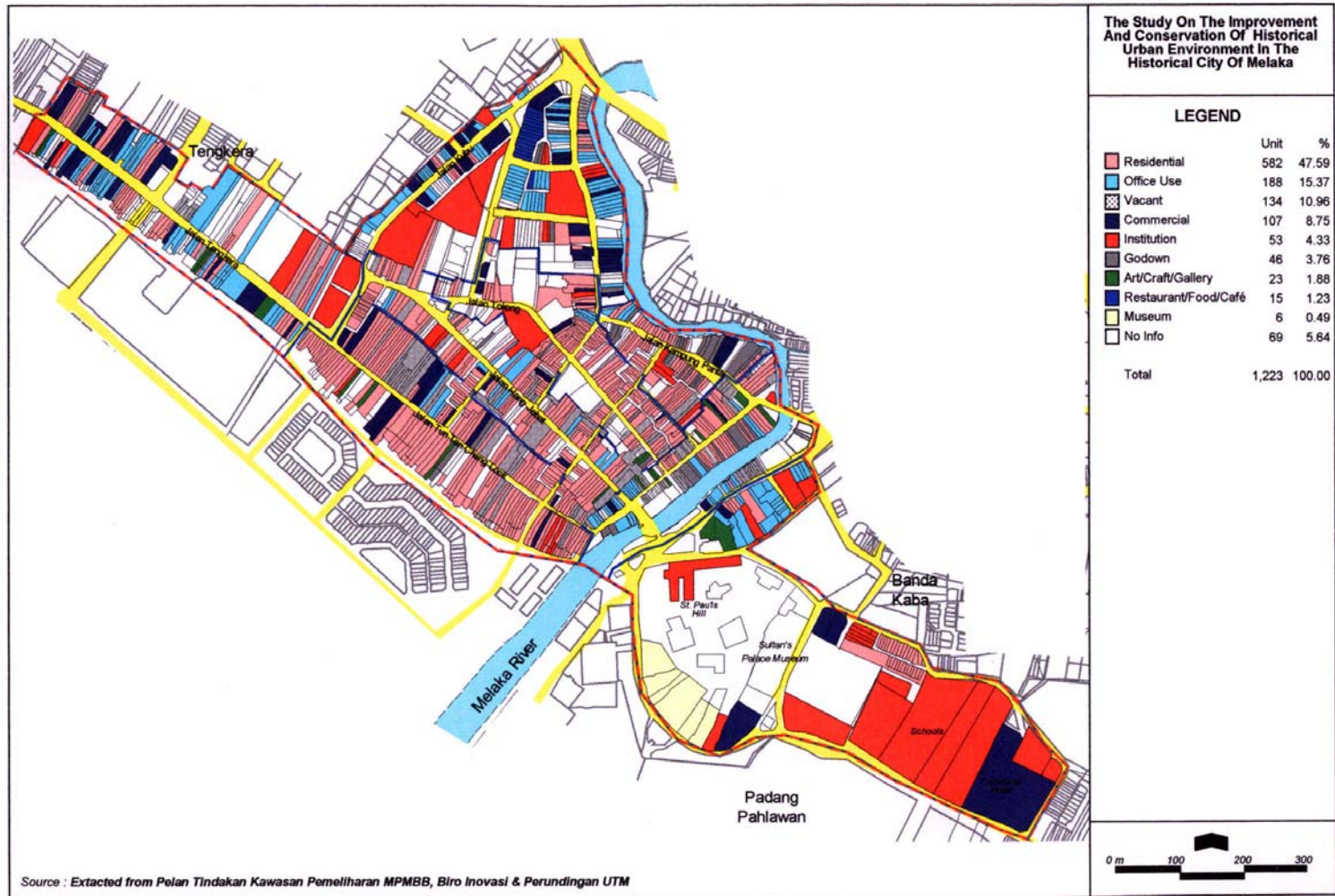


Figure 2.2.6 : Building Use (1st Floor)

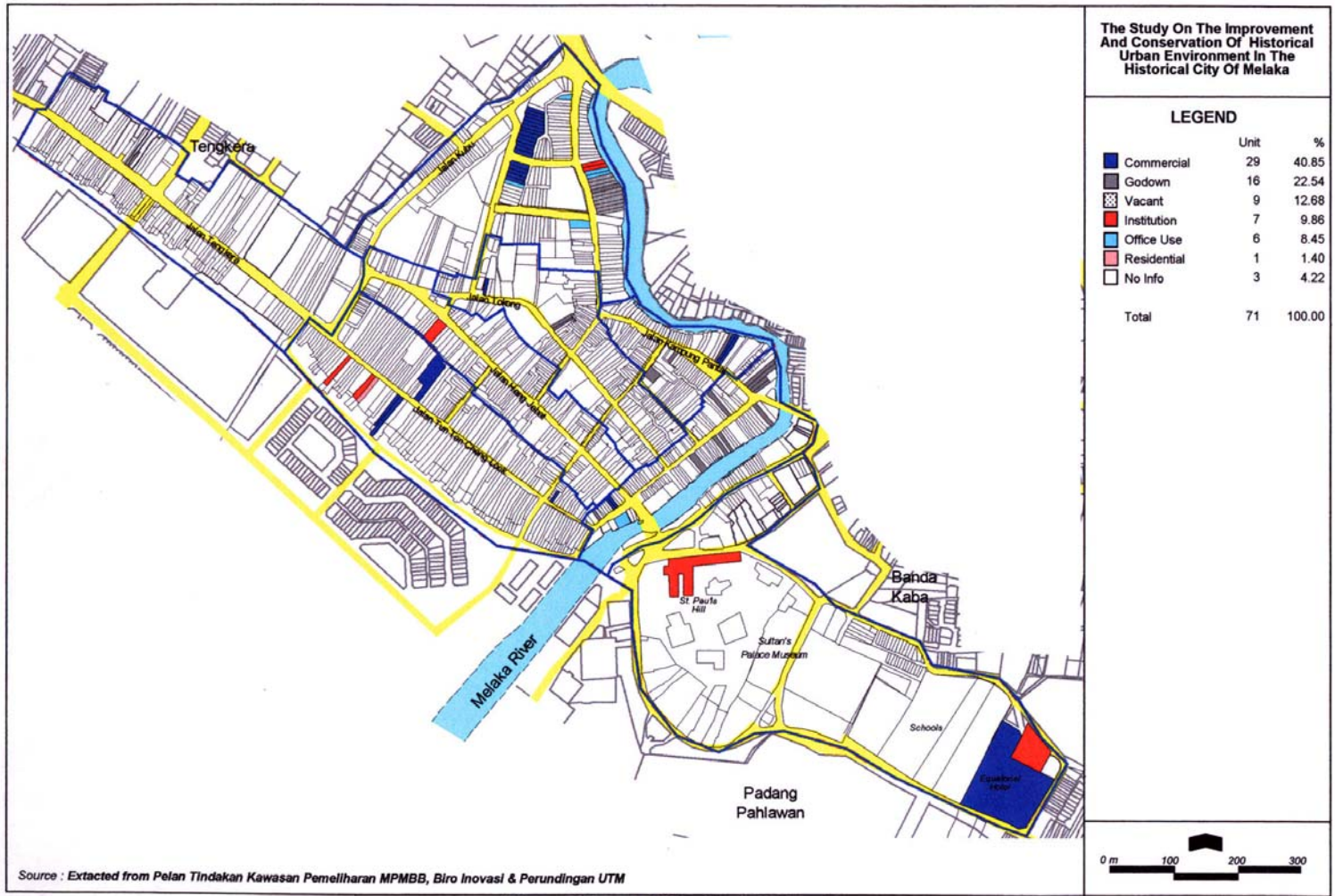


Figure 2.2.7 : Building Use (2nd Floor)

