

## **4.2.2 Road Development Plan**

### **(1) Revision Work Approach for Proposed Road Development Plan**

Based on the following consideration, the road development plan in the M/P was revised and then proposed.

- (i) When components in the projects/programs of the M/P have already realized, then the components or the project/program of the M/P will be withdrawn from the proposal.
- (ii) When necessities of revision or addition of the project/program are identified due to the current situation, such conditions shall be incorporated into the proposal.
- (iii) When the project/program of the M/P is still required due to no progress and the same situation, the project/program will be remained in the proposal.

It can be said that Siem Reap urban area is still limited within the area enclosed by NR6 and the Ring Road. However, laterite roads still exist in this area, and majority of urban facilities for residents and/or tourist spots are built and concentrated along the limited AC paved (all-weather type) roads.

It was observed that Siem Reap urban area is expanding to eastward, outside of the Ring Road, where the M/P identified as the future urban area. However, necessary infrastructures for supporting the urbanization, such as AC paved roads, power lines, water mains and drainage systems, are not yet provided well in this “future urban area”. Due to the insufficient infrastructure in this area, new urban developments were seen along the few AC paved roads only. At the same time, it was the fact that there are still many vacant areas within the Ring Road. Furthermore, as shown in Figure 2.8, the most of new buildings built after the M/P were located within the Ring Road.

The statistics show the steady increase of city population and number of tourists. Siem Reap City shall cope with this increment by further urban development and expansion of urban area. However, taking into consideration of the current land use situation, it was judged that the area within the Ring Road still have the potential to accommodate the demand of future urbanization for, at least, next 5 years. In order to promote the urbanization appropriately within the Ring Road, it is crucial to improve the current laterite roads to all-weather type AC paved roads.

This road improvement from laterite road to AC paved road will also contribute to decentralize urban facilities and to achieve the well balanced practical road network in the area within the Ring Road.

The analysis of traffic count survey data revealed that the current traffic volume is within the existing highway capacity. The traffic count data surveyed at near Phsar Leu Market (Survey Station No. 5) shows high volume. However, after the traffic count survey of January 2010, Siem Reap Municipality evicted vendors at the end of February 2010 who were operating in the car park area in front of the market. Evicted vendors were deemed to cause the traffic jam on NR6 in the area. Due to this clearing, it is considered that the traffic volume at the area of Survey Station No. 5 was decreased from the surveyed volume.

The comparison study of traffic count survey data was carried out between data of M/P in 2004 and data of January 2010. The M/P conducted the traffic count survey at four survey points on NR6, while the location of survey points for through traffic on NR6 were different from the survey of January 2010. Due to this location difference, the meaningful comparison from the view point of engineering accuracy was not available. The comparison study was also not able to derive the traffic growth rate to forecast the future traffic demand. However, the study may indicate the following:

- The traffic volume on NR6 between the International Airport and Siem Reap City was decreased from 2004, or not increased due to the rather constant arrival of international tourists via flights.

- Upon the completion of NR6 rehabilitation, it is understood that there are tourists via land transport from the national boarder between Cambodia and Thailand. However, this traffic demand is not remarkable, or almost negligible.
- The traffic volume on NR6 at east of Siem Reap River is increased from 2004. The reason would be:
  - The area is densely developed urbanized area and generate the intra city traffic.
  - There is remarkable increase of inland tourists who are visiting Siem Reap from eastern area of the country.
  - In recent years, Vietnamese tourists via land transport also remarkably increased. They visit Siem Reap from east using NR6.

Thus, the future traffic demand of NR6 at the western section will not exceed the existing maximum highway capacity by 2020. The future traffic demand of NR6 at the eastern section will increase. However, when the improvement of laterite roads to AC paved roads within the Ring Road is implemented, the increased traffic will be widely distributed/absorbed into the improved city road network. The traffic volume on NR6 will not exceed its highway capacity, as the through traffic, traversing through Siem Reap City, is little and the most of traffic on NR6 is going to accommodations within the city area and/or archeological heritages. Therefore, it is considered that the future improved road network within the Ring Road will cover the future increased traffic demand.

As a result, a basic concept for the formulation of road network development/improvement is summarized as follows:

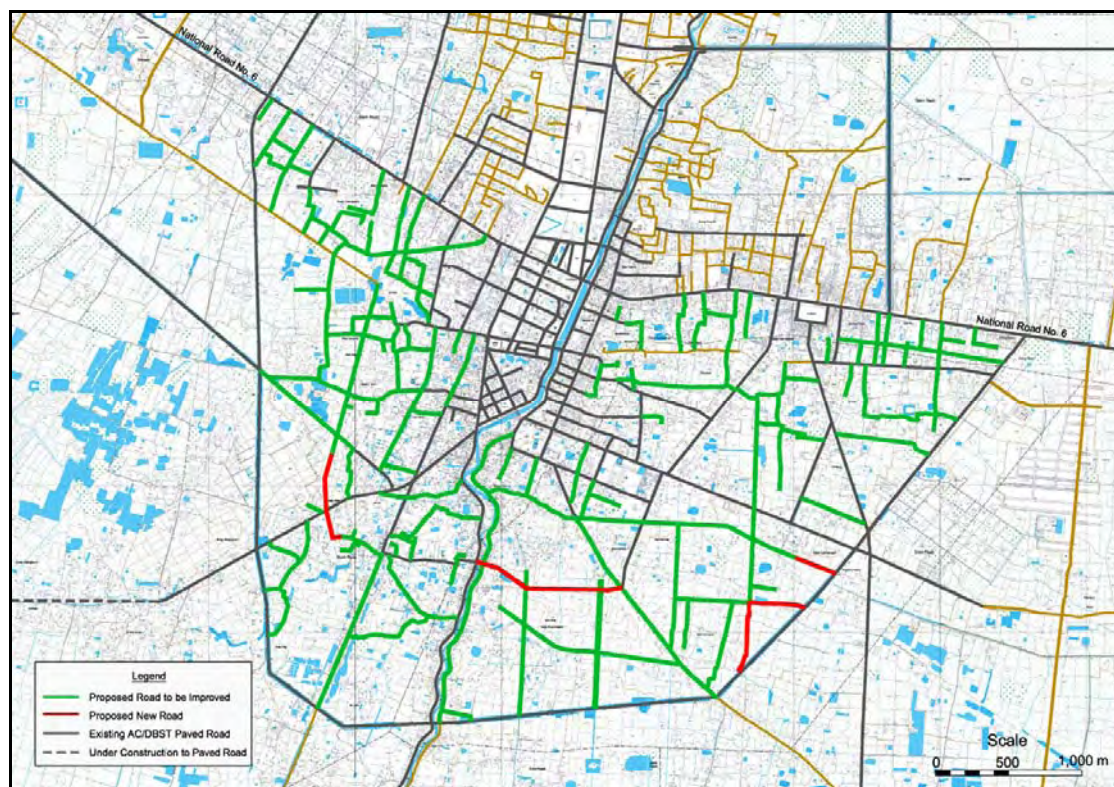
- Road development/improvement within the Ring Road is the highest priority.
- Road development/improvement outside the Ring Road is the second priority
- NR6 widening into dual 4-lane will not be required.
- Sub-arterial road project parallel to NR6 shall be proposed as the third priority, independently from the road development/improvement outside the Ring Road.

## **(2) Road Network Development/Improvement in the Urban Area**

### **TR-1 Improvement of Sub-arterial Road Network within the NR6 and the Ring Road**

Following the concept of urban planning, improvement of principal road network inside the Ring Road was proposed by the M/P and expected to be completed before 2012. However, the sub-arterial road network within the NR6 and the Ring Road has not been improved yet. Therefore it is considered the improvement of road network inside of the Ring Road is required urgently. In addition, from the view point of realization of the clean and safe city environment, the improvement of laterite roads is crucial. The candidate laterite roads to be improved were thoroughly reviewed and considered.

Figure 4.29 shows the proposed sub-arterial road network to be improved to all-weather type (asphalt concrete) pavement. The total length of the road improvement is estimated as about 70 km. In the course of development of this network, improvement of intersections and installation of signal, road lighting and drainage should be executed as well.

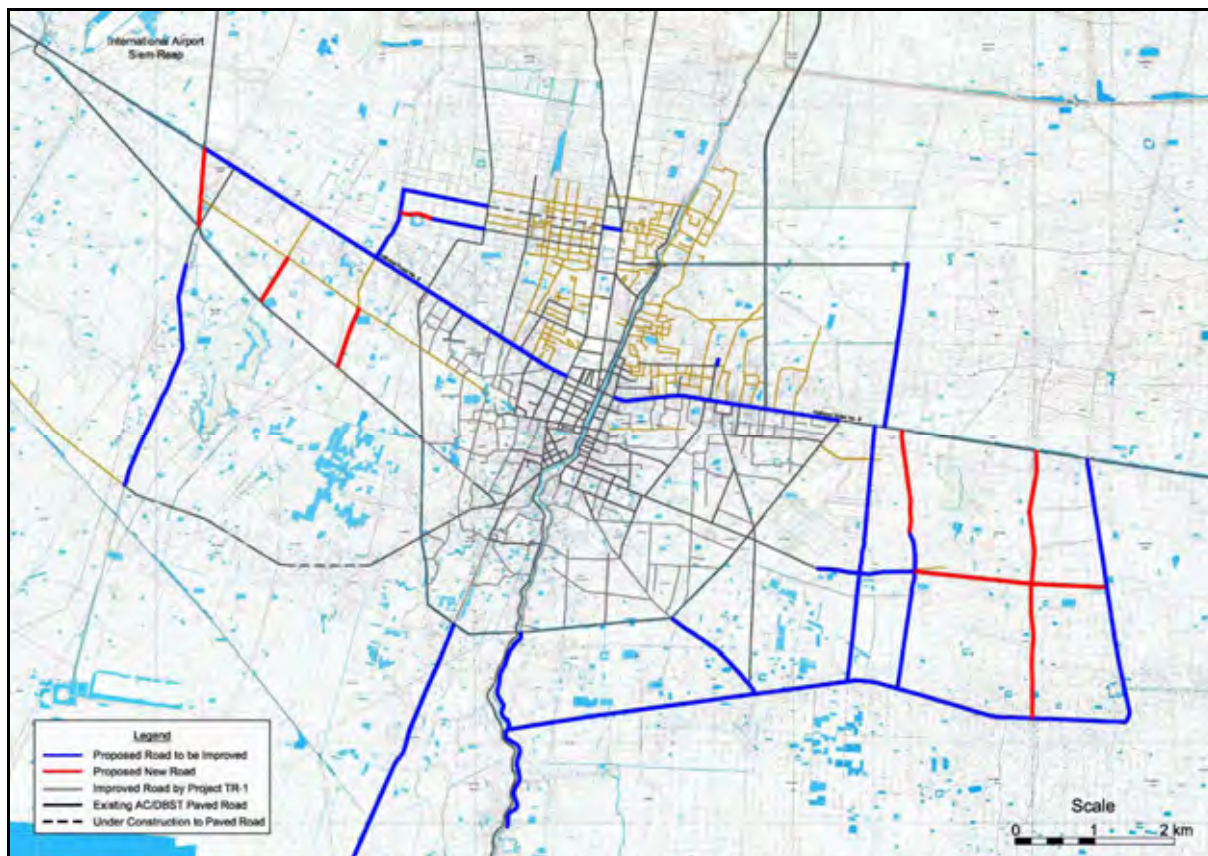


Source: The Follow-up Study

**Figure 4.29 Improvement of Sub-arterial Road Network within the NR6 and the Ring Road**

#### TR-2 Improvement of Sub-arterial Road Network outside the Ring Road

The M/P proposed to provide the principal road network on future urbanization area (east and southeast of the city) between 2012 and 2020. Due to the same reason of the rapid growth of the city population as stated in above, this improvement of sub-arterial road network outside the Ring Road is also required to be implemented in the long term. Figure 4.30 shows the proposed road network to be improved or newly constructed by TR-2. The total length of proposed road network is approximately 60 km.



Source: The Follow-up Study

**Figure 4.30 Improvement of Sub-arterial Road Network outside the Ring Road**

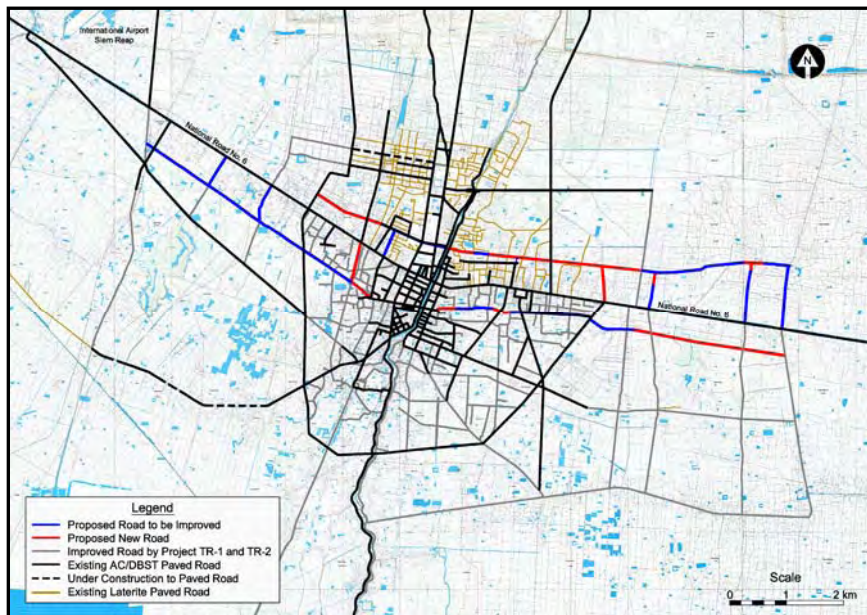
It is noted that the construction of bypass road, passing the west side and the north side of AAP area, was planned. The construction will be commenced in 2010. This bypass road construction consists of an improvement of 16.3 km existing road and 4.6 km of new road construction, as given in the location map of Appendix D-3.

#### TR-3 Construction of Sub-arterial Road Parallel to NR6

The traffic on NR6 is not saturated yet. However, it is worthwhile to provide the alternative route to cope with the future traffic demand beforehand. The M/P proposed this alternative route as two (2) roads, parallel to NR6 in the north and south of NR6, together with the connection roads between NR6 and parallel roads. In order to strengthen the road network and realize the appropriate traffic distribution in the city, it is required to implement TR-3 in early stage as much as possible.

However, these parallel roads in the north and the south need to traverse built-up areas. The implementation of these roads needs the resettlement of people and demolition of buildings/houses. It is anticipated that the realization of the parallel roads would necessitate the time-consuming process to get the consent between related governmental organizations and project affected people.

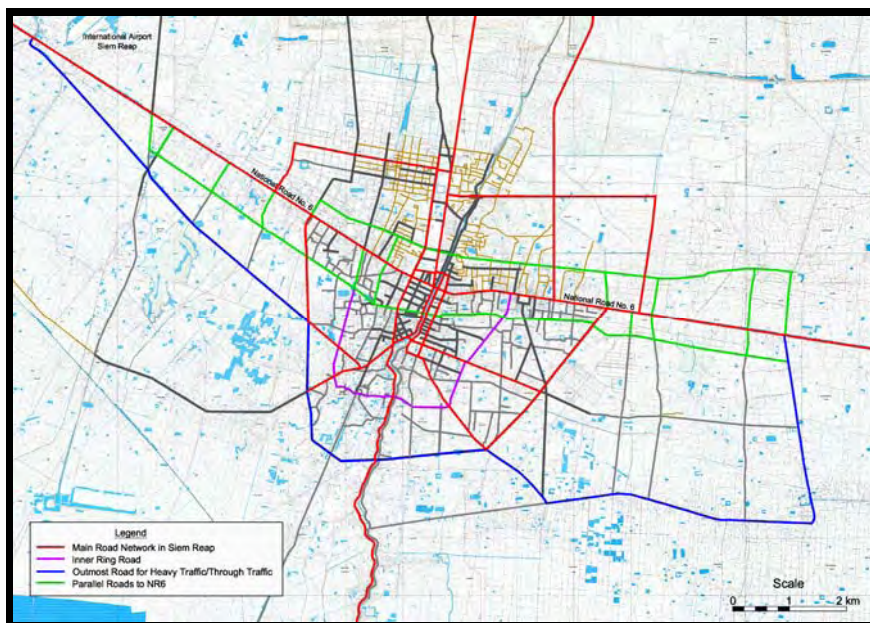
Due to the importance of these parallel roads and expected difficulties of implementation, it was judged to propose as independent project as TR-3 in addition to TR-1 and TR-2.