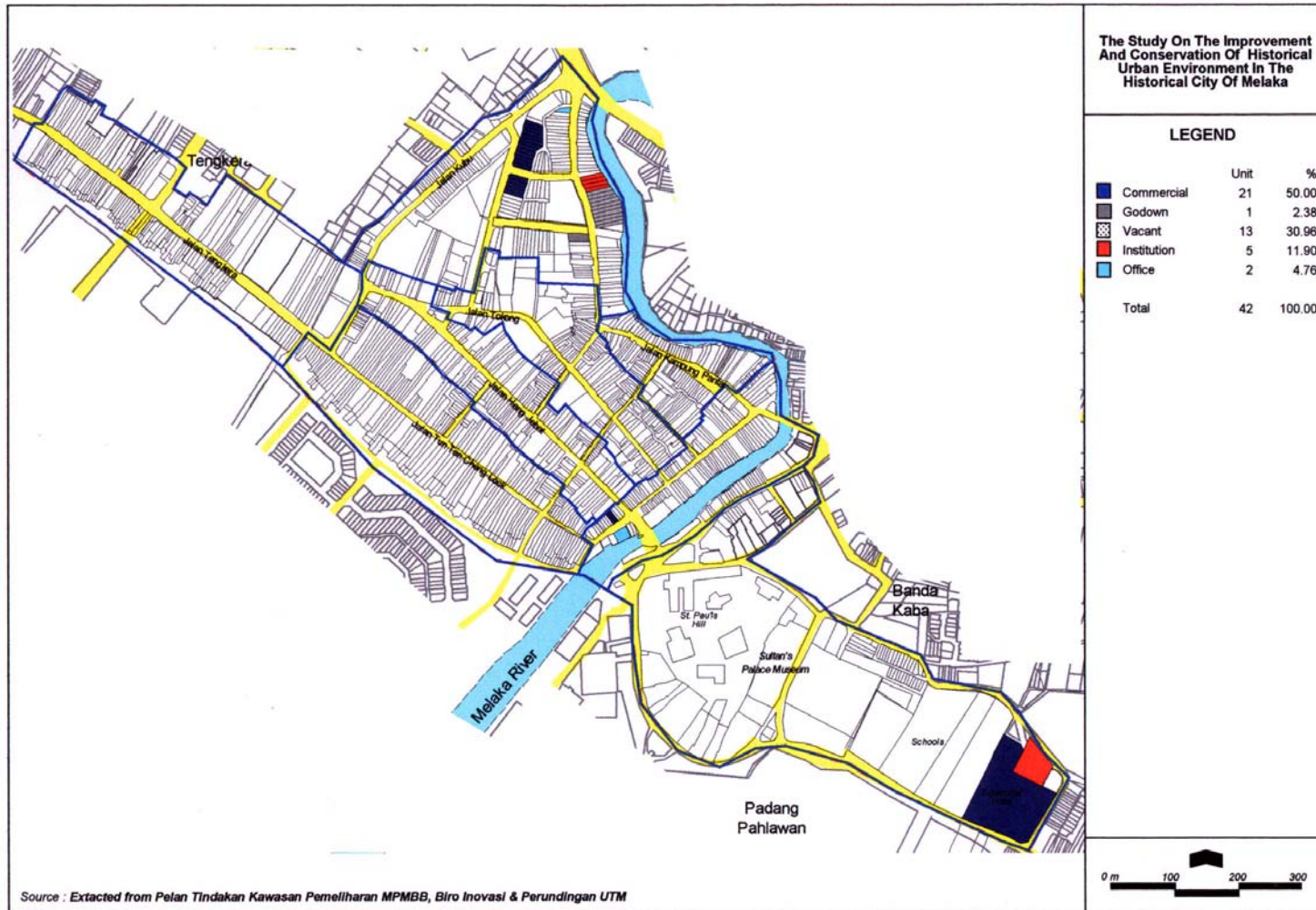


Figure 2.2.8 : Building Use (3rd Floor)

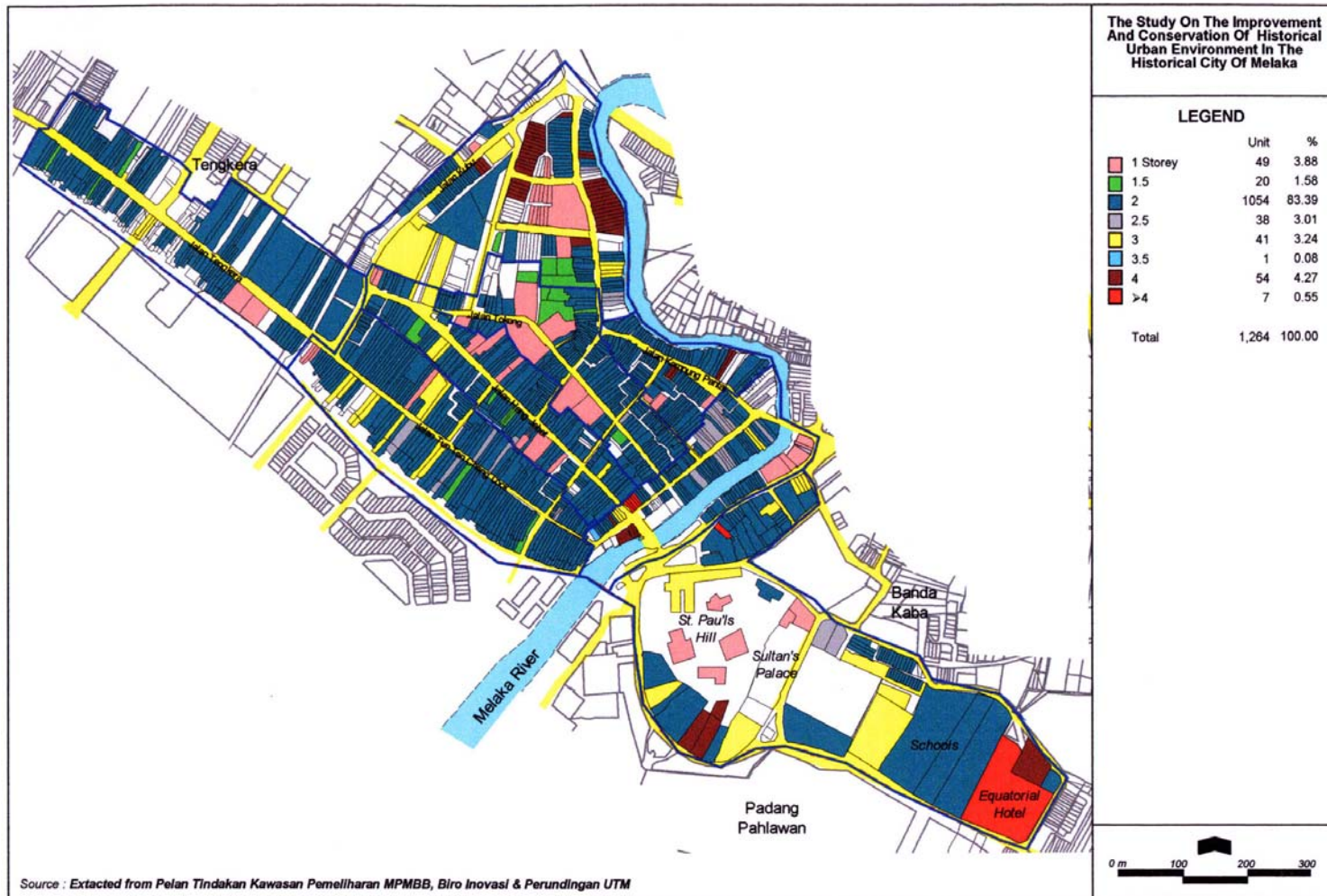


Figure 2.2.9 : Building Height

2.2.4 Traffic and Parking

(1) Traffic Access and Circulation System

Road Functions and Traffic Flow Pattern

According to the Melaka Council Structure Plan of 1993, the Study Area forms part of the commercial zone of the town of Melaka. Prior to the opening of the coastal road and bridge, Jalan Tun Tan Cheng Lock was an important collector road carrying through town traffic from Jalan Laksamana to Jalan Tengker. With the opening of the bridge, traffic pattern in the city of Melaka as well as within the Study Area has changed rather significantly. The east-west through town traffic that used to go through Jalan Tun Tan Cheng Lock and Jalan Hang Jebat is now chiefly channeled to this coastal highway. Through town traffic on Jalan Tun Tan Cheng Lock, Jalan Hang Jebat, Jalan Tengker, Jalan Kubu and Lorong Hang Jebat has reduced significantly. Although no traffic counting has been conducted in this Study, a rough estimate of morning peak hour traffic on Jalan Hang Jebat and Jalan Tun Tan Cheng Lock set the volumes at about 500-600 vehicles/hour compared to the 1500 vehicles/hr enumerated in 2001.

The other major factor is the extensive one-way traffic circulation system implemented by MPMBB in the city of Melaka. Participants in the Workshop have indicated that the one-way circulation system has helped to reduce the incidences of traffic congestion especially along Most narrow streets such as those in the Study Area. Presently, roads in the Study Area can be categorized into the following functional types:

Table 2.2.5 : Functional Roads in the Study Area

Collector Roads	Local Access
1. Jalan Tengker	1. Jalan Masjid
2. Jalan Ong Kim Wee	2. Jalan Portugis
3. Jalan Tun Tan Cheng Lock	3. Jalan Tokong
4. Jalan Hang Jebat	4. Jalan Tukang Emas
5. Jalan Kubu	5. Jalan Tukang Besi
6. Jalan Kampung Pantai	6. Jalan Hang Kasturi
7. Jalan Kampung Hulu	7. Jalan Hang Lekir
8. Lorong Hang Jebat	8. Jalan Chan Koon Cheng
9. Jalan Laksamana	9. Jalan Kota
10. Jalan Parameswara	

The collectors here have the important role of distributing traffic from and to the primary trunk roads, namely Jalan Munshi Abdullah/Hang Tuah and the Coastal Highway (including the new bridge over Melaka River). They also collect and distribute traffic from and to the local accesses.

Figure 2.2.10 shows the road network and classification in the Study Area. The figure also shows the direction of traffic flow.