Source: The Follow-up Study

**Figure 4.31 TR-3 Construction of Sub-arterial Road Parallel to the NR6**

In the last result from TR-1, TR-2 and TR-3, the Road Development Plan 2020 in Siem Reap is shown in Figure 4.32.



Source: The Follow-up Study

**Figure 4.32 Road Development Plan (TR-1, TR-2 and TR-3)**

### (3) Improvement of Road Condition and Safety in the Urban Area

#### TR-4: Institutional Improvement and Campaigns for Road Safety

In 2004, the Cambodian Government established fifteen (15) action plans for realization of safety road traffic, against increasing of traffic accident. Out of these action plans, the M/P proposed for Siem Reap Province/Siem Reap Municipality to implement the following eight (8) action plans.

**Table 4.11 Road Safety Action Plan**

(a) : Publication of Road Safety Audit and Hazardous Locations
(b) : Improvement of Roads Environment and Road Design
(c) : Road Safety Education for Children
(d) : Law Enforcement
(f) : Vehicle Technical Inspection
(g) : Drivers Training
(h) : Improvement of Emergency Assistance to Traffic Victims
(i) : Road Safety Public Campaigns

Source: The M/P Study

It was judged that these action plans for road safety are still required to be implemented for the sustainable development of Siem Reap City. The requirement of each action plan is stated below:

(a) Publication of Road Safety Audit and Hazardous Locations

Deteriorations of road surface, potholes, narrow road width, or mismatching of road width and narrow bridge width are factors to result in road accident. However, it is considered that the appropriate warning signs to lead the driver's attention to enhance traffic safety are not provided sufficiently. Thus, auditing hazardous locations and the factors is needed in order to improve safety for road users. The result of the audit should be publicized so that drivers can understand the hazardous locations and the factors and be remained for their safety drive.

(b) Improvement of Roads Environment and Road Design

Public roads shall be designed to ensure the safety for road users. Road signs and signals, street lighting etc. shall be provided in place. On street parking and off street parking shall be in order sufficiently in the built-up areas, especially the central business district. Provision of special lanes is recommended to designate motorbikes, bicycles and pedestrians traffic.

(c) Road Safety Education for Children

Road safety education for children is very important. They are able to know and understand traffic laws and regulations by this education program from their childhood. The road safety education is recommended to start from the first grade of primary school with participation of their teachers and parents. It is expected for all attendants to be well aware about the traffic laws.

(d) Law Enforcement

In order to reduce road accidents, law enforcement shall be "swift, certain and severe" in order to correct dangerous behavior of road users.

(f) Vehicle Technical Inspection

The periodic technical inspection of vehicles shall be implemented in accordance with the laws and regulations. The vehicles without any technical inspection may encounter break failures, tire blowout, steering wheel problems or broken headlight and cause accidents during the driving.

(g) Drivers Training

The statistics of road accidents show that majority of the accidents is caused by careless human errors. The training of drivers on traffic law, road safety, self-protecting driving and careful driving is one of the priorities.

(h) Emergency Assistance to Traffic Victims

The duties of the Emergency Assistance teams are to bring the serious victims to a hospital as soon as

possible and provide them the first aid during the transfer.

(i) Road Safety Public Campaigns

The road safety public campaigns shall focus to pedestrians, bicyclists and motorcyclists who are the most vulnerable road users to the traffic accidents.

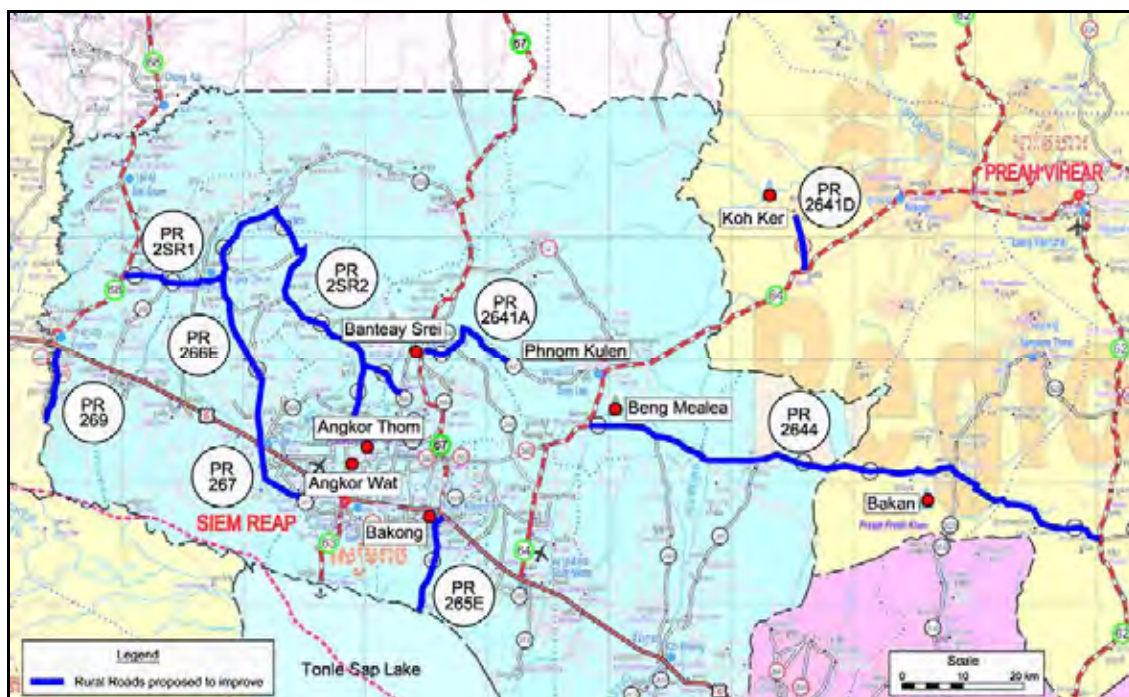
**TR-5 Rural Heritage Network Rehabilitation Project**

As reported in Chapter 4.2.1, some access roads to the remote heritages proposed by the M/P have already been improved. The objective of this project is to rehabilitate the remaining access roads (not improved yet) proposed by the M/P and additional provincial roads as listed in the table below. As a result of the past improvement of access roads, the number of tourists, visiting the rural heritages such as Phnom Kulen (National Park) and Beng Mealea, has been increased. As there are many heritages in rural area, including heritages not yet investigated, it is essential to improve rural roads to diversify tourism destinations and their routing based on the tourism sector approach in the M/P so as to provide new attractive tourism spots in rural area, and make tourists stay longer.

**Table 4.12 Proposed Rural Road List of TR-5**

Road Number	Approx. Length (km)	Rural Heritage
PR2644	65	Bakan
PR2641D	10	Koh Ker
PR2641	25	Phnom Kulen
PR266E	46	
PR2SR1	6	
PR2SR2	45	
PR269	13	
PR265E	6.5	
PR267	18	

Source: The Follow-up Study



Source: The Follow-up Study

**Figure 4.33 Location Map of Proposed Road by TR-5**

#### TR-6 Introduction of Environmental Public Transport in the AAP

From the viewpoint of archeological heritage conservation and global warming prevention, it is considered that a deployment of environmental public transportation (electric car) into AAP area is appropriate and desirable. In the course of development of Siem Reap City as the archeological heritage tourism center, the deployment of environmental public transport will form the sustainable environment for the city.

APSARA Authority has already introduced electric busses in Angkor Thom area. Therefore, it is proposed to introduce environmental public transport into not only Angkor Thom area but also the entire AAP area.

This project component consists of:

- Procurement of environmental busses
- Installation of bus stops and relating facilities
- Construction of depot

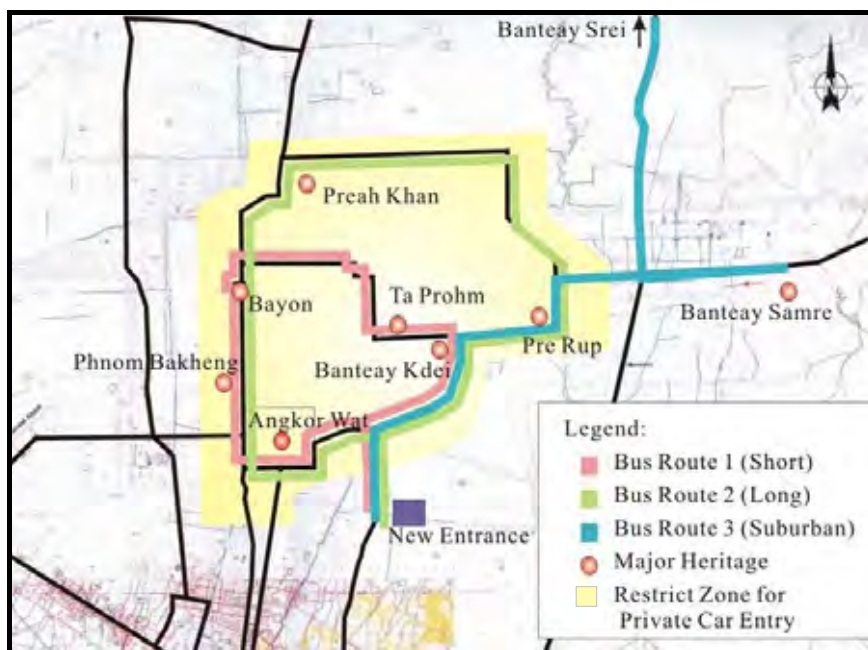
Ideally, the environmental public transport is proposed to be operated in AAP area together with the establishment of rules to prohibit the entry of private cars including tourist busses and Tuk-Tuk into AAP area to resolve the current disorder of traffic condition. The proposed routes for public transport and restricted zone for private car entry are shown in Figure 4.34. The proposed route for environmental transport is three (3) of the following:

- The short circuit route which connects to Banteay Kdei, Ta Prohm, Bayon, Phonm Bakheng and Angkor Wat.
- The long circuit route which includes Pre Rup and Preah Khan plus short circuit route other than Ta Prohm.
- The suburban course to Banteay Srei via Banteay Samre.

It is proposed that APSARA Authority will operate the environment transport system and the transport fare will be included in the admission fee to the AAP. The regular transportation services for tourists will be able to remove the existing large scale car parking spaces in front of each archeological heritage in Zone 1.

The rules to prohibit the entry of private cars into AAP area shall be established with the amicable consent of all concerned parties including Tuk-Tuk drivers, tourist bus drivers and travel agencies. It is advised for APSARA Authority to give the priority in employment of Tuk-Tuk drivers and tourist bus drivers at the time of recruitment of environmental public transport drivers.





Source: The M/P Study

**Figure 4.34 Proposed Route for Public Transport and Restricted Zone for Private Car Entry**

#### TR-7 Bicycle Track Construction in the AAP

Considerable numbers of tourists visit the AAP by bicycle. However, bicycle tracks were not realized in the area, although the M/P proposed to construct. At present, cycling tourists still have to use the same road for vehicles, in mixed traffic condition. From the view of attaining the safe and comfortable tourism for cycling tourists, the construction of bicycle track, to separate the cycle traffic from vehicles, shall be implemented in the AAP area. The length of construction of bicycle track along existing road will be approximately 28.5 km.

#### **(4) Efficient Road Maintenance**

##### TR-8 Institutional Improvement for Efficient Road Maintenance

In order to maximize the efficiency of road maintenance, it is important to make an appropriate schedule based on a priority given by the present conditions of each road/structure. For this maintenance, the provision of road asset inventory database is most crucial. Although DPWT knows this importance, the inventory database or transparent criteria for maintenance priority has not been established yet due to the insufficient budget and human resources. Thus, the following programs are proposed to improve the efficiency and effectiveness of road maintenance;

##### (a) Preparation of Road Inventory

Road inventory is one of the most fundamental data to manage roads. Therefore, all the roads under the responsibility of DPWT in the region shall be covered in the inventory. It is proposed that the items listed in Table 4.13 shall be covered in the inventory. Prioritization of road rehabilitation and periodic road maintenance shall be done by referring this inventory database and national/provincial road development strategy.

**Table 4.13 Proposed Items in Inventory Database**

Category	Items
1. General	1-1 Road category and name 1-2 Start point and end point

	1-3 Responsible organization
	1-4 Section No. (km post)
2. Pavement	2-1 Cross section profile
	2-2 Pavement type
	2-3 Pavement condition (roughness, crack, pothole etc.)
3. Culvert	3-1 Structure profile
	3-2 Structural health (crack, deterioration etc.)
4. Bridge	4-1 Structure profile
	4-2 Structural health (crack, deterioration, corrosion, deflection, erosion etc.)
5. Traffic	5-1 Traffic volume
	5-2 Heavy vehicle ratio
	5-3 Average travel speed
6. Others	6-1 Maintenance record
	6-2 Roadside land use

Source: The M/P Study

#### (b) Monitoring of Road Condition

Structural/surface conditions of non all-weather type roads, such as unpaved roads or laterite roads, are changed and damaged within a short time range. Therefore, the frequent monitoring of road condition and updating of inventory database are required. Early finding of damages prevent fatal brakeage of road and result in the reduction of traffic accident. Moreover, early repair of small damages can save the maintenance cost.

A traffic volume is one of the essential factors in deciding the road specifications and its maintenance period. The periodic traffic survey shall be conducted on the major roads, at least once a year, and its result is to be reflected to the annual road development and maintenance plan.

#### (c) Coordination on Road Maintenance Policy between DPWT and DRD

To improve the efficiency and effectiveness of road maintenance, it is requested to prepare a comprehensive road maintenance plan considering whole road network including rural roads. For this, organizations responsible for road maintenance are needed to discuss closer in planning the road development and maintenance. Especially, DPWT and DRD are recommended to hold the concrete consensus in their road maintenance plan and maximize the effectiveness of road maintenance.

### 4.2.3 Priority Project in Transportation Sector

#### (1) Selection of Priority Project

Among the proposed projects/programs described in the previous Chapter 4.2.2, the followings were selected as priority project/program from viewpoints of urgency, preparedness, synergy effect, and negative impact.

TR-1: Improvement of Sub-arterial Road Network within the NR6 and the Ring Road

TR-2: Improvement of Sub-arterial Road Network outside the Ring Road

TR-3: Construction of Sub-arterial Road Parallel to the NR6

TR-5: Rural Heritage Network Rehabilitation Project

#### (2) Construction Cost Estimates

##### TR-1: Improvement of Sub-arterial Road Network within the NR6 and the Ring Road

The total length of sub-arterial roads within NR6 and the Ring Road was estimated as 55.119 km. With the assumption of 10 m road width, the direct cost of road construction was estimated as follows:

Earthworks and Pavement : 55,119 m × 388.5 US\$/m = US\$ 21.4 million

Drainage work : 55,119 m × 561.0 US\$/m = US\$ 30.9 million

The detail of road length is provided in Appendix D-4 and the breakdown of unit construction costs applied above are discussed in Appendix D-2.

#### TR-2: Improvement of Sub-arterial Road Network outside the Ring Road

The total length of sub-arterial roads outside the Ring Road was estimated as 48.395 km. With the condition of 12 m road width, the direct cost of road construction was estimated as follows:

Earthworks and Pavement : 48,395 m × 466.2 US\$/m = US\$ 22.6 million

Drainage work : 48,395 m × 21.0 US\$/m = US\$ 1.0 million

Appendix D-2 and Appendix D-4 presents the basis of unit construction cost and road length.