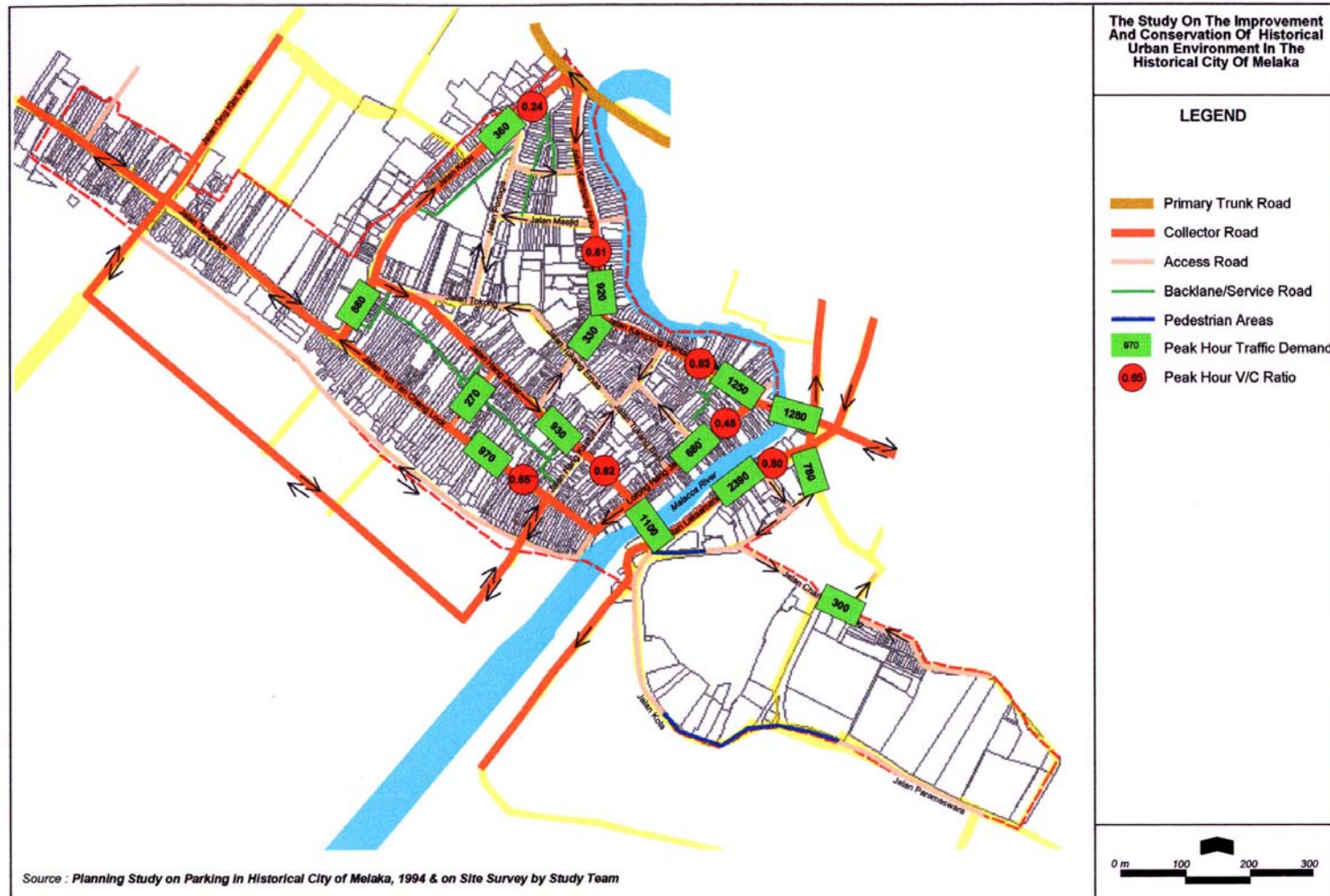


Figure 2.2.10 : Road Network, Classification and Traffic Demand

Not all the blocks in the area have back lanes. Only those between Jalan Tun Tan Cheng Lock and Jalan Hang Jebat, Jalan Kubu and Jalan Portugis have back lanes.

Land reclamation and new housing development at the coastal area has created a back street to the western block along Jalan Tengker and Jalan Tun Tan Cheng Lock. Access from the back is therefore limited to this row of structure in the Study Area. (This explains why garbage collection has to be carried out by trucks plying the frontage roads).

Road Width and Number of Lanes

Accordingly, road width varies between these functional roads with the collectors being wider in general than the accesses. However, one factor on road width in the Study Area is that it is found to vary sometimes between different sections of a single road, especially Jalan Tun Tan Cheng Lock and Jalan Kg.Pantai. The eastern end of Jalan Tun Tan Cheng Lock is much narrower than the opposite section. The width of Jalan Kampung Pantai near its junction with Jalan Kg.Hulu is very narrow.

The collectors are generally 9 – 15 metres in width while the access roads are generally 5 – 9 meters. Back lanes are narrower still, at 3 – 4 metres.

Due to this narrow width, except for Jalan Laksamana, there is no designated pedestrian side walks along most of the roads in the Study Area. The old five-foot ways in front of the residential and shophouses are not linked as a through pedestrian walkway.

Table 2.2.6 : Width and Number Of Lanes Of Collectors

No	Road Name	Nos.of Lane	Operation	Width (m)	Remarks
1	Jalan Tun Tan Cheng Lock	1	One way	5 – 9	1/S curb parking
2	Jalan Hang Jebat	1	One way	5 – 9	1/S curb parking
3	Lorong Hang Jebat	1	One way	5 – 9	1/S curb parking (part of)
4	Jalan Tengker	2	Two ways	9 – 12	1/S curb parking
5	Jalan Kubu	2	One way	9 – 12	
6	Jalan Ong Kim Wee	2	Two ways	9 – 12	2/S curb parking
7	Jalan Laksamana	2	One way	9 – 12	
8	Jalan Kampung Hulu	1	One way	5 – 9	1/S curb parking
9	Jalan Kampung Pantai	2	Two ways	5 – 9	2/S curb parking (part of)

Note: 1/S = one side, 2/S = two sides; all parking are metered.

Source: adapted from 'Action Plan for Conservation Area of Historical City of Melaka' and site observation survey by study team.

Within the Study Area, except for parts of Jalan Laksamana, Jalan Kota and Jalan Parameswara which are paved with interlocking coloured blocks, all the collectors and accesses are asphalt paved. Along the historical streets of Jalan Tun Tan Cheng Lock and Jalan Hang Jebat, due to repeated overlays, road levels have in fact risen considerably from the original level.



Access road (Jalan Hang Kasturi) is very narrow, with barely enough of space for one parked vehicle and another to pass by.



Road width of a collector (Lrg Hang Jebat) is about 9-12 m. which is barely wide enough for parking, traffic movement and pedestrian walkways.

Daily Traffic Demand

Traffic demand has changed significantly since the completion and opening of the coastal bypass and in particular the new bridge towards the end of 2001. Through traffic in the NW-SE direction that used to travel on the pair of one way streets of Jalan Tun Tan Cheng Lock and Jalan Hang Jebat has reduced significantly. Although there is no traffic data just before and after the opening of the bridge and coastal bypass to ascertain this deduction, informal interviews with the local residents have indicated that there is some noticeable decrease of traffic since the opening of the bridge.(Figure 2.2.10).

Based on traffic demand reported in the Structure Plan Report (1991) and 'Action Plan for the Conservation Areas in Historical Melaka' (2001), peak hour traffic volumes on the major collector roads have actually decreased (see table below).

Table 2.2.7 : Comparison of Peak Hour Traffic Volume on Major Collectors

No	Road Name	1991*	2001#	Difference veh/hr)
1	Jalan Tun Tan Cheng Lock	1,350	969	- 381
2	Jalan Hang Jebat	980	931	- 49
3	Lrg Hang Jebat (right turn)	2,220	682	- 1,538
4	Lrg Hang Jebat (left turn)	2,590	1,224	- 1,366
5	Jalan Kubu	1,380	358	- 1,022
6	Jalan Kg.Pantai	490	1,249	+ 759
7	Jalan Laksamana	3,160	2,390	- 770

Note: * = Melaka Structure Plan Report.

= Action plan for Conservation Areas in Historical Melaka, 2001

Traffic on Lorog Hang Jebat, Jalan Hang Jebat and Jalan Kubu have recorded significant decreases by >1000 vehicles while Jalan Kampung.Pantai has an increase of 760 vehicles during the peak hour. The UTM 2001 study also found that peak hour traffic in this Study Area occurs during noon.

Taking the design capacity of one traffic lane as 2000 vehicle/hr but adjusted to 1,500 vehicle/hr in view of curb side parking factor and lack of pedestrian walkways, the present traffic demand on the major streets in the Study Area is still below the critical V/C ratio.

Table 2.2.8 : Estimated V/C Ratios of Major Roads

No	Road Name	Lane	Capacity	2001#	V/C ratio(veh/hr)
1.	Jalan Tun Tan Cheng Lock	1	1,500	969	0.65
2.	Jalan Hang Jebat	1	1,500	931	0.62
3.	Lrg Hang Jebat (right turn)	1	1,500	682	0.45
4.	Lrg Hang Jebat (left turn)	1	1,500	1,224	0.82
5.	Jalan Kubu	1	1,500	358	0.24
6.	Jalan Kg.Pantai	1	1,500	1,249	0.83
7.	Jalan Kg.Hulu	1	1,500	921	0.61
8.	Jalan Laksamana	2	3,000	2,390	0.80

Note: * = Melaka Structure Plan Report.

= Action plan for Conservation Areas in Historical Melaka, 2001

Figure 2.2.10 also shows the peak hour traffic volumes on the major streets in the Study Area and the V/C ratio. Among them, only Lrg.Hang Jebat (left turn section only), Jln.Kg.Pantai and Jln.Laksamana have V/C ratios closer to 1.0 which is a measure of congestion. This shows that traffic demand on these roads is still manageable. At intersections of those roads having V/C ratios of 0.8 or more, minor congestion and queue may occur. Therefore traffic at the intersections of Jalan Kg.Pantai and Jalan Bendahara/Jalan Laksamana may face some minor congestion during peak hours.

Public Transport

There is no public bus service within the Study Area. The only public transport modes are un-metered taxis and trishaws. Taxis from the inter state express bus terminal to the Study Area cater mostly to tourists and visitors and charge a flat fare of RM10. Trishaws are almost exclusively used by tourists for a ride around the historical area, especially around the civic buildings in Zone 1, and occasionally to other tourist attraction areas, notably the Sam Po Temple at the foothill of Bukit Cina. There is no fixed fare for trishaw rides, they must be negotiated with the drivers.

(2) Parking

Parking is an important urban facility issue in this Study Area because of the fact that the old houses were built at the time when car parks were not a necessity. Most of the old buildings have no front or back garages. (although some of the lots with better back street access along Lrg Kota Laksamana have managed to convert some back yard spaces into garages) In addition, the access roads are narrow and the provision of curbside parking in turn would narrow down the roadway space for traffic circulation.

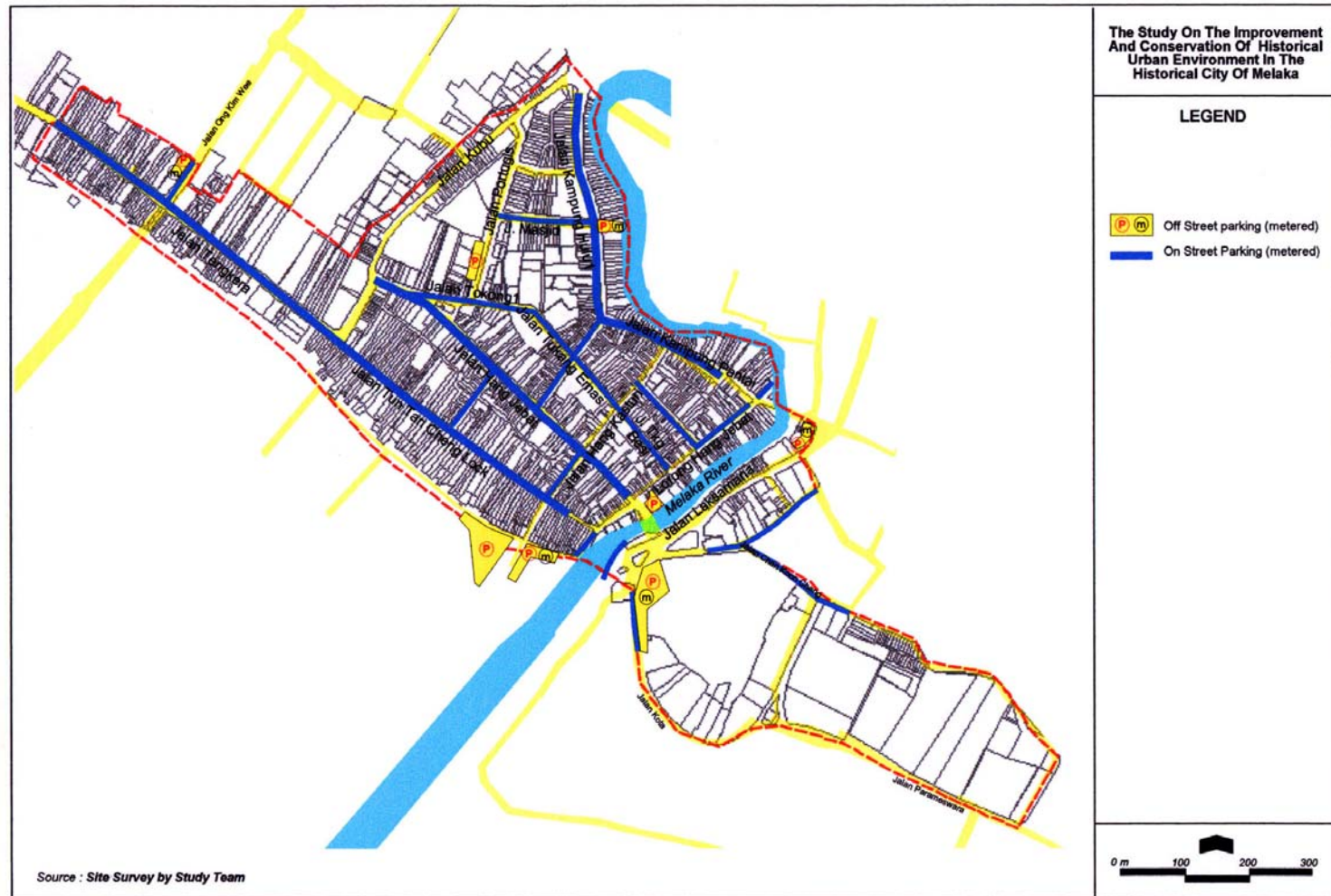


Figure 2.2.11 : Parking Distribution

Parking Facilities

Parking facilities in the Study Area are provided in the form of curbside metered parking and off street paid (per entry) parking. (Figure 2.2.11) All curb metered parking and the major off street parking are operated by MPMBB. Some of the other off street parking on vacant lots are operated by the private sector.

Photographs shows the existing parking facilities by types and their locations. Within the Study Area there are a total of about 470 on-street parking lots and an almost equal number or 440 off-street parking lots, making a total of about 910 lots. Table 2.2.9 below shows the inventory of parking facilities in the Study Area. This inventory however does not include private parking in schools, associations or hotels which are not directly available to the public.

Table 2.2.9 : Parking Supply by Types and Streets (unit : lot)

Type	No	Street Name	Cars	Buses/ Trucks	Remarks
Curb-side metered parking	1	Jalan Tun Tan Cheng Lock	58	0	Left side
	2	Jalan Hang Jebat	50	0	Left side
	3	Jalan Tokong	26	1	Right side
	4	Jalan Tukang Emas	13	0	Right side
	5	Jalan Tukang Besi	12	0	Right side
	6	Jalan Kg.Hulu	66	0	Right side
	7	Jalan Kg.Pantai	41	0	Right side
	8	Jalan Masjid	15	0	Left side
	9	Lrg.Hang Jebat	40	0	Right side
	10	Jalan Hang Kasturi	8	0	Right side
	11	Jalan Hang Lekir	15	0	Left side
	12	Jalan Hang Lekiu	12	0	Left side
	13	Jalan Laksamana	18	0	Right side
	14	Jalan Chan Koon Cheng	50	0	Left side
	15	Jalan Tengker	25	0	Both sides
	16	Jalan Parameswara	6*	0	
	17	Jalan Ong Kim Wee	12	0	Both sides
	18	Jalan Kubu	3	0	Right side
SUB-TOTAL			470	1	
Off street (MPMBB)	1	Lrg Kota Laksamana	136	5	RM1/entry
	2	Lrg.Kota Laksamana	23	3	Metered
	3	Jln.Kg.Hulu	33	0	Metered
	4	Jalan Kota (next to museum)	68	0	Metered
	5	Jalan Laksamana	31	0	Metered
Off-st (private)	6	Lrg.Hang Jebat	40	0	RM2/entry
	7	Jalan Portugis	100	3	RM2/entry
SUB-TOTAL			431	11	
TOTAL			901	12	

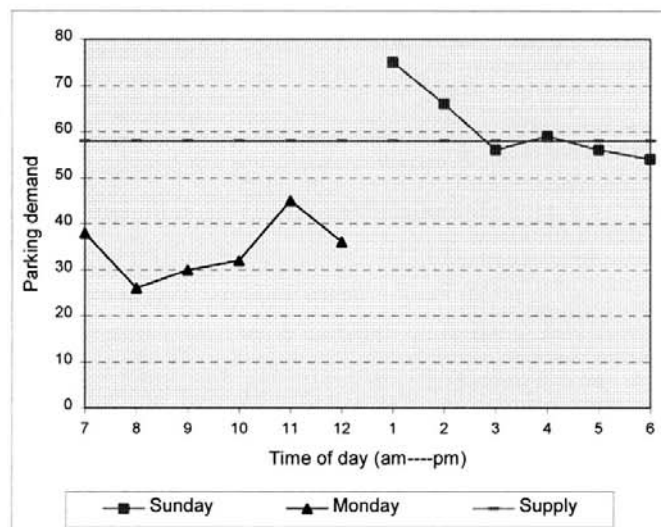
Source: this study, * only on street parking, off street on end of Padang Merdeka not included

Note: off street parking here does not include parking in hotels, schools, associations.

Parking Demand

In general, judging from the site observation survey, on-street parking is still by far the most popular. Another discernible trend is the higher demand for parking in the weekends than in the weekdays. These trends are confirmed by the data collected by the “Planning Study on Parking Facility in MPMBB” by the School of HBP, USM, in 1994. Parking demand on Jalan Tun Tan Cheng Lock and Jalan Hang Jebat was seen to be high. This data may be too old for serious analysis, but as a rough indication, demand and supply by time and day of week for Jalan Tun TCL and Jalan Hang Jebat are compared as below.