#### TR-3: Construction of Sub-arterial Road Parallel to the NR6

The total length of parallel road in the north and south was estimated as 23.554 km. The road width was assumed as 12 m, same with the road proposed to the above TR-2. The construction cost was estimated as follows:

Earthworks and Pavement : 23,554 m × 466.2 US\$/m = US\$ 11.0 million

Drainage work : 23,554 m × 21.0 US\$/m = US\$ 0.5 million

Appendix D-2 and Appendix D-4 presents the basis of unit construction cost and road length respectively.

#### TR-5: Rural Heritage Network Rehabilitation Project

The construction cost of access (rural) road to rural heritages was estimated as follows. The construction will be simple overlays with DBST surfacing.

**Table 4.14 Construction Cost Estimates for Rural Heritage Network**

Road Number	Approx. Length (km)	Construction Cost (Million US\$)	Remark
PR2644	91	16.0	See Note
PR2641D	10	1.8	
PR2641A	25	4.4	
PR265E	6.5	1.2	DPWT Estimation
PR267	11	1.5	
PR269	12	1.7	
PR266E	46	5.8	
PR2SR2	45	5.2	
PR2SR1	17.3	2.4	

Note: DPWT estimates the improvement cost of PR265E, 6.5 km long, as US\$ 1,137,500. The construction cost per kilometer is US\$175,000. The construction cost of PR2644, PR2641D and PR2641A were estimated applying this unit cost per kilometer, US\$175,000.

Source: The Follow-up Study



## **5 Conclusions and Recommendations**

The Provincial Government, APSARA Authority, the Municipal Government and other related government agencies have to strengthen ownership for the M/P. And also those government agencies have to take responsibility to implement the selected priority projects under the mutual coordination among the related government agencies and to support private sector tourism business activities.

### **5.1 Implementation of Priority Projects**

The future tourism development of Siem Reap and Angkor Area without implementation and realization of the proposed priority projects will generate uncomfortable and insufficient tourism environment as follows,

- Congested, un-safe, and dusty environments,
- Inconvenient transportation service,
- Lose image of Siem Reap as the international tourism gateway city of the World Heritage site of Angkor
- Decreasing tourist flow and activities in City Center area and Old Market area, and
- Local tourism business activities could not be easily enhanced

Those serious situations will not be able to get tourist satisfaction especially up-market tourists, and it will affect to lose up-markets in the world tourism markets for Siem Reap and Angkor Area. As a result of that the future tourism in the area will go to down-market destination. Increased down-market tourists will not contribute to tourism receipts and furthermore they will provide negative environmental impacts.

Smooth and step by step implementation of the proposed priority projects are expected in order to avoid the above mentioned vicious cycle, by strong ownership and leadership of the Provincial Government with related responsible departments, Municipal Government and APSARA Authority.

#### **5.1.1 Priority Projects**

The selected 13 priority projects of City Center area improvement and transportation sector with proposed responsible body are as follows. The total estimated cost is around US\$ 131 million for 11 projects excluding two (2) projects of 3-1 and 3-3, which will be funded by AFD. The around 97% of the total estimated cost are shared by Transportation sector projects. Most of the selected City Center area improvement projects are soft component or small scale facilities development projects, which are only 3 % of the total estimated cost.

**Table 5.1 Priority Projects in City Center Area Improvement and Transportation Sector**

Program	Project	Responsible Agency (Member of Taskforces)	Project Cost (,000 US\$)
<b>City Center Area Improvement</b>			
1. Enhancing Urban Tourism Attractiveness and its Urban Function	1-1 Improvement Streets in Old Market Area with Trigger Pilot Project	DPWT (PG, PS, PPO)	1,680
	1-2 Development of Small Corner Parks in Old Market Area	DPWT / DTC (PG, MG, LDs)	50
	1-3 Organizing Taskforce for Old Market Area Improvement with Organized Local Community	PG / MG (PS)	10
	Sub-total		1,740
2. Strengthening Mobility Management	2-1 Integrated Traffic Management (public parking, walk-free zone, one-way control, etc)	DPWT / PPO (PG, MG, DH, PS)	1,110
	Sub-total		1,110
3. Conserving and Utilizing Natural and Urban Heritages	3-1 Conservation of Urban Heritage & Old Street Tree	PG / APSARA	AFD
	3-2 Improvement of Urban Heritage Information Board	DCA / APSARA	31
	3-3 Conservation and Improvement of Riverside Area	APSARA	AFD
	Sub-total		31
4. Enhancing Urban Management and its Capacity in Efficient Land Use and Revitalization	4-1 Capacity Development for Urban Planning and its implementation (control and guide)	DLMUPC / MG (PG, APSARA)	540
	4-2 Strengthening Coordination and Cooperation Mechanism among Urban Planning/ Development Authorities regarding Siem Reap City	PG (MG / LDs / APSARA)	372
	Sub-total		912
Sub-total for City Center Area Improvement			3,793
<b>Transportation Sector</b>			
TR-1: Improvement of Sub-arterial Road Network within the NR6 and the Ring Road (around 55km)		DPWT	52,300
TR-2: Improvement of Sub-arterial Road Network outside the Ring Road (around 48km)		DPWT	23,600
TR-3: Construction of Sub-arterial Road Parallel to the NR6 (around 23.5km)		DPWT	11,500
TR-5: Rural Heritage Network Rehabilitation (around 264km)		DPWT	40,000
Sub-total for Transportation Sector			127,400
Total			131,193

Legend: PG = Provincial Government, LDs= Line Departments, MG = Municipal Government, PS = Private Sector, DLMUPC = Dept Land Management, Urban Planning and Construction, DPWT = Dept Public Works and Transportation, DT = Dept Tourism, DTC = Dept Trade and Commerce, DH = Dept Health, DCA = Dept Culture and Art, DC=Development Committee, PPO = Province Police Office, TFFT=Taskforce for Tourism Transportation, TFOMAI=Taskforce for Old Market Area Improvement, TFUGM=Taskforce for Urban Growth Management

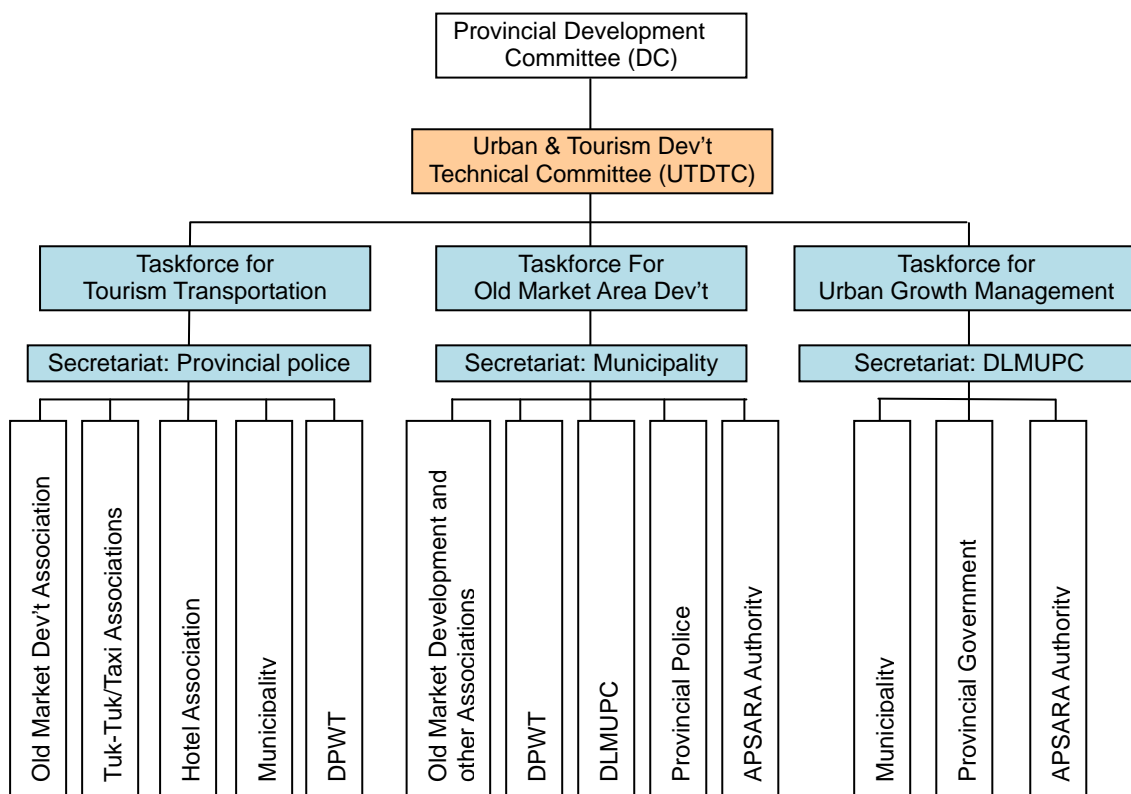
Source: The Follow-up Study

Capacity development and other soft component project in City Center will be able to implement as a technical support project of potential donors of Siem Reap Province. And other small-scale City Center area improvement projects and some transportation projects (TR-1) will be a candidate for package loan project of tourism development under strong ownership of the Provincial Government.

### 5.1.2 Implementation Organization

The Urban Development Technical Committee (UDTC) is proposed to grade up to as an Urban and Tourism Development Technical Committee (UTDTC) under the Provincial Development Committee (DC). UTDTC will take more strong coordination power, which will be able to set up smooth implementation programs for the projects, with legal background under DC.

For smooth and proper execution of multi-sector urban and tourist development, taskforce is proposed to be organized for each proposed program/project from execution agency and related government agencies of UTDTDC members. Execution agency for each program/project is proposed to take roles of secretariat function under each taskforce. The concept and example of the proposed organizational structure is shown in the following figure.



Source: The Follow-up Study

**Figure 5.1 Proposed Organizational Structure for Coordination and Implementation**

Community participation and collaboration is essential for effective realization of the City Center area improvement projects, i.e. coordination between the government agencies and the private sector, and also among the private sector, cooperation and/or agreement from the private sector are required for the implementation. For instance, discussion and agreement about pedestrian mall or parking system among public and private sectors are necessary for these implementations.

Currently, there is no community-based organization in the Old Market area and also there is no strong leader even though stakeholders, such as owners/tenants of souvenir shops, restaurants, pubs, etc. in the area, are concerned about improvement of their business environment.

On the other hand, due to no representative of the Old Market area as mentioned above, the government agencies are facing difficulty when they make a plan for the Old Market area. And also it is difficult to invite these business persons for a meeting if they cannot recognize certain and actual benefit to attend the meeting.

Thus, pilot projects are crucial and effective in terms of both actual benefit and an opportunity for facilitating community participation. Showing a concrete project for their benefit will enhance their interests and motivations, and strengthen relationship among government agencies and private sector. Once they attend a meeting and experience a project implementation, implementation of other projects will be easier.

### 5.1.3 Pilot Projects and Other Candidate Projects

For initiation of city center development, pilot projects and other candidate projects are proposed, to be taken by strong leadership and ownership of the Provincial Government and responsibility of related provincial departments, municipality and APSARA Authority.

#### (1) Pilot Projects

The pilot project is proposed to initiate the street improvement involving relevant stakeholders of public and private sectors. The pilot project consists of three components of 1) street naming with nickname board construction, 2) temporal public parking area construction and 3) experimental pedestrian mall construction. Table 5.2 shows the pilot project components in the 1-1 project.

**Table 5.2 Proposed Pilot Project**

Component	Item of Improvement	Scale/ Volume	Responsible Agency	Possible Fund	Project Cost (,000 US\$)
1. Street Naming	<ul style="list-style-type: none"> <li>• Discussion about method suitable street names as “nicknames” to be given among stakeholders</li> <li>• To organize naming program for each street in Old Market area involving local community and other relevant stakeholders</li> <li>• Implement street naming selection and authorization</li> <li>• Construction of nickname boards on junctions</li> </ul>	16 nickname boards on junction	DPWT / SRMG under TFOMAI	<ul style="list-style-type: none"> <li>• Local Government fund</li> <li>• Private partnership</li> </ul>	13.1
2. Temporally Public Parking Area	<ul style="list-style-type: none"> <li>• To develop entrance of Walk Free Old Market area with bus stop, tuk-tuk/Taxi stop, landscaped plaza with shades for tourist, information/toilet</li> <li>• To organize tourism promotion events and performance for Old Market area</li> </ul>	340 m (temporal)	DPWT / SRMG under TFOMAI	<ul style="list-style-type: none"> <li>• Local Government fund</li> <li>• Private partnership</li> </ul>	
3. Pedestrian Mall Development	<ul style="list-style-type: none"> <li>• To initiate experimental “pedestrian mall” construction partially in Old Market area</li> <li>• Pavement by inter-locking block by seamless surface without gap (cover entire right of way)</li> <li>• Street furniture (bench, flower-box, trash-box, street-lighting)</li> <li>• Laying down electricity cables underground</li> </ul>	170 m (temporal)	DPWT under TFOMAI	<ul style="list-style-type: none"> <li>• Local Government fund</li> <li>• Private partnership</li> </ul>	139

Source: The Follow-up Study

#### 1. Street Naming – Nickname Campaign for all streets in the Old Market area

This campaign is proposed to motivate private sector of tourism industries in the area. Only street number is recently allocated from DPWT but number is not familiar. For enhancement of private tourism business, location identification is indispensable. Local community will have interest nickname for their access road, which will be able to motivate their corroboration to make safety/clean/attractive urban tourism spot as an international tourism city. The following activities are required for the Campaign

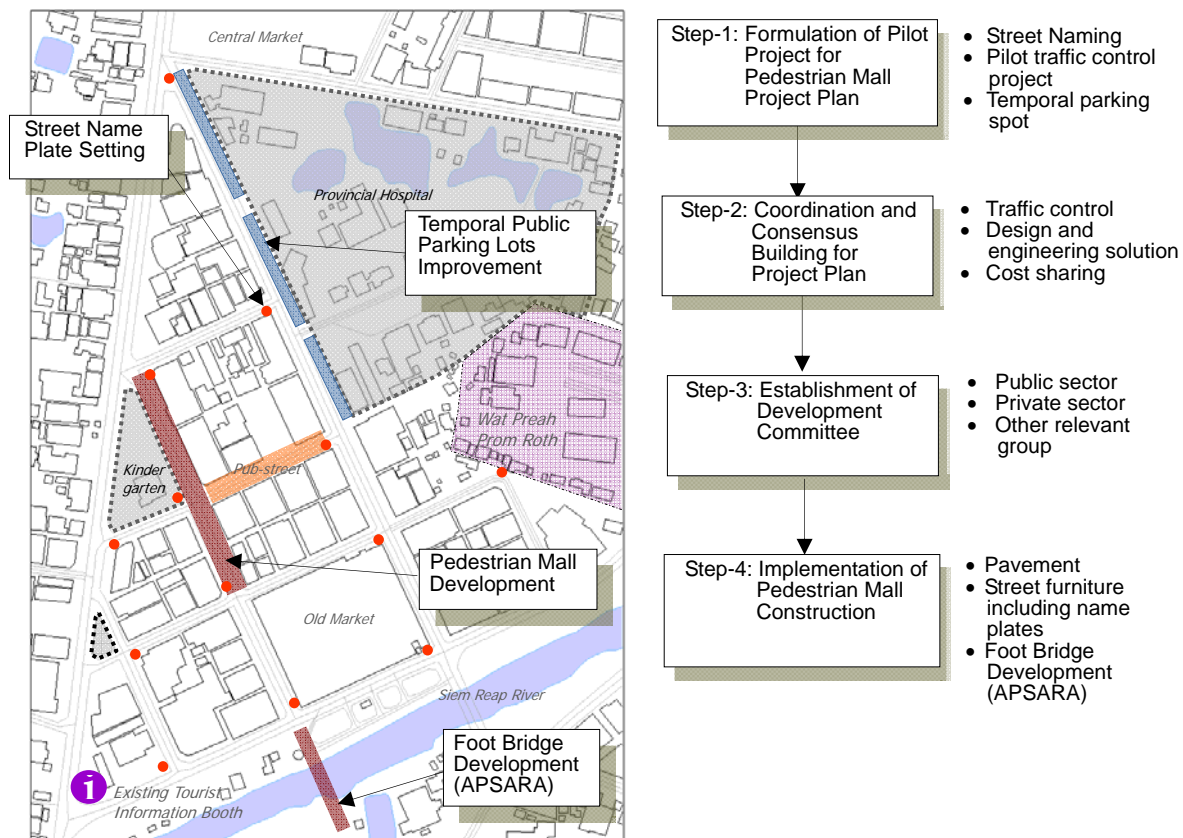
1. Preparation Meeting of Taskforce and local community
2. Public relation of the Campaign and collection of idea
3. Compilation and selection of nickname for each street
4. Publicity Event of Nickname Campaign
5. Sub-contract of design/production/setting of nickname plate on each junction (16 plates)
6. Opening Event (with VIP and Press/TV)

#### 3. Pedestrian Mall Development – Experimental Pilot Pavement Project for Walk Free Mall in the Old market Area

Trial of the project on some selected section of street (170m for costing) will require to elaborate an appropriate scheme of finance (private/public share), design, project components.