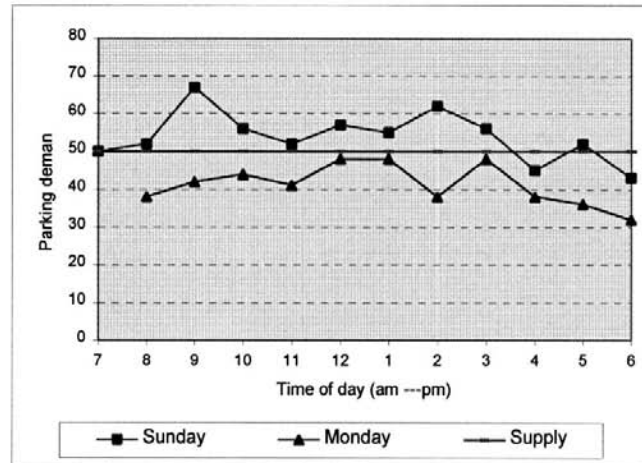
Figures 2.2.12 and 2.2.13 below shows that in both cases, demand for parking on the street on Sunday is higher than on a weekday and demand also falls off quickly to below the supply towards the late evening on these two streets. Demand for parking by residents residing on these streets are mostly met.



Source: Planning Study on Parking Facility, 1994.

Note: demand includes illegally parked vehicles and waiting.

Figure 2.2.12: Parking Demand and Supply on Jalan Hang Jebat



Source: *Planning Study on Parking Facility, 1994*
 Note: demand includes illegally parked vehicles and waiting

Figure 2.2.13 : Parking Supply and Demand on Jalan Tun Tan Cheng Lock

The 1994 USM Study made a survey of parking demand and the results indicated that within the Study Area, there is a higher demand for parking in the weekends than on weekdays by about 34%. The figures here indicate demand over the survey period of 12 hours (7 am to 7 pm) for most but 6 hours for some as indicated. This result implies that there are many visitors to this area during the weekends than a normal commercial district where demand for parking is generally lower during the weekends.

Table 2.2.10 : Parking Demand On Weekday Versus Weekend in Study Area.

No.	Street Name	Monday	Sunday	Diff.	% increase
1	Jln.Tun Tan C.Lock *	257	366	109	42%
2	Jln.Hang Jebat	453	647	194	43%
3	Jln.Tokong	279	437	158	57%
4	Jln.Kg Hulu	466	514	48	10%
5	Jln.Hang Kasturi *	37	57	20	54%
6	Jln.Hang Lekir *	32	75	43	134%
7	Jln Masjid	55	78	23	42%
8	Jln.Laksamana	579	728	149	26%
Total		2158	2902	744	34%

Source: *Planning Study on Parking in Historical City of Melaka, 1994.* (demand here includes illegally parked and waiting vehicles).

Note * 6 hours from 1-7 pm on Sunday and 6 hours from 7 am to 1 pm on monday

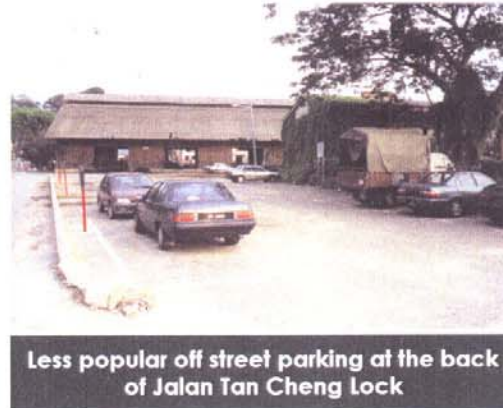
The major streets of Jalan Tun Tan Cheng Lock, Jln.Hang Jebat and Jalan Tokong have significant increases of between 40-60%. Jln.Kg.Hulu has only a small increase of 10%. Therefore, if the average hourly demand is compared with the number of parking lots by street, (Table 2.2.11), the weekdays usage is considered to be within the supply (average 0.68), but on weekends, usage is beyond the supply (1.04).

Table 2.2.11: Average Hourly Demand Against Supply By Street

No.	Street Name	Demand/hour		Parking lots	Usage/hour	
		Monday	Sunday		Monday	Sunday
1	Jln.Tun Tan C.Lock	43	61	58	0.74	1.05
2	Jln.Hang Jebat	38	54	50	0.76	1.08
3	Jln.Tokong	24	37	26	0.92	1.42
4	Jln.Kg Hulu	39	43	66	0.59	0.65
5	Jln.Hang Kasturi	7	10	8	0.88	1.25
6	Jln.Hang Lekir	6	13	15	0.40	0.87
7	Jln Masjid	5	7	15	0.33	0.47
8	Jln.Laksamana	49	61	41	0.84	1.49
Total					0.68	1.04

Source: Planning Study on Parking in Historical City of Melaka, 1994

On-street parking facility is still the most preferred choice by shoppers, visitors as well as residents. The largest off-street parking managed by MPMBB on Lrg.Kota Laksamana is observed to be grossly under utilized. The exact reasons are unclear, but judging from the existing situation, one of the reasons could be the lack of parking guidance signages. The other is the local habit of avoiding parking at distances away from the destinations.



Vehicle Ownership and Parking by Residents in Study Area

The Household Socio-Economic Survey conducted on a sample of 200 reveals that 85.5% of them own some form of motor vehicle. Out of this group, 58.3% own cars and 30.0% own motorcycles. This shows that vehicle ownership is high in the Study Area, and with the fact that many of the building units here do not have parking garages within their premises, demand for parking spaces is an important issue.

Asked where do they keep their vehicles, 69% reported that they keep their vehicles on the road close to the premises, only 31% at a car park away from the premises. On-street parking is found to be most prevalent in Zone 2, 7 and 5 (80% or more) while zone 6 and 3 have higher %ages of vehicles parked at car parks away from the premises.

Trip Purpose of Parking Users

The USM Study also conducted some sample surveys on the trip purpose of parking users. The results are given in the table below on selected streets in our Study Area. Bearing in mind the data is slightly out of date, the above data indicated that parking for shopping is not significant, while 'To Work' and 'Others' are among the selected streets. Unfortunately, the 'Others' was not differentiated, and we can only construe it to be 'Live Here'/'Visit friends/relatives'/'Sight-seeing'/'Religious'. Loading/unloading is significant along Jalan Kg.Hulu and Jalan Tokong on weekdays. 'To Work' is significant on weekdays on Jalan Hang Jebat and Jalan Tun Tan Cheng Lock.. Among those for 'shopping' Jalan Kg.Hulu has the highest percent share.

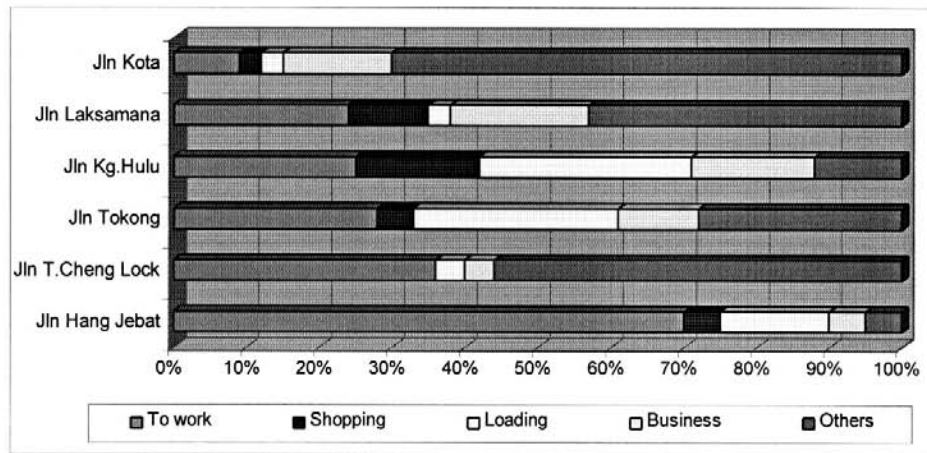


Figure 2.2.14 : Parking Purpose Pattern By Street On Weekday

Parking Duration

Parking duration also related closely to purpose. Long duration parking reflects uses such as 'Live Here' and 'To Work' while short duration is usually associated with shopping, loading/unloading, business.

Long duration parking is significant on weekdays on Jalan Hang Jebat and Jalan Tun Tan Cheng Lock. On weekends along Jalan Tun Tan Cheng Lock, short duration parking prevails. This pattern reflects the uses as 'Others' in the previous table during weekend.

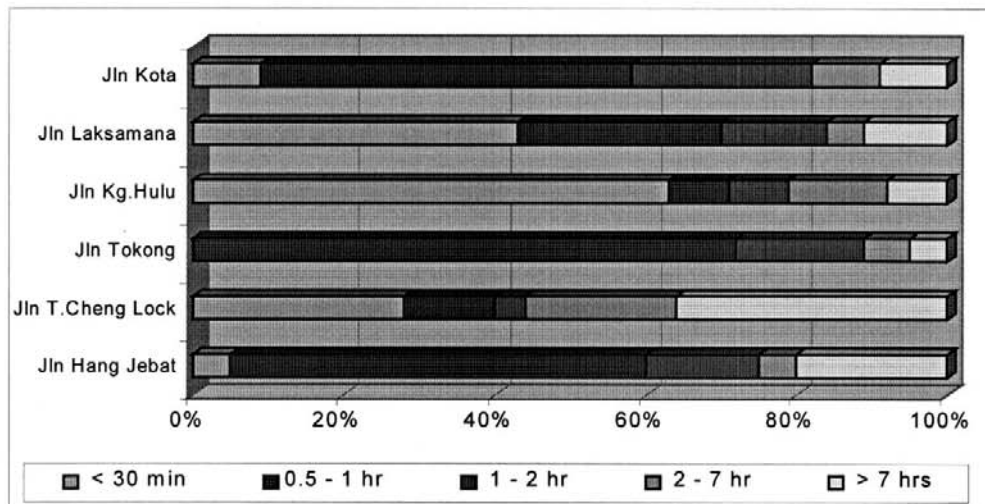


Figure 2.2.15: Parking duration pattern by street on weekday

Origin of Parking Users

Out-station users along Jalan Tun Tan Cheng Lock is more significant on Sunday, while those on Jalan Laksamana and Jln.Kota are both significant on Monday and Sunday. The category of 'Others' was not defined in the report and may construed to be 'foreign visitors'.

Table 2.2.12 : Origin of Parking Users

No	Street Name	Day of week	Melaka Town	Within MPMBB	Outside MPMBB	Out of Melaka	Others	Sample size
1	Jln.Hang Jebat	Mon	100%	0%	0%	0%	0%	20
		Sun	(no data)					
2	Jln.Tan C.Lock	Mon	56.0%	12.0%	12.0%	12.0%	8.0%	53
		Sun	46.4%	7.1%	3.6%	33.2%	10.7%	
3	Jln.Tokong	Mon	55.6%	33.3%	0%	11.1%	0%	18
		Sun	(no data)					
4	Jln.Kg.Hulu	Mon	41.6%	29.2%	12.5%	16.7%	0%	43
		Sun	42.1%	36.8%	5.3%	15.8%	0%	
5	Jln.Laksamana	Mon	64.9%	0%	18.9%	35.3%	10.8%	80
		Sun	61.9%	4.8%	11.9%	30.0%	9.5%	
6	Jln.Kota	Mon	36.4%	21.2%	12.1%	27.3%	3.0%	63
		Sun	30.0%	16.7%	10.0%	26.7%	16.7%	

Note: samples are almost equally distributed between Monday and Sunday.

Source: Ibid.

The above analysis provided some clear picture on the parking utilization of parking facilities in the Study Area. These can be summarised as follows:

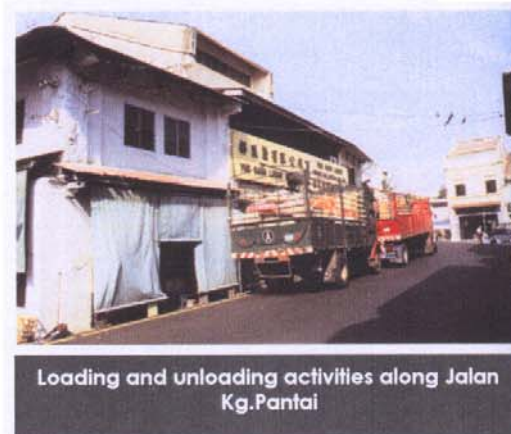
- (a) Vehicle ownership in the Study Area is high and with the lack of private garages in their premises, they require parking facilities.
- (b) For residents living in the Study Area, most of them park their vehicles on the streets nearby.
- (c) Along Jalan Tun Tan Cheng Lock, long duration parkers by users 'To Work' is more significant on weekdays. On weekends, short duration, typically of visitors, particularly of those from outside Melaka is more prevalent.
- (d) Along Jalan Hang Jebat and Jln.Tokong on weekdays (unfortunately there are no data on weekends), parking is of short duration, typically of those for business and shopping type.
- (e) Parking along Jalan Kampung Hulu, is more for shoppers and typically of short duration type. Loading and unloading purpose is significant here on weekdays than on weekends.
- (f) Parking along Jalan Kota and Jalan Laksamana showed less significant differences between weekdays and weekends. Short duration parking by visitors is more prevalent.

The relocation of street parking to off street parking is often a sensitive issues whwn proposing street improvement program to accommodate much needed pedestrian walkways. While street parking is an important factor for business, those along Jalan Tan Cheng Lock are infact mostly hold by visitors on weekends and can infact be selected without posing too much adverse projects.

Loading and Unloading of Goods

Loading and unloading of goods by trucks which, unless parked in a designated parking lot on the street, often disrupt traffic flow.

Loading/unloading activities however are more frequent along Jalan Kg. Hulu/Pantai than other streets in the Study Area, chiefly due to the location of many commercial establishments, wholesalers along the street.



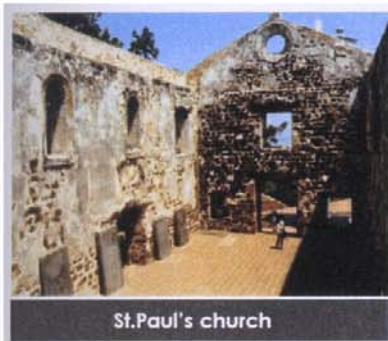
This is also confirmed by the above section based on 1994 data. Signs have been put up by MPMBB in restricting loading and unloading activities to off peak hours (9-12 noon, 2-5 pm). Efforts to relocate godowns and control of large heavy truck traffic in the city of Melaka by MPMBB has resulted in a proposal for the construction of a truck terminal near Air Keroh in the near future. This will see a reduction of heavy truck traffic within the city centre, including the historical zone.

2.2.5 Architecture and Urban Design

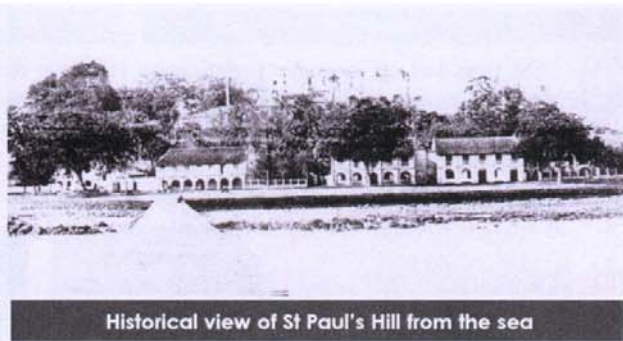
In terms of architecture and urban form, the study area can be delineated into 3 major characteristic areas:

- (1) *The St. Paul's Hill, Stadthuys Square* and civic areas;
- (2) The Melaka River and riverside developments;
- (3) The settlement quarters west of Melaka River.

(1) St. Paul's Hill and Civic Square

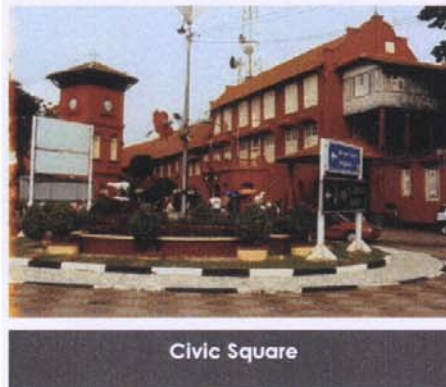


St. Paul's church



Historical view of St Paul's Hill from the sea

The Melaka Hill, now known as *St. Paul's Hill*, strategically situated on the eastern bank of the river, is the town's most prominent natural and historical landmark. Sited at the top of the hill, *St. Paul's Church* overlooks the mouth of Melaka River. Here one can obtain a panoramic view of the Straits of Melaka and the historic centre. Conservation work on the ruins of this masonry building was undertaken by The Museum and Antiquity Department and completed in 2001. This historical landmark is accessible by foot via a series of steps and walkway. Within the grounds of the church and on the hill slopes are historic tombs from the Portuguese period while at the northern foothill lies the Dutch cemetery. At the foot of the hill facing the sea, lies *Porta de Santiago*, a remnant of the Portuguese built fortress, *A' Famosa*. It is constructed of laterite stone with lime plaster and stucco.



Civic Square

Between *St. Paul's Hill* and the river, the only historic civic square of its kind in Malaysia. It is actually triangular in shape, framed by the *Stadthuys*, former residence of the Portuguese governor and *Christ Church*. A square shaped clock tower was built at the centre of the square in the 19th century. Several old Rain Trees complement this picturesque setting which is one of the most enduring images of historic Melaka. However this photo opportunity is somewhat marred by the presence of many later day built structures and sign boards, in particular those by the riverside. Hence the relationship of this site to the river should be restored.

The best approach to the square by road is through Jalan Laksamana which is a narrow street bounded on both sides by shop houses, thus creating an element of surprise. Coloured concrete paviers for the road within the square were introduced in 1980s. The absence of demarcation and separation for vehicle space and pedestrian space has created confusion for visitors who drive as well as those who walk. Furthermore current appreciation of authenticity in terms of materials and historical context of the site has rendered the use of coloured concrete paviers as inappropriate.