The locations of each improvement component are temporally proposed which final locations of them should have consensus among relevant stakeholders through discussions. Figure 5.2 shows proposed draft level location of each component as desirable places taking into account of availability, connectivity to other projects (such as pedestrian bridge construction under APSARA management).



Source: The Follow-up Study

**Figure 5.2 Proposed Location of Pilot Projects**

## (2) Other Candidate Projects of City Center Area Improvement at Initial Stage (short-term)

Taking into account of difficulties of project formation under circumstances of lack of motivated opportunity and resources, some trigger projects in initial stage supported by the central government or international donors are considerable to stimulate stakeholders toward implementation of certain level of projects.

It is worthwhile initiating small projects under proposed program for the City Center area improvement. Table 5.3 shows potential projects in line with the Program 1 (Enhancing Urban Tourism and Urban Function) and Program 2 and 4 (Mobility Management and Urban management Capacity)

**Table 5.3 Other Candidate Projects for City Center Area Improvement**

Component		Item of Improvement	Scale/ Volume	Responsible Agency	Project Cost (,000 US\$)
1. Disseminati on of Entire Old Market Area Information	a. Billboard Construction for Entire Old Market Guide Map	<ul style="list-style-type: none"> <li>To guide entire Old Market area to visitors by building by building (owners) information</li> <li>Facilities location map to be installed with historical or distinct facts and information</li> </ul>	1,000 – 2,000m <sup>2</sup> x 3 sites	TFOMAI , sponsored by private associations or other sources	6.6

a part from commercial guide map		<ul style="list-style-type: none"> <li>Design an contents will be formulated through consensus building among relevant stakeholders</li> </ul>			
	b. Guide Map Distribution	<ul style="list-style-type: none"> <li>Ditto (contents development)</li> <li>Printing and distribution</li> </ul>	50,000 maps	TFOMAI , sponsored by private associations or other sources	13.0
	c. Web-site development	<ul style="list-style-type: none"> <li>Setting promotion strategy through meeting and discussion</li> <li>Development portal-site for Old Market area</li> </ul>	One portal-site upload	TFOMAI , sponsored by private associations or other sources	12.5
2. Fostering Local Proud Town through Contribution to Public by Communities	a. Siem Reap River Clean Campaign	<ul style="list-style-type: none"> <li>Setting town beautification program through meeting and discussion</li> <li>Installation clean campaign facilities (trash box, sign, etc)</li> <li>Organizing voluntary cleaning works of the river bank</li> </ul>	3,600 m in the City Center area	UTDTC , sponsored by private associations or other sources	6.8
	b. Street Beautification Campaign	<ul style="list-style-type: none"> <li>Setting town beautification program through meeting and discussion</li> <li>Installation beautification facilities (flower box, etc)</li> <li>Organizing voluntary planting works of flowers</li> </ul>	1,100 m in the City Center area	TFOMAI , sponsored by private associations or other sources	11.0
3. Promoting and Encouraging Urban Planning	a. Workshop and Seminar, Symposium for development control in Cities with Heritages	<ul style="list-style-type: none"> <li>Organizing workshops for urban planning trend and method supported by international experts</li> <li>Holding international Symposium for Cities with Heritages</li> </ul>	2 week sessions in a year	UTDTC , sponsored by Central Government or Donors	10.0
	b. Study Tour for Mobility Management	<ul style="list-style-type: none"> <li>Organizing study tour for good practice cities</li> <li>Holding workshops for learning lessons and reporting</li> </ul>	1 week Tour and Workshop	UTDTC , sponsored by Central Government or Donors	50.0
Total					109.9

Source: The Follow-up Study

#### 5.1.4 Arrangement of Financial Resources

Siem Reap and Angkor Area have already reached a certain level of famous International Tourism Destination with over million international tourists, which has already recognized to reach and earn tourism receipts over US\$ 700 million to 900 million per year in the last few years. The amount of return from tourism development is recognized to be self-sufficient level for a required tourism infrastructure and facilities development by public sector.

On the other hand, potential international donors for Siem Reap and Angkor Area are reducing grant portion and shifting to loan system for requested projects. Under the circumstances, necessary financial resources for implementation of priority projects could be secured by a combination of loan for road/infrastructure/facility development projects and technical assistances for soft programs from potential donors. A certain level of financial and economic feasibility is required and inevitable to get acceptance of a loan for a program/project package by potential donors and international financial resources. The feasibility for loan project packages will be able to justify by a benefit from tourism development such as tax revenue of tourism receipts through tourism industries, enhancement of local economy, etc. Tax revenue from private tourism enterprises needs appropriate taxation and collection

system, which has to be set at competitive level with other international tourism destinations in the surrounding countries. It will not only contribute to get financial resources for tourism infrastructure and facilities development/improvement but also contribute to establish sustainability of the tourism development in Siem Reap and Angkor Area.

Thus, tourism sector loan system will have a potential to realize the proposed tourism infrastructure and facility development programs/projects from a view point of financial and economic feasibility. Propose soft programs of capacity development and plan formulation, etc will be able to be covered by grant technical cooperation schemes of potential donors.

## **5.2 Further Issues**

### **5.2.1 Relocation of Provincial Government Offices to Zone 2**

Based on the M/P, the urban expansion of Siem Reap was clearly set to southeast direction and the southern part of area from NR6. On the other hand, the new government offices are located on the fringe of new Siem Reap City jurisdiction, and the access road is improved from NR6 in Prasat Bakong District. Relocation of Provincial Government will induce and enhance new urban development in the surrounding area and along the access road. It may create impact for the southeast urbanization direction and changing to the east direction along NR6. Ribbon development along NR6 will disturb regional road function of NR6 itself and requires new bypass road of NR6 on the south. It may have an impact for the future jurisdiction of Siem Reap Municipality, of which urbanization pressures will absorb Prasat Bakong District.

Furthermore the new buildings are located in the Zone 2 of AAP. And the up-grading access road from NR6 to the new Provincial Government offices is passing through the Zone 1, 2 and 3 of AAP. Under the conditions of future urban development demand and pressures regarding the project, future urban development activities has to be carefully managed and controlled to avoid conflict with conservation and preservation of Zone 1, 2 and 3 of AAP.

From a view point of consistent urban growth management, the jurisdiction of Siem Reap City and zoning plan coverage is proposed to be considered and coordinated.

### **5.2.2 Territory of Siem Reap City**

The newly established Siem Reap City with 13 sangkats jurisdiction is proposed to be reviewed to avoid the issues as follow,

- In order to coordinate with the coverage area of the newly formulating and enacting Zoning Plan in the eastern area of the city, urbanize area of zoning plan is covering beyond the city jurisdiction and covering adjacent commune in Prasat Bakong District.

## **APPENDIX**



**A: Traffic Survey**

**by the JICA Urban Management Advisor**



# Traffic Survey Report

## Siem Reap

(DRAFT)

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#### Appendix1: Data of Traffic Survey

- 16<sup>th</sup> January 2010 (Sat)
- 19<sup>th</sup> January 2010 (Tue)

12<sup>th</sup> February 2010

Tetsuji Goto

JICA Urban Management Advisor

Siem Reap Provincial Hall

Secretariat of Urban Development Technical Committee

Siem Reap Provincial hall



## 1. Objective

Roadside traffic volume counts will be carried out to monitor the comprehensive traffic volume tendency and this indicator, such as peak hours, directional factor, and volume by vehicle classifications.

The outline of the survey is shown below:

## 2. Methodology

1) **Date:** Preparatory (Explanation and Pre test): 15<sup>th</sup> January (Fri) 07:00 to 12:00

Plenary Survey: 16<sup>th</sup> January (Sat) 06:00 to 20:00 (14 hours)

19<sup>th</sup> January (Tue) 06:00 to 20:00 (14 hours)

### 2) Survey Point:

#### 2 Major Intersection

No.1 : Intersection between NR6 and Sivatha street (NR63)

(almost same as previous survey point in 2006)

No.2 : Intersection between Sivatha street (NR63) and Sam Dach Tep Vong Street

#### 10 Simple Point

No.3: Sivatha street (NR63) on south of town

No.4 NR 6 in suburb on west of town near airport

(almost same as previous survey point in 2006)

No.5 NR6 near Psar Lu Market in suburb on east of town

(almost same as previous survey point in 2006)

No.6 Archa Ham Chiev Street (Wat Boo Street)

No.7 7 Makaras Street

No.8 Charles de Gaul Blvd (Angkor Wat Street)

No. 9 New APSARA Road

No.10 French Brdige

No.11 Pou Kambour Ave (riverside road on west of Siem Reap River)

No.12 Acha Sva Street (riverside road on east side of Siem Reap River)

### 3) Vehicle Classification:

a) Motorcycle

b) Light Vehicle : Tuku Tuku, Normal Car, Mini Bus, Pick Up, Motor Trailer

c) Heavy Vehicle: Bus, Truck, Trailer, Special Vehicle

**4) Method**

- ✓ To count the vehicle number and type of vehicle using the counter by hired staffs
- ✓ To count each type and each direction on one counter
- ✓ To write down traffic volume on the sheet by each 30 minutes

**5) Number of Surveyor**

5)-1. Hired staffs : 94 staffs / day

a. Intersection

<u>Point</u>	<u>Number</u>
No.1	26 staffs = 3 directions x 4 points x 2 times+ 2 additional
<u>No.2</u>	<u>26 staffs = 3 directions x 4 places x 2 times+ 2 additional</u>
Intersection Sub total	52 staffs

b. Simple point (Cross section)

No. 3 to No. 12

Both way; 35 staffs= (2 directions x 2 times +1 additional ) x 7 places

(No3 ~ No.9)

One way; 7 staffs = 1 direction x 3 places (No.10, 11, 12)x 2 times + 1 additional

Simple Point Sub total 42 staffs

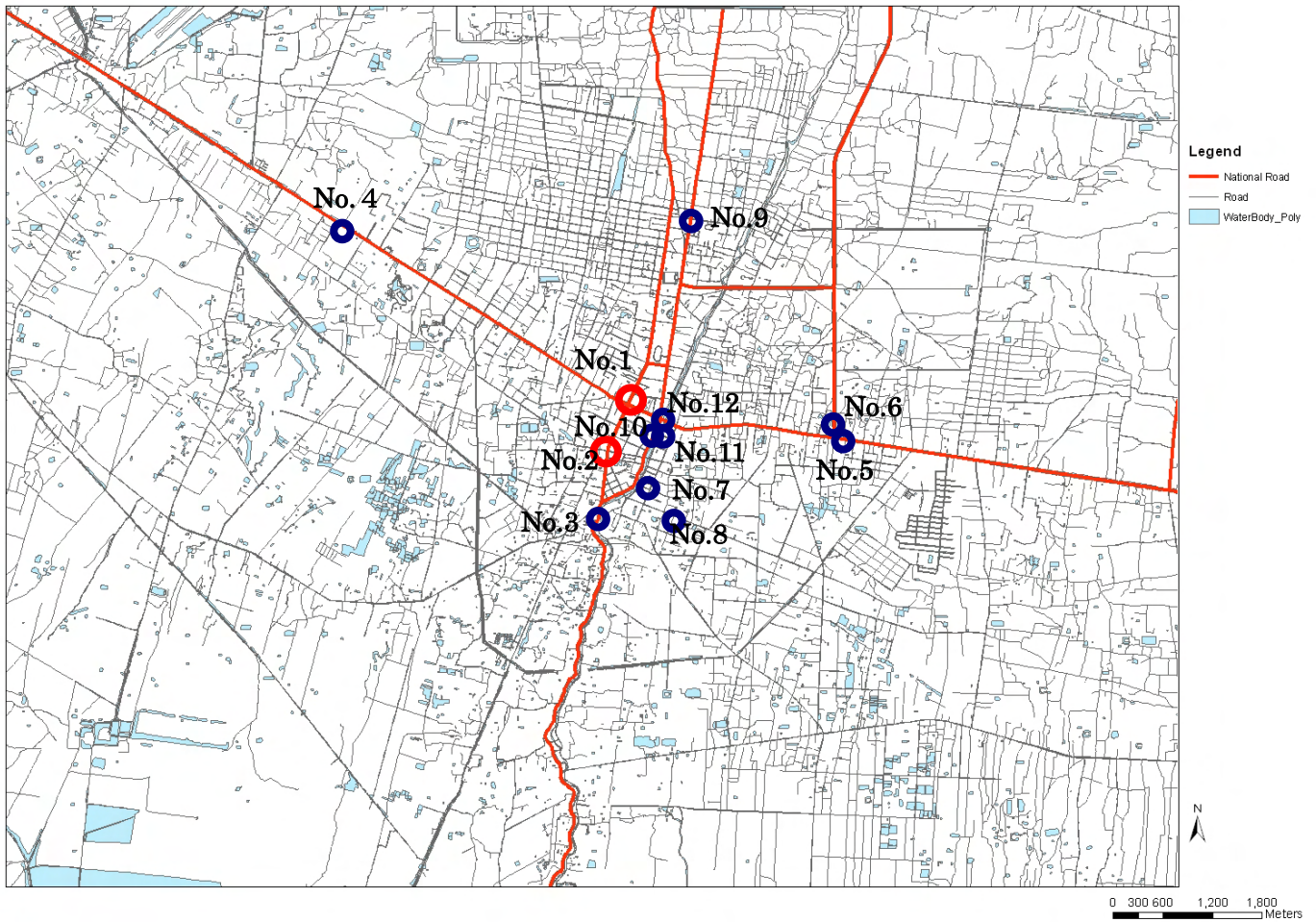
5)-2. Government Officer : 5 officers / day

To check the staff working and patrol as supervisor by every two hours

5)-3. Supervisor of rental table, chair and umbrella: 1 hired staff

To check the rental table, chair and umbrela

**Fig2.1. Survey Station**



### 3. Result of Survey

#### 1) Traffic Volume (14 hours) 06:00 to 10:00

- The most of traffic volume (14 hours) is Station No. 2 where is major intersection between Shivata Street (NR 63) and Sam Dach Tep Vong Street near the Central Market. The total traffic volume (14 hours) at Station No.2 is 49,437 on 16<sup>th</sup> January 2010, Saturday (Motor Cycle: 35,901, Light Vehicle: 12,715, Heavy Vehicle:821 ) and 54,565 on 19<sup>th</sup> January 2010, Tuesday (Motor Cycle: 39,866 Light Vehicle: 13,787, Heavy Vehicle:912 )
- The second of traffic volume (14 hours) is Station No. 1 (48,263 (Sat), 50,641 (Tue) at major intersection between NR No.6 and Shivata Street), the third is Station No.5 (42,564 (Sat), 42,623 (Tue) on NR No.6 on the west of town), and the forth is Station No. 12 (28,589 (Sat), 31,564 (Tue) at French Bridge on NR No.6)