(2) Melaka River and River side

The Melaka River and its riverside environs represents the focal point of Melaka's historical epoch as "emporium of the east" from the early 15th century. With the advent of road transport, the river lost its economic significance. However this natural feature is an invaluable asset of the town's landscape and distinctive identity. Developments on and alongside the river such as warehouses, landing area, bridges, buildings and houses abutting the river banks are integral elements of the river corridor. They maintain the relationship between the river and the town. These elements also offer urban design opportunities for enhancing environmental quality.



Historic view of Melaka river towards the sea from Tan Kim Seng Bridge



The same river view with the landing on the left now a ferry terminal

(3) The Settlement Quarters West of Melaka River

The historical residential and commercial quarter located west of Melaka River as it stands today is from the layout of the Dutch during the 18th century. The streets are set out in rectilinear pattern without a uniform grid. Row houses built of brick masonry were introduced by the Dutch. Later, the Chinese took over the development of terrace houses and created a distinct architectural form characterised by an eclectic combination of western classical, Chinese and Malay elements. The mosques, temples and churches co-existing within this area are a legacy of Melaka's multi-cultural and multi-ethnic heritage. The assimilation of Malay culture in the lifestyle of the Peranakan Chinese (Baba-Nonya) and the Indians (chettiar) is apparent in the architecture of the terrace houses while Chinese traditional can are also found in mosque buildings. The best example is the mix of all these religious buildings and architectural styles along Jalan Tokong and Jalan Tukang Emas.

This quarter offers an array of terrace house architecture from the simple Dutch style with a single central window on the first floor to the exuberant facades and interiors of the so-called



Straits Eclectic Architecture along Heeren Street



Art Deco and Modern Style along Jonker Street

Straits Eclectic style, characterised by the ornate stucco decorations, fine timber fretwork, doors and windows and eclectic use of classical European and Chinese motifs. The best examples are to be found on Jalan Tan Cheng Lock (Heeren Street) and Jalan Hang Jebat (Jonker Street). In the commercial and artisans precincts, the shophouses are modest in appearance, almost devoid of any ornamentation. (Jalan Tukang Besi, Jalan Kg Pantai).



Building façade – Variety of Chinese and European Architectural Elements



Building façade – Detail Freeze with colourful 'Chai Hui'

The building lot subdivisions are typically long and narrow, up to 70 metres deep, sited back-to-back without back lanes. New back lanes were created in 1960s (Jonker St). The terrace houses were built with a series of internal air wells which provided natural ventilation and lighting. Buildings built in the early 1900s continued the Dutch decorative styles and the English Palladian classicism.

The streets are drained by a network of open roadside drains. Despite the relatively small drainage culverts, incidence of flooding is rare. This could be due to the relatively high elevation of the Study Area. The original road carriageway has been retained, thus maintaining the intimate human scale of the street in relation to the buildings.

A number of historic religious buildings exists within the commercial precinct. Among these, the oldest is the *Cheng Hoon Teng Temple* from 17th century, Kg Kling and Kg Hulu mosques, Sri Poyyotha Vinayagar Temple , centring on the axis of Jalan Tokong, Jalan Tukang Emas and Jalan Besi. One of the oldest catholic churches, *St. Francis Xavier's church* is located on Jalan Gereja. Within the precinct are also institutions like the clan associations (*kongsi*), trade associations, and wakaf (Islamic endowment) properties.



Kg Kling Mosque with a blend of several architectural styles



Cheng Hoon Teng Temple with strong Chinese architectural characters

2.2.6 Tourist Attractions and Facility

The main tourist attractions within the Study Area are located on and around St. Paul's Hill in Zone 1. These attractions comprise the restored civic buildings from the Dutch and British colonial days as well as the only remaining structure associated with the Portuguese period i.e. the A Famosa (Table 2.2.12 & Figure 2.2.16)



Sri Poyyatha Vinayagar Temple

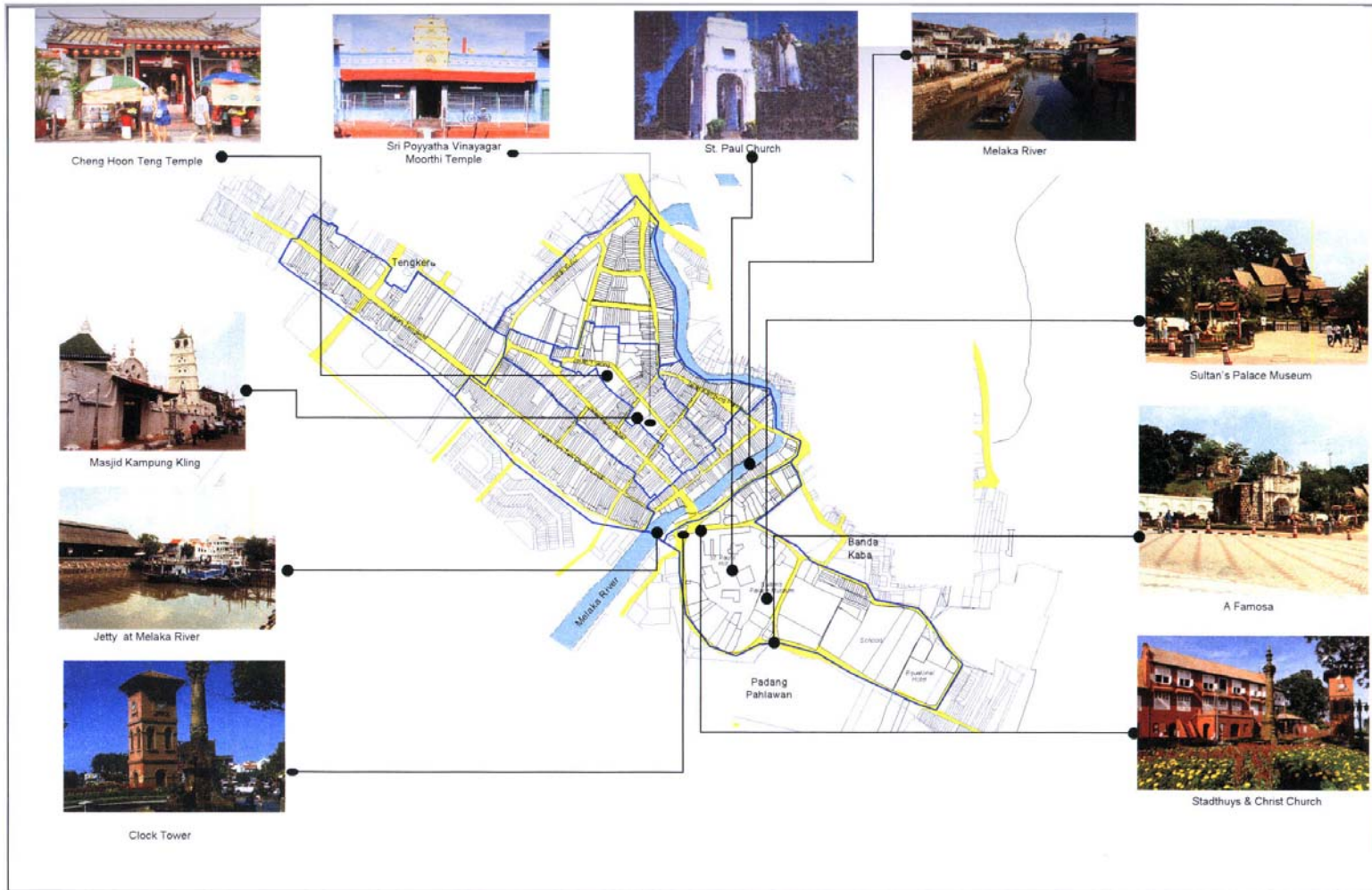


Figure 2.2.16 : Major Tourist Attractions In The Study area

Table 2.2.12 : Tourist Attractions Within Study Area

Attraction	Brief Description	Existing Condition
1. A Famosa	Only remaining structure belonging to Portuguese period	Restored and most popular tourist attraction
2. Ruins of St. Paul's Church	Contains head stones from Dutch graves	Exterior walls still intact
3. Dutch cemetery	Located away from tourist flow	Intact but lack of signposting
4. Independence Memorial	Houses exhibits related to proclamation of Malaysia's independence in 1957	Restored and adapted from former Melaka Club premises
5. Replica of Sultan's Palace	Reconstruction based on description in historical texts	Well maintained with exhibits depicting Melaka's Malay culture
6. Esplanade (Padang Pahlawan)	Esplanade and site for Light and Sound Show	Being converted into underground parking and shopping mall
7. Christ Church	Protestant church built during Dutch era	Intact external and internal structures
8. Clock Tower and Victoria Regina Fountain	Most famous landmark together with A Famosa	Public square fronting clock around fountain is a buzz of tourist activities
9. The Stadhuys	Administrative centre during Dutch period	Currently houses the Ethnography Museum
10. Cultural Museum, History Museum, Youth Museum, People's Museum, Maritime Art Gallery	Former civic buildings converted into museums by PERZIM	People's Museum currently closed for repair due to damage caused by fire

Source: Fieldwork, 2002

The public square in between the *Clock Tower and Christ Church* is the most popular tourist spot followed by *A Famosa*. Some of the former civic buildings have been converted into museums by the Melaka Museums Corporation (PERZIM), namely the Cultural Museum, History Museum, Youth Museum, People's Museum and Ethnography Museum. There are also places of worship along Jalan Tokong and Jalan Tukang Emas that are often visited by tourists such as the *Cheng Hoon Teng Temple, Masjid Kampung Kling and Chitty Temple (Sri Poyyatha Vinayagar Moorthi Temple)*. In addition, there are historical attractions such as the *Hang Kasturi Mausoleum* along Jalan Hang Jebat and *Hang Jebat Mausoleum* along Lorong Kuli .