**Table 3.1.1 The Result of the Traffic Survey (14 hours)**

**Date 16<sup>th</sup> Jan 2010 (Saturday) 06:00 to 20:00**

**(Vehicle/14 hours)**

Vehicle Type	Major Intersection		Simple Point			
	NR No.6 and Shivata Street	near Central Market	the south of Town (NR.63)	the west of Town (NR.6) near Howard Hotel	the east of town (NR.6) near Phsarlu Market	New APSARA Road
	No.1	No.2	No.3	No.4	No.5	No.6
Motor Cycle	33,175 68.74%	35,901 72.62%	14,761 79.36%	11,850 64.53%	31,706 74.49%	13,165 74.84%
Light Vehicle	14,237 29.50%	12,715 25.72%	3,333 17.92%	5,681 30.94%	10,066 23.65%	4,112 23.38%
Heavy Vehicle	851 1.76%	821 1.66%	507 2.73%	833 4.54%	792 1.86%	313 1.78%
<b>Total</b>	<b>48,263</b>	<b>49,437</b>	<b>18,601</b>	<b>18,364</b>	<b>42,564</b>	<b>17,590</b>

Vehicle Type	Simple Point			Simple Point (One Way)		
	Achya Ham Chiev Street (Wat Bo Street)	7 Makara Street near Angkor High School	Charles de Gaul Blvd. (Angkor Wat Street)	Pou kambour Ave (Riverside road on the west of River)	Acha Sva Street (Riverside road on the east of River)	French Bridge (NR. 6)
	No.7	No.8	No.9	No.10	No.11	No.12
Motor Cycle	13,003 80.99%	16,863 80.43%	9,291 63.24%	15,410 71.60%	10,057 72.44%	20,633 72.17%
Light Vehicle	2,886 17.97%	3,795 18.10%	4,833 32.90%	5,999 27.88%	3,726 26.84%	7,705 26.95%
Heavy Vehicle	167 1.04%	308 1.47%	567 3.86%	112 0.52%	100 0.72%	251 0.88%
<b>Total</b>	<b>16,056</b>	<b>20,966</b>	<b>14,691</b>	<b>21,521</b>	<b>13,883</b>	<b>28,589</b>

**Table 3.1.2 The Result of the Traffic Survey (14 hours)**

**Date 19<sup>th</sup> Jan 2010 (Tuesday) 06:00 to 20:00**

**(Vehicle/14 hours)**

Vehicle Type	Major Intersection		Simple Point			
	NR No.6 and Shivata Street	near Central Market	the south of Town (NR.63)	the west of Town (NR.6) near Howard Hotel	the east of town (NR.6) near Phsarlu Market	New APSARA Road
	No.1	No.2	No.3	No.4	No.5	No.6
Motor Cycle	35,259 69.63%	39,866 73.06%	15,361 78.56%	12,852 64.99%	31,556 74.04%	12,399 74.50%
Light Vehicle	14,483 28.60%	13,787 25.27%	3,629 18.56%	5,973 30.20%	10,216 23.97%	3,860 23.19%
Heavy Vehicle	899 1.78%	912 1.67%	562 2.87%	951 4.81%	851 2.00%	385 2.31%
<b>Total</b>	<b>50,641</b>	<b>54,565</b>	<b>19,552</b>	<b>19,776</b>	<b>42,623</b>	<b>16,644</b>

Vehicle Type	Simple Point			Simple Point (One Way)		
	Achya Ham Chiev Street (Wat Bo Street)	7 Makara Street near Angkor High School	Charles de Gaul Blvd. (Angkor Wat Street)	Pou kambour Ave (Riverside road on the west of River)	Acha Sva Street (Riverside road on the east of River)	French Bridge (NR. 6)
	No.7	No.8	No.9	No.10	No.11	No.12
Motor Cycle	15,550 81.78%	18,418 80.39%	9,564 64.21%	17,169 72.60%	11,517 73.70%	23,071 73.09%
Light Vehicle	3,328 17.50%	4,137 18.06%	4,665 31.31%	6,292 26.61%	4,022 25.74%	8,230 26.07%
Heavy Vehicle	137 0.72%	355 1.55%	667 4.48%	188 0.79%	88 0.56%	263 0.83%
<b>Total</b>	<b>19,015</b>	<b>22,910</b>	<b>14,896</b>	<b>23,649</b>	<b>15,627</b>	<b>31,564</b>

**2) Traffic Volume (12 hours) 06:00 to 18:00**

- The most, second, third and fourth traffic volume (12 hours) is Station No.2, No.1, No.5 and No.12 on 16<sup>th</sup> and 19<sup>th</sup> January 2010 as same as 14 hours traffic volume.

**Table 3.2.1 The Result of the Traffic Survey (12 hours)**

**Date 16<sup>th</sup> Jan 2010 (Saturday) 6:00 to 18:00**

(Vehicle/12 hours)

Vehicle Type	Major Intersection		Simple Point			
	NR No.6 and Shivata Street	near Central Market	the south of Town (NR.63)	the west of Town (NR.6) near Howard Hotel	the east of town (NR.6) near Phsarlu Market	New APSARA Road
	No.1	No.2	No.3	No.4	No.5	No.6
Motor Cycle	27,749 68.91%	29,915 72.92%	12,651 79.07%	10,565 64.42%	27,397 74.61%	10,391 73.87%
Light Vehicle	11,817 29.34%	10,388 25.32%	2,869 17.93%	5,116 31.20%	8,636 23.52%	3,400 24.17%
Heavy Vehicle	705 1.75%	724 1.76%	479 2.99%	719 4.38%	689 1.88%	276 1.96%
<b>Total</b>	<b>40,271</b>	<b>41,027</b>	<b>15,999</b>	<b>16,400</b>	<b>36,722</b>	<b>14,067</b>

Vehicle Type	Simple Point			Simple Point (One Way)		
	Achya Ham Chiev Street (Wat Bo Street)	7 Makara Street near Angkor High School	Charles de Gaul Blvd. (Angkor Wat Street)	Pou kambour Ave (Riverside road on the west of River)	Acha Sva Street (Riverside road on the east of River)	French Bridge (NR. 6)
	No.7	No.8	No.9	No.10	No.11	No.12
Motor Cycle	10,998 80.55%	14,683 80.20%	8,417 63.28%	12,783 73.11%	8,765 73.51%	17,864 72.66%
Light Vehicle	2,504 18.34%	3,344 18.26%	4,364 32.81%	4,618 26.41%	3,079 25.82%	6,517 26.51%
Heavy Vehicle	152 1.11%	282 1.54%	521 3.92%	84 0.48%	80 0.67%	206 0.84%
<b>Total</b>	<b>13,654</b>	<b>18,309</b>	<b>13,302</b>	<b>17,485</b>	<b>11,924</b>	<b>24,587</b>

**Table 3.2.2 The Result of the Traffic Survey (12 hours)****Date 19<sup>th</sup> Jan 2010 (Tuesday) 06:00 to 18:00****(Vehicle/12 hours)**

Vehicle Type	Major Intersection		Simple Point			
	NR No.6 and Shivata Street	near Central Market	the south of Town (NR.63)	the west of Town (NR.6) near Howard Hotel	the east of town (NR.6) near Phsarlu Market	New APSARA Road
	No.1	No.2	No.3	No.4	No.5	No.6
Motor Cycle	30,317 69.80%	33,605 73.14%	13,238 78.19%	11,546 64.99%	27,689 73.91%	10,374 73.96%
Light Vehicle	12,366 28.47%	11,562 25.16%	3,162 18.68%	5,402 30.41%	9,018 24.07%	3,307 23.58%
Heavy Vehicle	748 1.72%	778 1.69%	530 3.13%	818 4.60%	754 2.01%	345 2.46%
<b>Total</b>	<b>43,431</b>	<b>45,945</b>	<b>16,930</b>	<b>17,766</b>	<b>37,461</b>	<b>14,026</b>

Vehicle Type	Simple Point			Simple Point (One Way)		
	Achya Ham Chiev Street (Wat Bo Street)	7 Makara Street near Angkor High School	Charles de Gaul Blvd. (Angkor Wat Street)	Pou kambour Ave (Riverside road on the west of River)	Acha Sva Street (Riverside road on the east of River)	French Bridge (NR. 6)
	No.7	No.8	No.9	No.10	No.11	No.12
Motor Cycle	12,878 81.12%	15,989 80.11%	8,672 63.65%	15,199 73.49%	10,132 73.86%	20,320 73.47%
Light Vehicle	2,872 18.09%	3,646 18.27%	4,328 31.77%	5,321 25.73%	3,509 25.58%	7,124 25.76%
Heavy Vehicle	125 0.79%	325 1.63%	625 4.59%	163 0.79%	77 0.56%	215 0.78%
<b>Total</b>	<b>15,875</b>	<b>19,960</b>	<b>13,625</b>	<b>20,683</b>	<b>13,718</b>	<b>27,659</b>

**3) Traffic Volume (PCU / 12 hours) PCU: Passenger Car Unit**

- The most of traffic volume (PCU / 12 hours) is Station No. 1 at major intersection between NR No.6 and Shivata Street (NR 63) , the second is Station No.2, and the third is Station No.5 .

**Table 3.3.1 The Result of the Traffic Survey (PCU / 12 hours)**

**Date 16<sup>th</sup> Jan 2010 (Saturday) 6:00 to 18:00**

**(PCU/12 hours)**

Vehicle Type	PCU Rate	Major Intersection		Simple Point			
		NR No.6 and Shivata Street	near Central Market	the south of Town (NR.63)	the west of Town (NR.6) near Howard Hotel	the east of town (NR.6) near Phsar lu Market	New APSARA Road
		No.1	No.2	No.3	No.4	No.5	No.6
Motor Cycle	0.2	5,550	5,983	2,530	2,113	5,479	2,078
Light Vehicle	1.0	11,817	10,388	2,869	5,116	8,636	3,400
Heavy Vehicle	2.5	1,763	1,810	1,198	1,798	1,723	690
<b>Total</b>		<b>19,129</b>	<b>18,181</b>	<b>6,597</b>	<b>9,027</b>	<b>15,838</b>	<b>6,168</b>

Vehicle Type	PCU Rate	Simple Point			Simple Point (One Way)		
		Achya Ham Chiev Street (Wat Bo Street)	7 Makara Street near Angkor High School	Charles de Gaul Blvd. (Angkor Wat Street)	Pou kambour Ave (Riverside road on the west of River)	Acha Sva Street (Riverside road on the east of River)	French Bridge (NR. 6)
		No.7	No.8	No.9	No.10	No.11	No.12
Motor Cycle	0.2	2,200	2,937	1,683	2,557	1,753	3,573
Light Vehicle	1.0	2,504	3,344	4,364	4,618	3,079	6,517
Heavy Vehicle	2.5	380	705	1,303	210	200	515
<b>Total</b>		<b>5,084</b>	<b>6,986</b>	<b>7,350</b>	<b>7,385</b>	<b>5,032</b>	<b>10,605</b>



**Table 3.3.2 The Result of the Traffic Survey (PCU / 12 hours)**

**Date 19<sup>th</sup> Jan 2010 (Tuesday) 06:00 to 18:00**

**(PCU/12 hours)**

Vehicle Type	PCU Rate	Major Intersection		Simple Point			
		NR No.6 and Shivata Street	near Central Market	the south of Town (NR.63)	the west of Town (NR.6) near Howard Hotel	the east of town (NR.6) near Phsar lu Market	New APSARA Road
		No.1	No.2	No.3	No.4	No.5	No.6
Motor Cycle	0.2	6,063	6,721	2,648	2,309	5,538	2,075
Light Vehicle	1.0	12,366	11,562	3,162	5,402	9,018	3,307
Heavy Vehicle	2.5	1,870	1,945	1,325	2,045	1,885	863
<b>Total</b>		<b>20,299</b>	<b>20,228</b>	<b>7,135</b>	<b>9,756</b>	<b>16,441</b>	<b>6,244</b>

Vehicle Type	PCU Rate	Simple Point			Simple Point (One Way)		
		Achya Ham Chiev Street (Wat Bo Street)	7 Makara Street near Angkor High School	Charles de Gaul Blvd. (Angkor Wat Street)	Pou kambour Ave (Riverside road on the west of River)	Acha Sva Street (Riverside road on the east of River)	French Bridge (NR. 6)
		No.7	No.8	No.9	No.10	No.11	No.12
Motor Cycle	0.2	2,576	3,198	1,734	3,040	2,026	4,064
Light Vehicle	1.0	2,872	3,646	4,328	5,321	3,509	7,124
Heavy Vehicle	2.5	313	813	1,563	408	193	538
<b>Total</b>		<b>5,760</b>	<b>7,656</b>	<b>7,625</b>	<b>8,768</b>	<b>5,728</b>	<b>11,726</b>

**Table 3.4 Rank of traffic volume at Station No.**

Rank	16 <sup>th</sup> Jan 2010	19 <sup>th</sup> Jan 2010	16 <sup>th</sup> Jan 2010	16 <sup>th</sup> Jan 2010
	(Sat) 14 hours	(Tue) 14 hours	(Sat) 12 hours	(Tue) 12 hours
1	No.2 49,437	No.2 54,565	No.2 41,027	No.2 49,698
2	No.1 48,263	No.1 50,641	No.1 40,271	No.1 45,497
3	No.5 42,564	No.5 42,623	No.5 36,722	No.5 38,420
4	No.12 28,589	No.12 31,564	No.12 24,587	No.12 29,380
5	No.10 21,521	No.10 23,649	No.10 17,485	No.10 21,408
6	No.8 20,966	No.8 22,910	No.8 18,309	No.8 20,419
7	No.3 18,601	No.3 19,552	No.4 16,400	No.3 18,431
8	No.6 17,590	No.4 19,776	No.3 15,999	No.4 17,463
9	No.4 18,364	No.7 19,015	No.6 14,067	No.7 16,652
10	No.7 16,056	No.6 16,644	No.7 13,654	No.11 14,985
11	No.9 14,691	No.11 16,627	No.9 13,302	No.6 14,804
12	No.11 13,883	No.9 14,896	No.11 11,924	No.9 13,783

### 3) Vehicle Type

#### 3)-1 Motor Cycle

##### (Percentage)

- The motor cycle accounts for more than 60 %.
- The percentage of motor cycle at Station No.7 (Wat Bo street: 80.99%) and No.8 (7 Makara Street near Angkor High School: 80.43%) account for more than 80 percent, and next is at Station No.3 (NR 63 on the south of Town: 79.36%) on 16<sup>th</sup> Jan (Sat) for 14 hours Traffic Survey. There is same tendency on 19<sup>th</sup> Jan (Tue) for 14 hours Traffic survey. (No.7: 81.78%, No.8: 80.39%, No.3 : 78.56% )

##### (Number)

- The most of motor cycle is at Station No.2 (Major Intersection neat Central Market: 35,901 on 16<sup>th</sup> Jan (Sat), 39,866 on 19<sup>th</sup> Jan (Tue)) for 14 hours.
- The least of motor cycle is at Station No.9 (Charles de Gaul Blvd: 9,291 on 16<sup>th</sup> Jan (Sat), 9,564 on 19<sup>th</sup> Jan (Tue)) for 14 hours.

### **3)-2 Light Vehicle**

#### **(Percentage)**

- The percentage of light vehicle at Station No.9 ((Charles de Gaul Blvd. : 32.90%) and No.4 (NR No.6 on the west of town neat Howard Hotel 30.94 %) account for more than 30 percent, and next is at Station No.1 (Major intersection between NR No.6 and Shivata Street : 29.50%) on 16<sup>th</sup> Jan (Sat) for 14 hours Traffic Survey. There is same tendency on 19<sup>th</sup> Jan (Tue) for 14 hours Traffic survey. (No.9: 31.31%, No.4: 30.20%, No.1 : 28.60% )

#### **(Number)**

- The most of light vehicle is at Station No.1 (Major Intersection between NR No.6 and Shivata Street: 14,237 on 16<sup>th</sup> Jan (Sat), 14,483 on 19<sup>th</sup> Jan (Tue)) for 14 hours.
- The least of light vehicle is at Station No.7 (Wat Bo street: 2,886 on 16<sup>th</sup> Jan (Sat), 3,328 on 19<sup>th</sup> Jan (Tue)) for 14 hours.