There are 68 hotels in the Melaka Municipality providing 5900 rooms. However, there are only 7 hotels located in the Study Area, offering 628 rooms. Out of this, 2 hotels with 70 rooms are located in heritage houses. In addition, there are 6 guest houses (107 rooms), of which 4 (85 rooms) are in heritage houses (Table 2.2.14)

Table 2.2.14 : Number of Tourist Accommodation in Study Area

Type Of Accommodation	Number Of Establishments	Number Of Rooms	Number Of Est. In Heritage Buildings
Hotel	7	628	2
Guest House	6	107	4

Source: PERZIM, 2000

Around 147 food outlets with a capacity of 2880 seats are available in the Study Area, all housed in heritage buildings. Shops and stalls selling souvenir items and trinkets can also be found around St. Paul's Hill and the old quarters. Currently, there are about 97 craft shops and stalls, 8 antique shops and 5 art galleries within the historic core and the number is growing.

Table 2.2.15 : Number of Tourist Facilities in Study Area

Type Of Facility	Number Of Outlets
Restaurants, cafes and coffee shops	147
Craft shops	97
Antique shops	8
Art Gallery	5

Source: PERZIM, 2000

Most of these stalls will be relocated to the underground shopping mall at the Esplanade once the project is completed. There are 4 public toilets with 15 male cubicles, and 20 female cubicles in public buildings. However, it is common for tourists to use the toilets in the restaurants, places of worship and even the schools.

2.2.7 Local Communities and Activities

(1) Present Local Communities in Study Area

Presently, the Chinese community forms the bulk of the population living within the old quarter. Nonetheless, the Chinese community is represented by different groupings or clans, which are as follows:

- (a) Hokkien (from Fujian Province)
- (b) Cantonese (from Guang Dong)
- (c) Hainanese (from Hainan island)
- (d) Hakka
- (e) Teachew
- (f) Heng Wah

The Hokkien, many of whom are the ancestors of the Straits-born Chinese (Baba) when they intermarried with the local, form the biggest grouping followed by the Cantonese. These groupings/clans maintain clan associations within the conservation area although the association buildings belonging to the Hokkien and Heng Wah clans are actually located in the buffer zone. In addition, there are many ancestral homes in the study area, which are maintained by caretakers but there is no official record on the total number of ancestral homes.

The Malays are located in a small enclave called Kampung Pali which lies opposite the Cheng Hoon Teng Temple. This plot of endowment land (tanah wakaf) belongs to the Melaka Religious Council (MAIM) and there are currently 30 Malay households and 5 Chinese households living in this enclave. The Malays have their activities centred around the Kg Kling and Kg Hulu Mosque closed to this enclave.

The majority of Indians/ Indian Muslims living within the study area are the antique dealers belonging to the Malaya lee/ Malabar Indians who operate about 7 antique shops in the study area. This is followed by the money lenders along Lorong Hang Jebat. Finally, there are a few priests living in the Sri Poyatha Vinayagar Moorthy (Chitty) temple along Jalan Tokong. The bulk of the Chitty (Straits-born Indians) community have been relocated to the urban fringe (at Gajah Berang) by the British.

It was also during the British occupation that the other main community groups were relocated to the urban fringe. For instance, the Malays were relocated to Kampung Morten whilst the Portuguese community now mainly live within their enclave in Ujong Pasir. To surmise, it can be said that the entire conservation area is currently dominated by the various Chinese clans and the only link between the old quarter and the other communities living in the enclaves is through the presence of places of worship belonging to these groups such as the Chitty temple, Masjid Kampung Kling and Masjid Kampung Hulu as well as the Methodist Church (Christian Tamils).

The Jonker Walk Project

The most famous and also controversial tourist activity or Special Tourism Event within the Study Area is the Jonker Walk. This weekend activity was started about a year ago involving the closure of Jalan Hang Jebat (Jonker Street) from 6 p.m. to 11 p.m. on Friday, Saturday and Sunday. The original intention was to allow traders to peddle handicrafts so as to create a night activity for tourists but Jonker Walk is now overwhelmed with food stalls. Jonker Walk has received a lot of criticism in the media mainly because it gives the appearance of just another Malaysian night market (pasar malam). Notwithstanding this, according to a tourism impact survey on 316 local residents, however, more than 60% of the local residents and traders are in favour of the project.



The Jonker Walk night bazaar along Jalan Hang Jebat



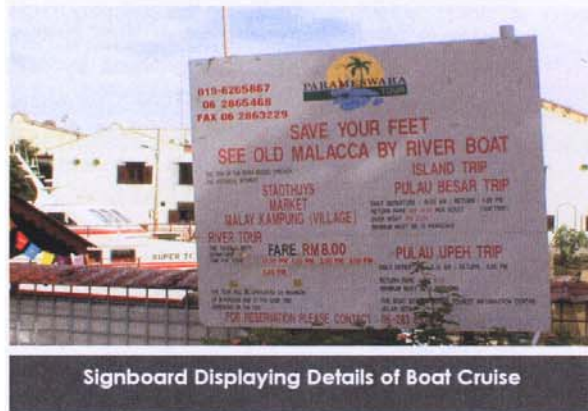
Activity has brought night life to the historical residential area

Activities in Clan Houses

Some of the clan houses of the various Chinese communities mention in (1) above, have organize nightly activities within their respective clan houses. These include reading, poetry recitals, singing and dancing.

River Cruise

Another popular tourist activity is the boat cruise along the Melaka River. The cruise starts from the river mouth and takes tourists to as far as Kg.Morten, although tourists are not allowed to get down and visit the only Malay settlement within the city.



Signboard Displaying Details of Boat Cruise

Religious Activities & Celebrations

Besides the organised activities, it is also common practice to share religious and cultural rituals and practices with tourists. Celebrations such as Hari Raya Puasa, Hari Raya Haji (Malays), Ponggol, Thaipusam (Indians and Chittys), Intrudu and St.Pedro's Festival (Portuguese) are celebrated both within the community enclaves and places of worship in the Study Area, and these celebrations are currently being promoted as tourism products.

Table 2.2.16 : Types of Religious/Cultural Celebrations

Community	Celebration
Malays	Hari Raya Puasa, Hari Raya Haji
Chinese, Straits-born Chinese	Chinese New Year, Chap Goh Meh, Cheng Beng or All Souls Day, Birthday of the Godness of Mercy, Festival of Hungry Ghosts, Mid-autumn or Moon Cake Festival, Wesak Day)
Portuguese	Christmas and Palm Sunday, Good Friday, Easter Sunday, St Anne's Feast day
Chittys	Thaipusam, Ponggol, Masingam, Deepavali, Chithirai Vishu, Viragon Chathuri

2.2.8 Other Services

(1) Garbage Collection

Solid waste collection in the Study Area is provided by MPMBB by manual collection using garbage trucks. Residents/shops operators are required to put out their wastes in plastic bags in front of their premises for collection or into bigger bins provided by MPMBB. Garbage collection cannot be conducted along back lanes as most areas have none, and those that have the back lanes are just too narrow and with sharp bends for easy maneuvers by the collection trucks.

Judging from the level of cleanliness of streets and shop fronts, garbage collection service is quite satisfactory, except in instances where bins provided by MPMBB were seen to be overflowing.

(2) Sewage

The old bucket system of night soil collection was largely replaced with individual septic tanks system in this part of Melaka. However, the local authority is in the process of implementing a centralized sewage system to ensure waste is properly treated at a centralized facility. This will help to improve the quality of discharge water into the Melaka River.

(3) Drainage

Open curbside drain is the prevailing drainage system in the Study Area. By modern design standards, these drains are too narrow (only 0.5 foot wide), but surprisingly, there is no reported flooding in the Study Area.

Despite the under-designed drains, runoff from roads and roofs of buildings is disposed-off effectively. One reason could be the smaller surface run-off due to narrower streets while those from the roofs is delayed due to the multiple roofs system used in the building design.

In many parts of the Study Area, the open drains, although allowing easier access and maintenance, are seen to be laden with solid waste. It is therefore a question of good maintenance practice by the authority and cooperation from residents in keeping the drains free of garbage so that they will not be clogged up during heavy rain.



One of the main collector drain for the Study Area flows from east to west cutting across Jalan Tengker. The channel is seen to have been over grown with weeds and in need of better routine maintenance work.

(4) Utility Supplies

Utilities such as electricity and water supplies are adequately provided. However exposed aerial lines on poles, have contributed to unsightly streetscapes in the historical area.

In one particular case, telephone wires have sagged and is a cause to possible breakage of valuable architectural elements on the roof of Cheng Hoon Teng Temple along Jalan Tokong.

(5) Fire Fighting Services

Fire is a recognized hazard in the historical areas especially in zones other than zone 1. This is on account of the proximity of these buildings and the extensive use of timber in the buildings. Another feature in the Study Area that may hinder fire fighting is the depth of the buildings.

In some areas, there are no back lanes, thus reduces accessibility by the fire fighters.