### **3)-3 Heavy Vehicle**

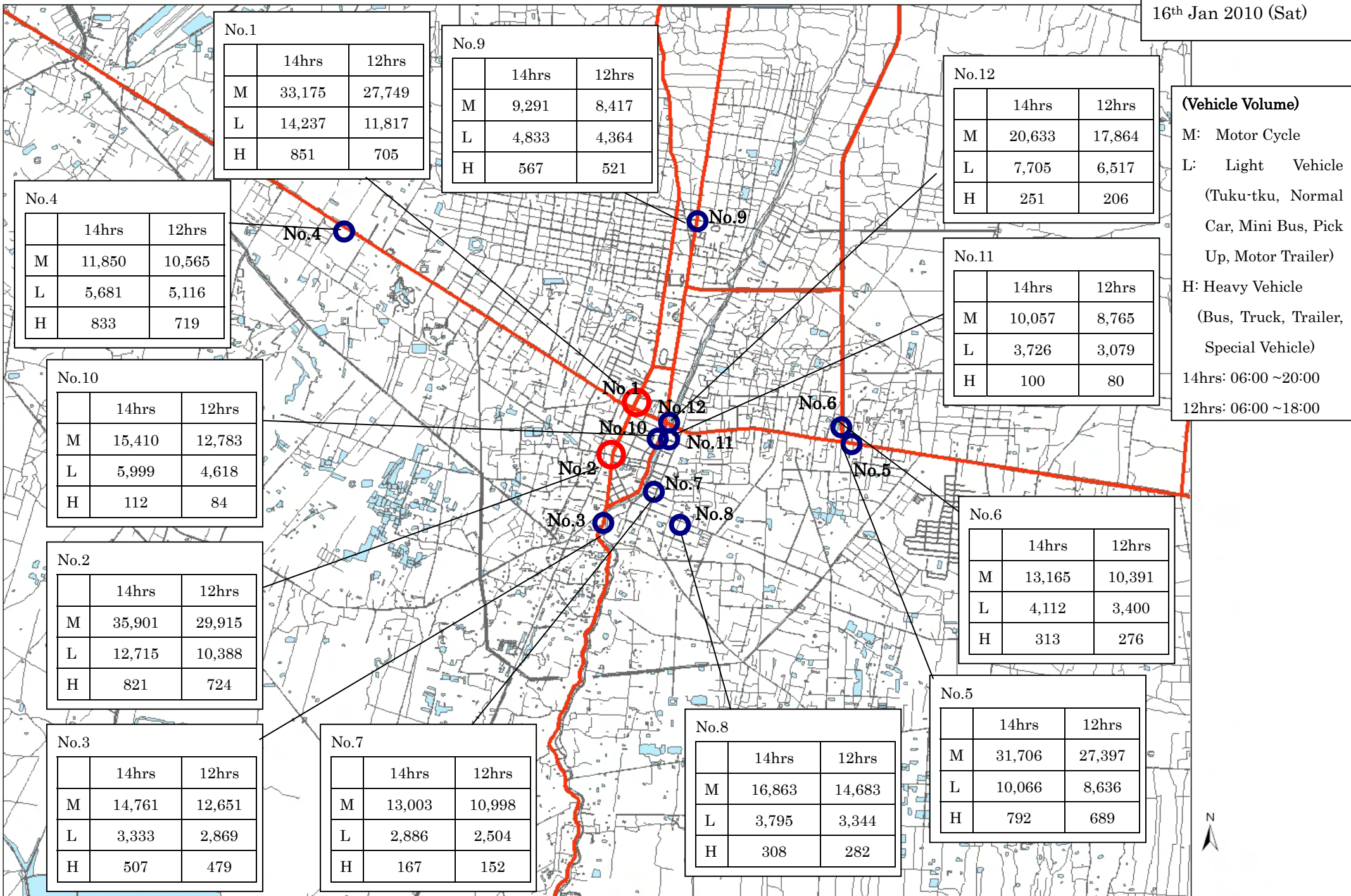
#### **(Percentage)**

- The heavy vehicle account for not much percentage.
- The most percentage of heavy vehicle is 4.54% at Station No.4 ( NR No.6 on the west of town neat Howard Hotel) on 16<sup>th</sup> Jan (Sat) and 4.81 % on 19<sup>th</sup> Jan (Tue) for 14 hours Traffic Survey.

#### **(Number)**

- The most of heavy vehicle is at Station No.1 (Major Intersection between NR No.6 and Shivata Street: 851) on 16<sup>th</sup> Jan (Sat), and Station No.4 (NR No.6 on the west of town near Howard Hotel: 951) on 19<sup>th</sup> Jan (Tue)) for 14 hours.
- The number of heavy vehicle at Station No.1, No.2, No.4 and No.5 (NR No.6 on the west of town) is around more than 800 on both day.( 16<sup>th</sup> Jan (Sat) and 19<sup>th</sup> Jan (Tue))
- The least of heavy vehicle is at Station No.11 (Acha Sva Street (river side road on the east of SR river: 100 on 16<sup>th</sup> Jan (Sat), 88 on 19<sup>th</sup> Jan (Tue)) for 14 hours.

16<sup>th</sup> Jan 2010 (Sat)



No.1

	14hrs	12hrs
M	33,175	27,749
L	14,237	11,817
H	851	705

No.9

	14hrs	12hrs
M	9,291	8,417
L	4,833	4,364
H	567	521

No.12

	14hrs	12hrs
M	20,633	17,864
L	7,705	6,517
H	251	206

No.4

	14hrs	12hrs
M	11,850	10,565
L	5,681	5,116
H	833	719

No.11

	14hrs	12hrs
M	10,057	8,765
L	3,726	3,079
H	100	80

No.10

	14hrs	12hrs
M	15,410	12,783
L	5,999	4,618
H	112	84

No.6

	14hrs	12hrs
M	13,165	10,391
L	4,112	3,400
H	313	276

No.2

	14hrs	12hrs
M	35,901	29,915
L	12,715	10,388
H	821	724

No.5

	14hrs	12hrs
M	31,706	27,397
L	10,066	8,636
H	792	689

No.3

	14hrs	12hrs
M	14,761	12,651
L	3,333	2,869
H	507	479

No.7

	14hrs	12hrs
M	13,003	10,998
L	2,886	2,504
H	167	152

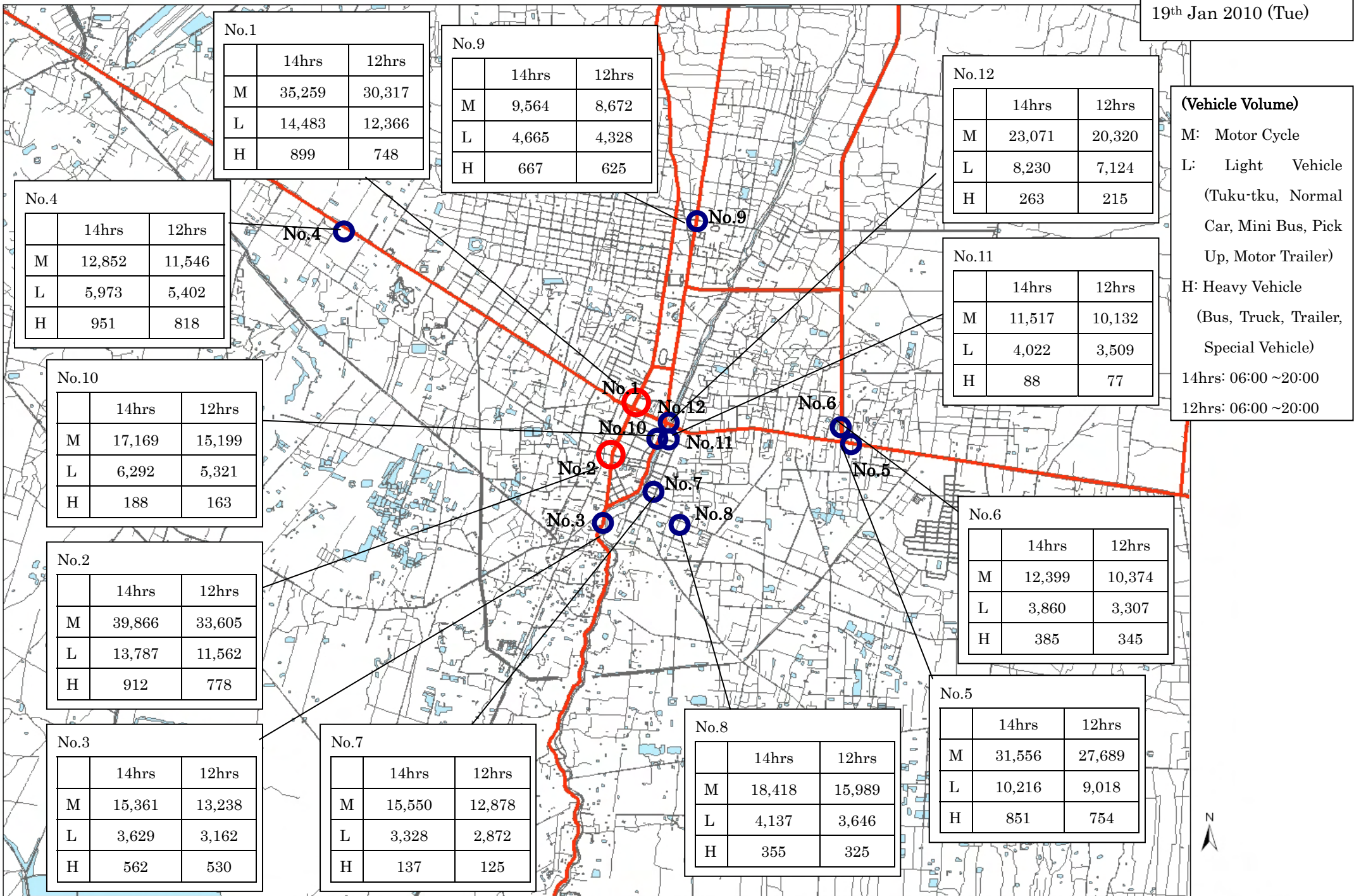
No.8

	14hrs	12hrs
M	16,863	14,683
L	3,795	3,344
H	308	282

Fig. 3.1 Traffic Volume (vehicle) at station on 16<sup>th</sup> Jan 2010 (Sat)

0 300 600 1,200 1,800 Meters

19<sup>th</sup> Jan 2010 (Tue)



No.1

	14hrs	12hrs
M	35,259	30,317
L	14,483	12,366
H	899	748

No.9

	14hrs	12hrs
M	9,564	8,672
L	4,665	4,328
H	667	625

No.12

	14hrs	12hrs
M	23,071	20,320
L	8,230	7,124
H	263	215

No.4

	14hrs	12hrs
M	12,852	11,546
L	5,973	5,402
H	951	818

No.11

	14hrs	12hrs
M	11,517	10,132
L	4,022	3,509
H	88	77

No.10

	14hrs	12hrs
M	17,169	15,199
L	6,292	5,321
H	188	163

No.6

	14hrs	12hrs
M	12,399	10,374
L	3,860	3,307
H	385	345

No.2

	14hrs	12hrs
M	39,866	33,605
L	13,787	11,562
H	912	778

No.5

	14hrs	12hrs
M	31,556	27,689
L	10,216	9,018
H	851	754

No.3

	14hrs	12hrs
M	15,361	13,238
L	3,629	3,162
H	562	530

No.7

	14hrs	12hrs
M	15,550	12,878
L	3,328	2,872
H	137	125

No.8

	14hrs	12hrs
M	18,418	15,989
L	4,137	3,646
H	355	325

Fig. 3.2 Traffic Volume (vehicle) at station on 19<sup>th</sup> Jan 2010 (Tuesday)

0 300 600 1,200 1,800 Meters

#### 4) Difference between 16<sup>th</sup> (Sat) and 19<sup>th</sup> (Tue) January 2010

- The traffic volume on 19<sup>th</sup> January (Tue) is more than it on 16<sup>th</sup> January (Sat) except for Station no.6 ( new APSARA Road).
- The most difference is Station No.2 (Major intersection near Central Market), and second is Station No.12 (French Bridge).

**Table 3.5 the difference between 16<sup>th</sup> Jan (Sat) and 19<sup>th</sup> Jan (Tue)**

D = The traffic volume on 19<sup>th</sup> Jan – the traffic volume on 16<sup>th</sup> Jan

Station	D	D
	14 hours	12 hours
No.1	2,378	3,160
No.2	5,128	4,918
No.3	951	931
No. 4	1,412	1,366
No. 5	59	739
No. 6	(-946)	(-41)
No.7	2,959	2,221
No.8	1,944	1,651
No.9	205	323
No.10	2,128	3,198
No.11	1,744	1,794
No. 12	2,975	3,072

## 5) Time Distribution of Traffic Volume

- There are peak hours as follows:

16 <sup>th</sup> Jan (Sat)	07:00 - 08:00 at Station No.4, No.12
	10:00 - 11:00 at Station No.11
	17:00 - 18:00 at Station No.3, No.5, No.7, No.8, No.9
	18:00 - 19:00 at Station No.1, No2, No.6, No.10
19 <sup>th</sup> Jan (Tue)	07:00 - 08:00 at Station No.3, No.4, No.8, No.12
	17:00 - 18:00 at Station No.1, No.2, No.5, No.6, No.7, No.9, No.10, No11

- The peak hours on Saturday are spread over 07:00-08:00, 10:00-11:00 and 17:00-18:00.
- The peak hours on weekday are concentrated into 07:00 – 08:00 and 17:00 – 18:00.

### (Largest Traffic per hour)

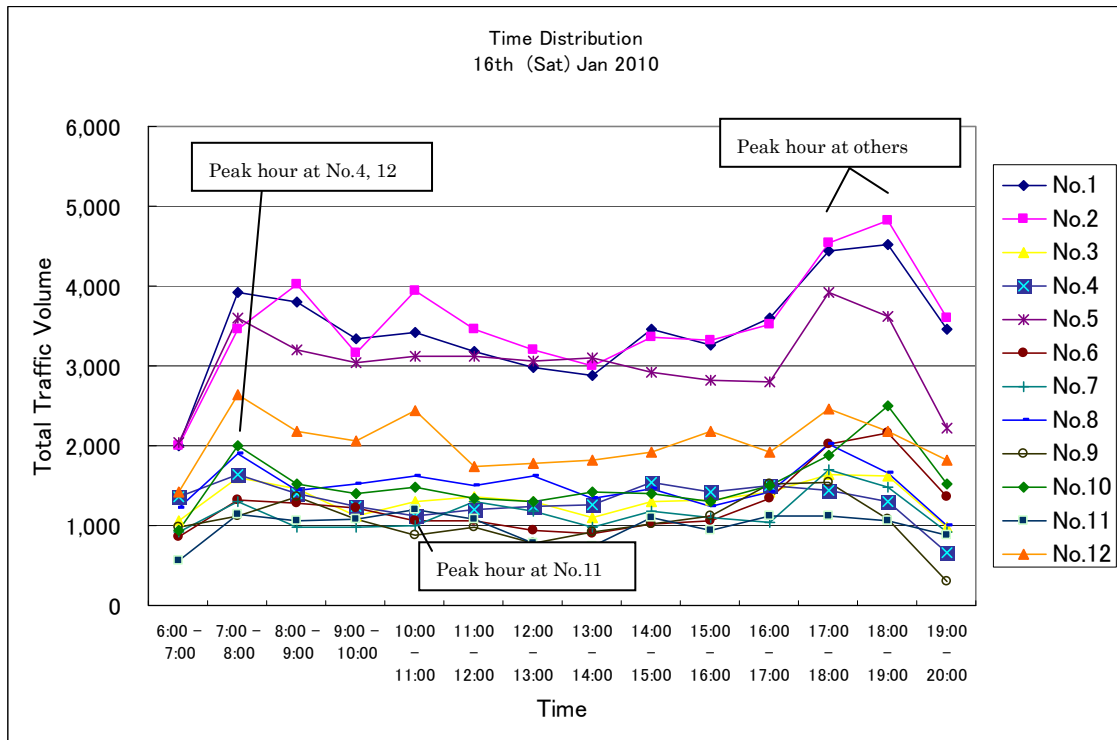
- At Station No.2, there is the largest Total Traffic Volume per hour (4,815 during 18:00 ~ 19:00 on 16<sup>th</sup> Jan 2010 (Sat), 5,501 during 17:00 ~ 18:00 ).

**Motor Bike:** There is the largest Traffic Volume per hour at Station No.2.(3,480 during 17:00 ~18:00 on 16<sup>th</sup> Jan 2010 (Sat), 4,178 during 17:00 ~18:00 on 19<sup>th</sup> Jan 2010 (Tue))

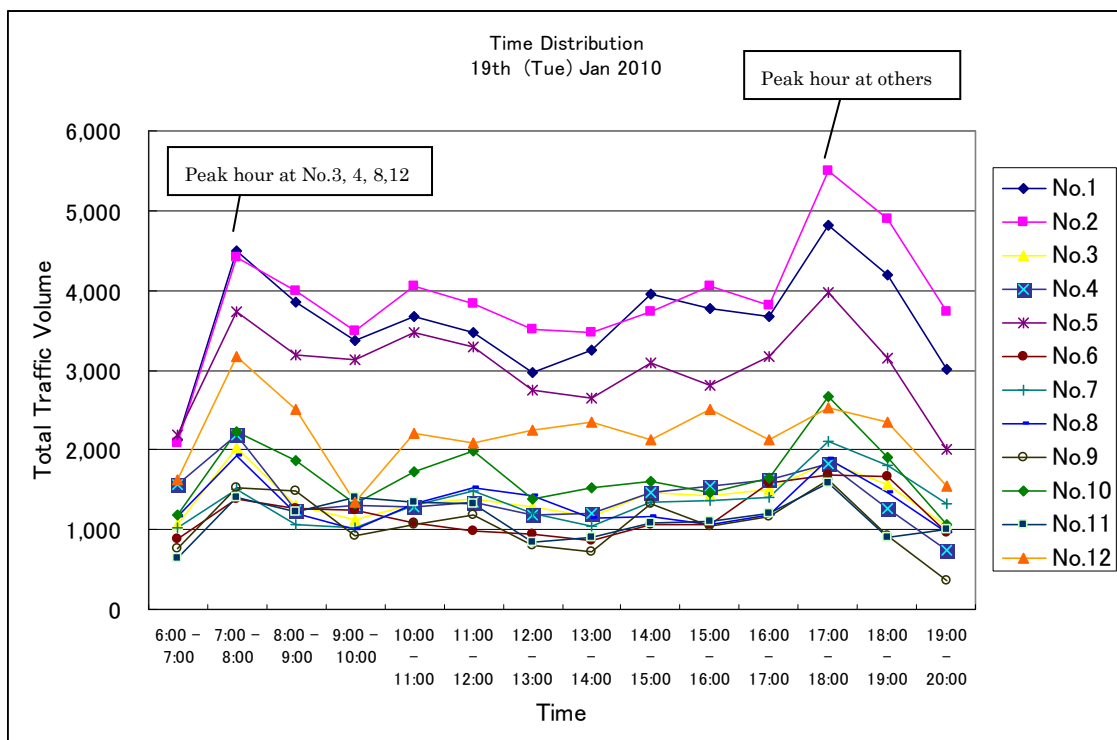
**Light Vehicle:** There is the largest Traffic Volume per hour at Station No.1.(1,380 during 18:00 ~19:00) on 16<sup>th</sup> Jan 2010 (Sat), and No.2 (1,253 during 17:00 ~18:00) on 19<sup>th</sup> Jan 2010 (Tue).

**Heavy Vehicle:** There is the largest Traffic Volume per hour at Station No.4.(95 during 16:00 ~17:00) on 16<sup>th</sup> Jan 2010 (Sat), and No.12 (112 during 8:00 ~9:00) on 19<sup>th</sup> Jan 2010 (Tue).

**Fig. 3.3.1 Time Distribution on 16<sup>th</sup> Jan 2010 (Sat)**



**Fig. 3.3.2 Time Distribution on 19<sup>th</sup> Jan 2010 (Tue)**

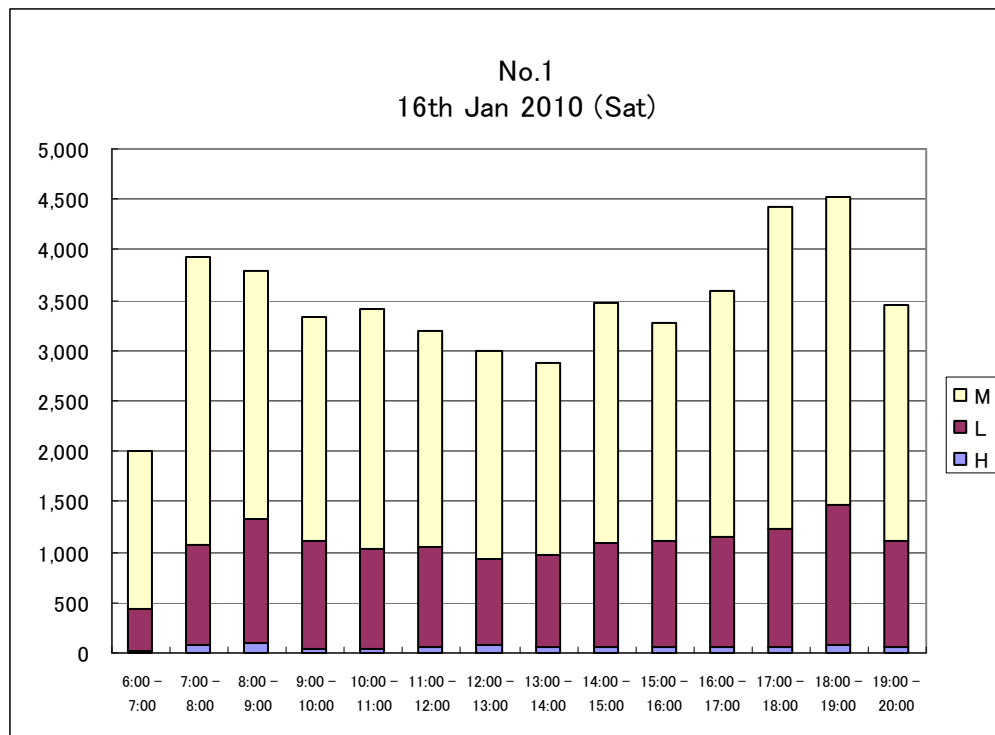


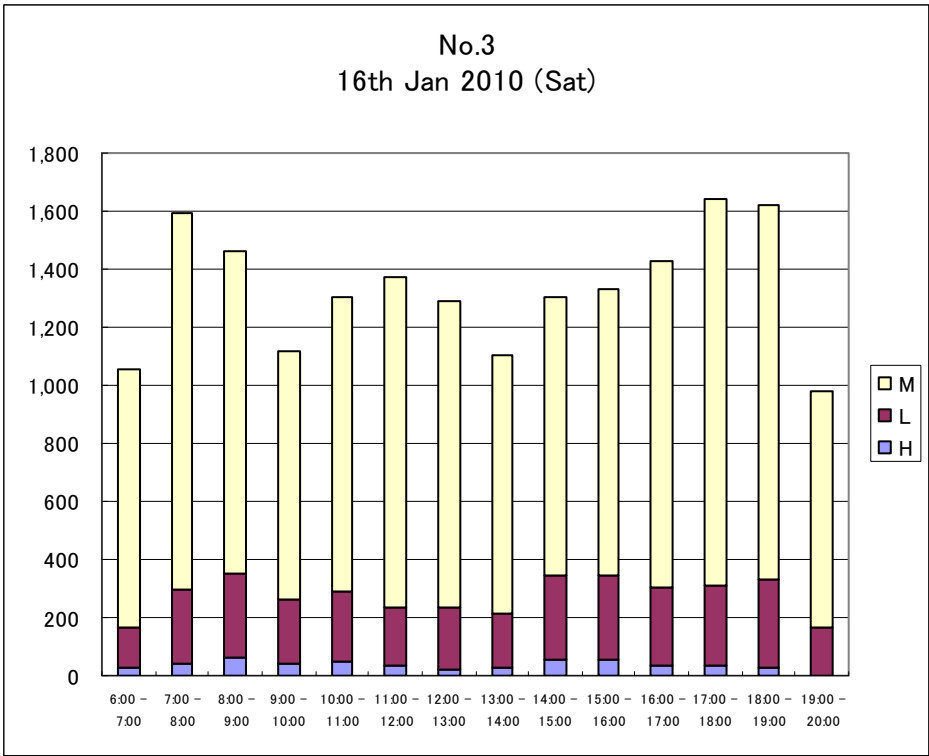
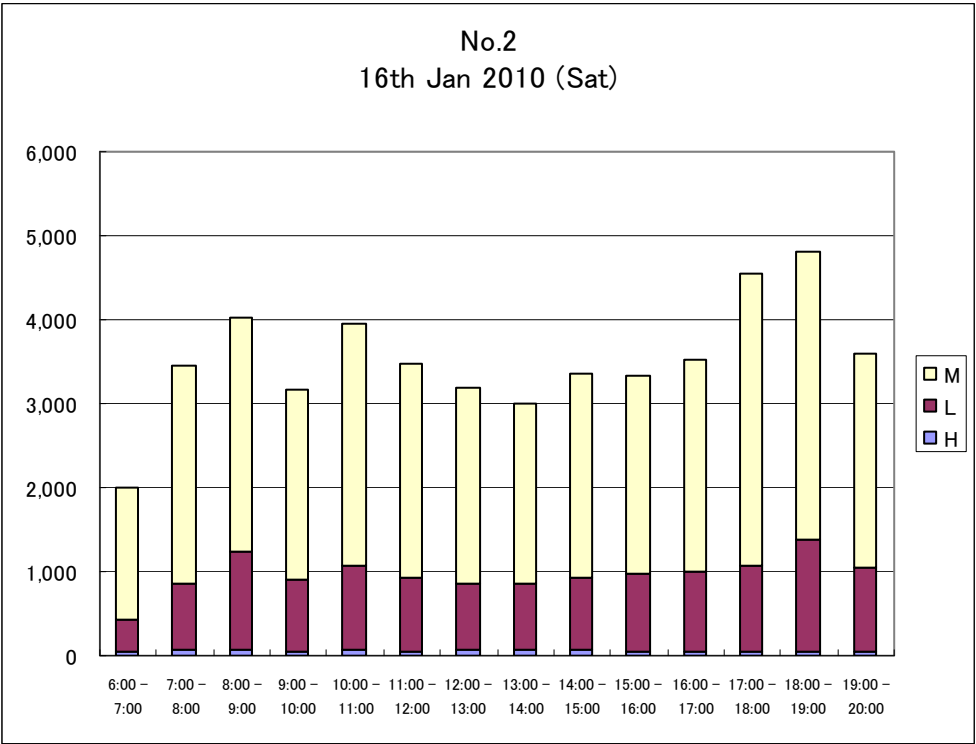


**Table 3.6.1 Time Distribution of Traffic Volume**

**16<sup>th</sup> Jan 2010 (Sat)**

	No.1			Total	No.2			Total	No.3			Total
	H	L	M		H	L	M		H	L	M	
6:00 – 7:00	28	399	1,568	1,995	37	392	1,569	1,998	27	136	891	1,054
7:00 – 8:00	79	987	2,859	3,925	72	796	2,595	3,463	38	258	1,297	1,593
8:00 – 9:00	<b>92</b>	1,233	2,468	3,793	<b>81</b>	1,148	2,800	4,029	<b>60</b>	289	1,112	1,461
9:00 – 10:00	37	1,081	2,214	3,332	56	847	2,267	3,170	44	217	858	1,119
10:00 – 11:00	34	1,005	2,373	3,412	61	1,008	2,879	3,948	48	245	1,013	1,306
11:00 – 12:00	54	1,000	2,131	3,185	56	866	2,543	3,465	32	204	1,134	1,370
12:00 – 13:00	84	852	2,053	2,989	69	778	2,344	3,191	23	214	1,056	1,293
13:00 – 14:00	63	913	1,903	2,879	68	792	2,135	2,995	30	181	890	1,101
14:00 – 15:00	57	1,027	2,383	3,467	73	857	2,432	3,362	56	290	956	1,302
15:00 – 16:00	62	1,053	2,150	3,265	56	926	2,348	3,330	54	293	983	1,330
16:00 – 17:00	53	1,092	2,451	3,596	54	953	2,523	3,530	35	266	1,126	1,427
17:00 – 18:00	62	1,175	<b>3,196</b>	4,433	41	1,025	<b>3,480</b>	4,546	32	276	<b>1,335</b>	<b>1,643</b>
18:00 – 19:00	82	<b>1,380</b>	3,068	<b>4,530</b>	46	<b>1,330</b>	3,439	<b>4,815</b>	26	<b>302</b>	1,293	1,621
19:00 – 20:00	64	1,040	2,358	3,462	51	997	2,547	3,595	2	162	817	981
Total (14hrs)	851	14,237	33,175	48,263	821	12,715	35,901	49,437	507	3,333	14,761	18,601

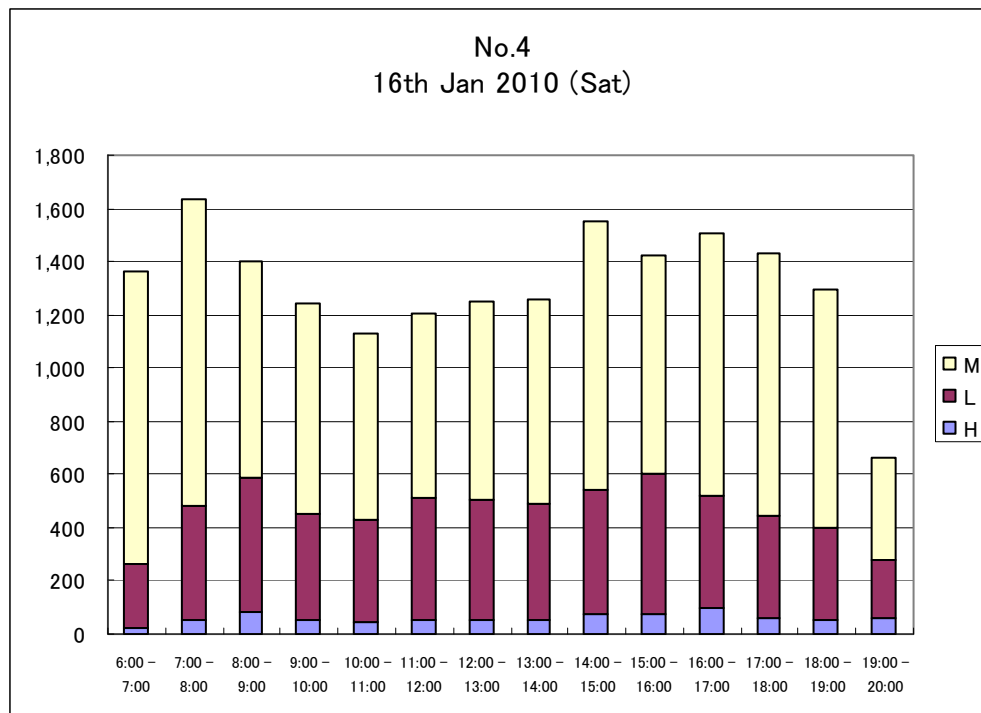




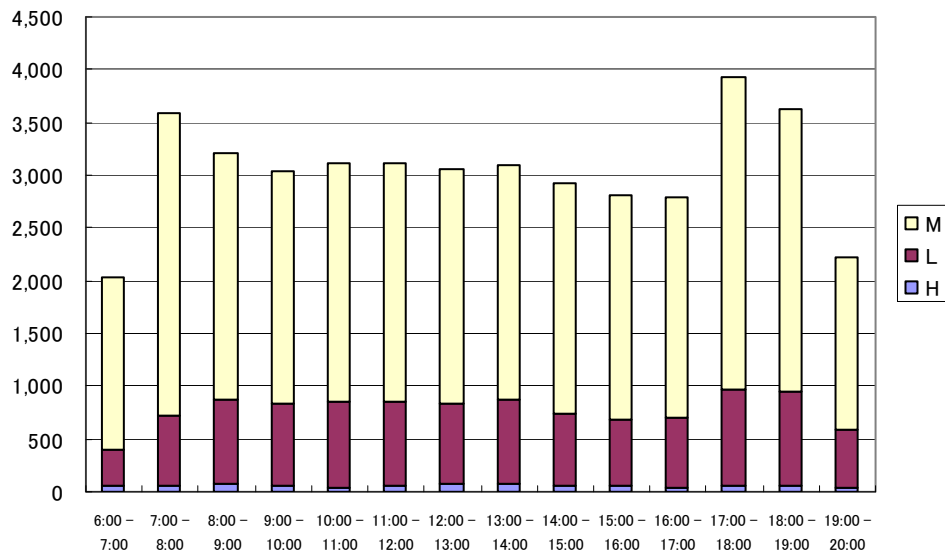
**Table 3.6.2 Time Distribution of Traffic Volume**

**16th Jan 2010 (Sat)**

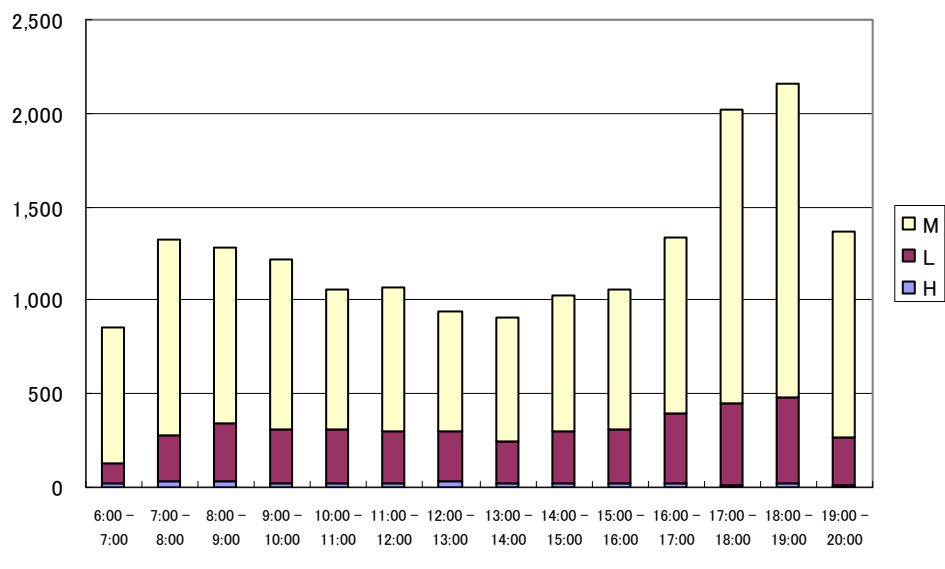
	No.4			Total	No.5			Total	No.6			Total
	H	L	M		H	L	M		H	L	M	
6:00 – 7:00	19	242	1,102	1,363	56	347	1,635	2,038	17	113	721	851
7:00 – 8:00	51	430	<b>1,153</b>	<b>1,634</b>	56	667	2,870	3,593	<b>30</b>	252	1,038	1,320
8:00 – 9:00	81	505	816	1,402	77	795	2,335	3,207	<b>30</b>	311	938	1,279
9:00 – 10:00	55	397	794	1,246	57	772	2,218	3,047	24	286	911	1,221
10:00 – 11:00	44	387	695	1,126	35	816	2,266	3,117	23	287	746	1,056
11:00 – 12:00	56	454	696	1,206	58	789	2,268	3,115	23	281	761	1,065
12:00 – 13:00	54	454	739	1,247	<b>79</b>	749	2,232	3,060	28	271	639	938
13:00 – 14:00	50	442	769	1,261	68	810	2,214	3,092	18	230	658	906
14:00 – 15:00	78	467	1,005	1,550	50	693	2,175	2,918	23	280	722	1,025
15:00 – 16:00	73	<b>533</b>	821	1,427	50	632	2,135	2,817	20	287	751	1,058
16:00 – 17:00	<b>95</b>	427	983	1,505	45	660	2,090	2,795	24	370	940	1,334
17:00 – 18:00	63	378	992	1,433	58	<b>906</b>	<b>2,959</b>	<b>3,923</b>	16	432	1,566	2,014
18:00 – 19:00	50	347	901	1,298	58	892	2,672	3,622	22	<b>457</b>	<b>1,678</b>	<b>2,157</b>
19:00 – 20:00	64	218	384	666	45	538	1,637	2,220	15	255	1,096	1,366
Total (14hrs)	833	5,681	11,850	18,364	792	10,066	31,706	42,564	313	4,112	13,165	17,590



No.5  
16th Jan 2010 (Sat)

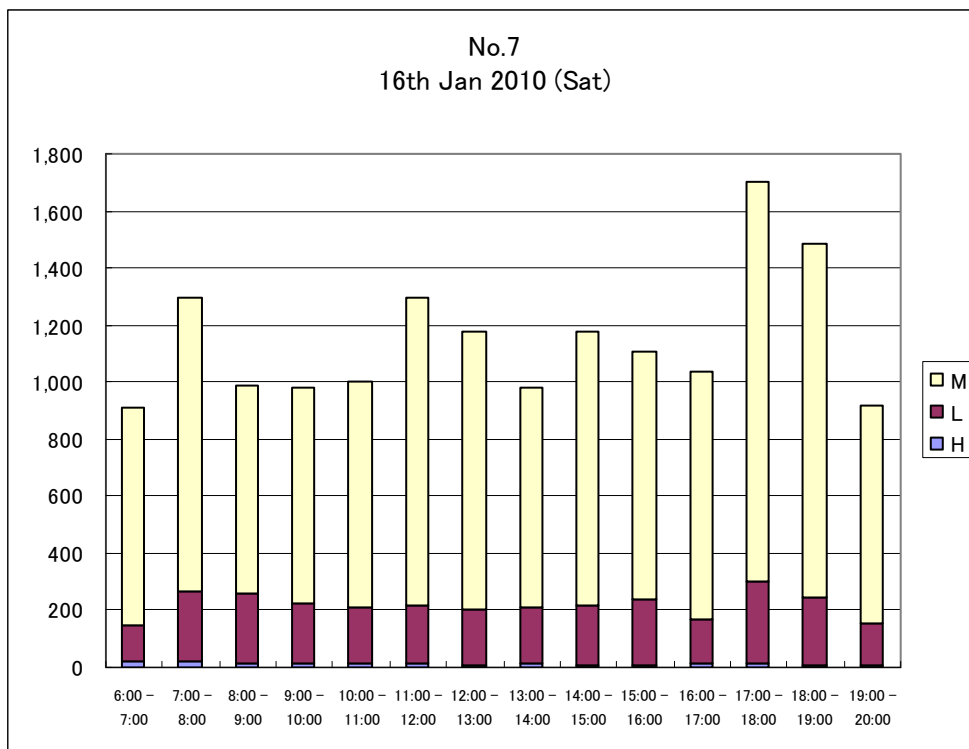


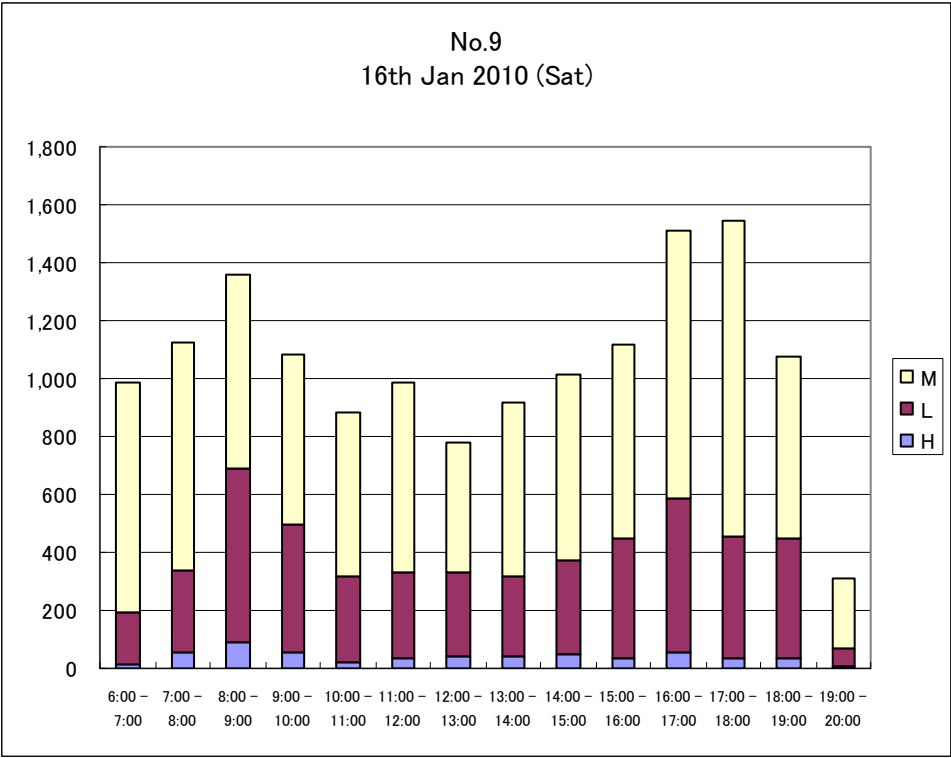
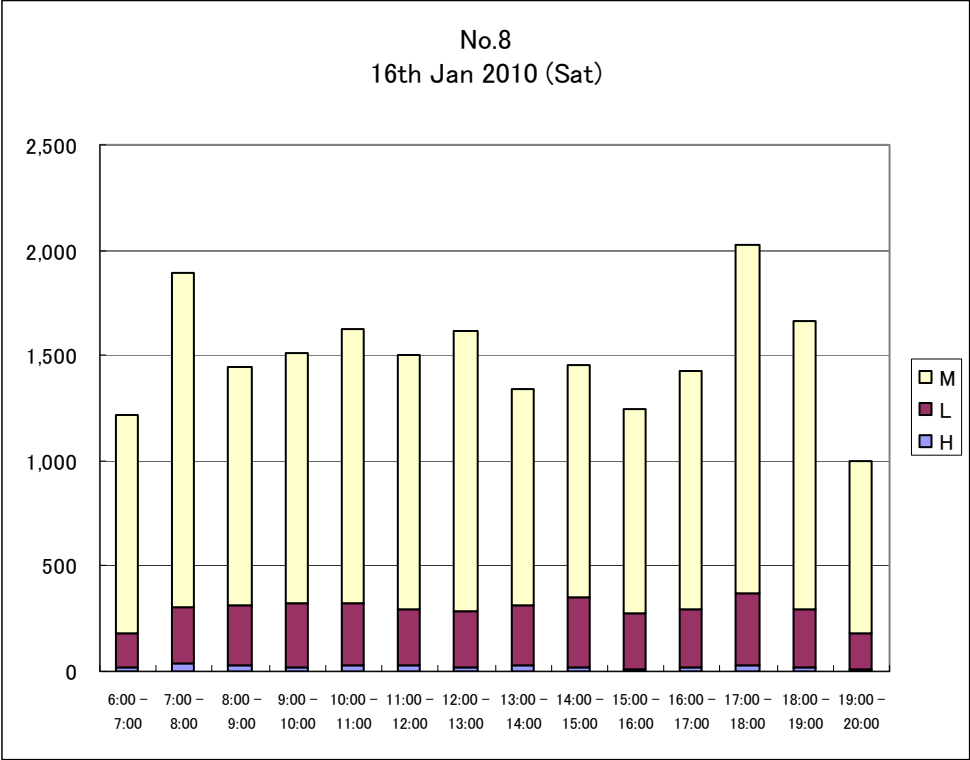
No.6  
16th Jan 2010 (Sat)



**Table 3.6.3 Time Distribution of Traffic Volume**  
**16<sup>th</sup> Jan 2010 (Sat)**

	No.7			Total	No.8			Total	No.9			Total
	H	L	M		H	L	M		H	L	M	
6:00 – 7:00	18	131	764	913	20	156	1,044	1,220	15	176	796	987
7:00 – 8:00	<b>19</b>	247	1,028	1,294	<b>34</b>	268	1,589	1,891	54	286	783	1,123
8:00 – 9:00	13	248	726	987	27	285	1,130	1,442	<b>89</b>	<b>599</b>	673	1,361
9:00 – 10:00	13	209	761	983	21	299	1,196	1,516	54	441	590	1,085
10:00 – 11:00	12	196	794	1,002	28	299	1,302	1,629	23	297	565	885
11:00 – 12:00	14	201	1,084	1,299	28	264	1,213	1,505	37	296	653	986
12:00 – 13:00	8	197	974	1,179	18	268	1,328	1,614	44	290	445	779
13:00 – 14:00	14	194	771	979	24	290	1,028	1,342	39	278	599	916
14:00 – 15:00	8	207	961	1,176	23	333	1,097	1,453	46	325	640	1,011
15:00 – 16:00	7	229	872	1,108	11	263	970	1,244	34	416	665	1,115
16:00 – 17:00	11	157	866	1,034	22	277	1,129	1,428	53	535	923	1,511
17:00 – 18:00	15	<b>288</b>	<b>1,397</b>	<b>1,700</b>	26	<b>342</b>	<b>1,657</b>	<b>2,025</b>	33	425	<b>1,085</b>	<b>1,543</b>
18:00 – 19:00	7	235	1,244	1,486	15	278	1,370	1,663	37	408	634	1,079
19:00 – 20:00	8	147	761	916	11	173	810	994	9	61	240	310
Total (14hrs)	167	2,886	13,003	16,056	308	3,795	16,863	20,966	567	4,833	9,291	14,691

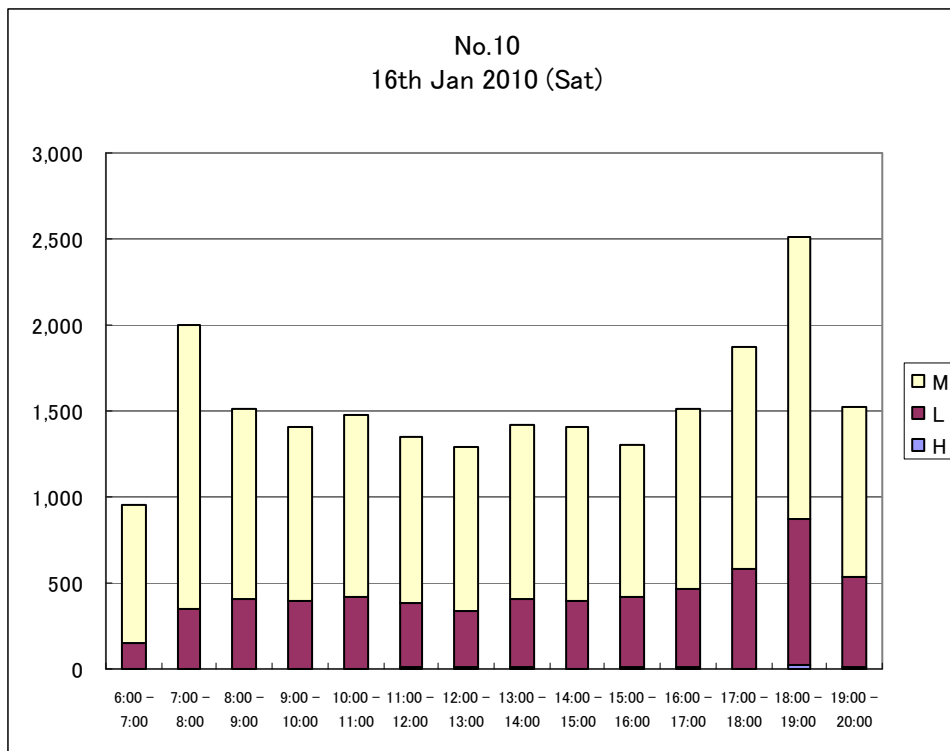




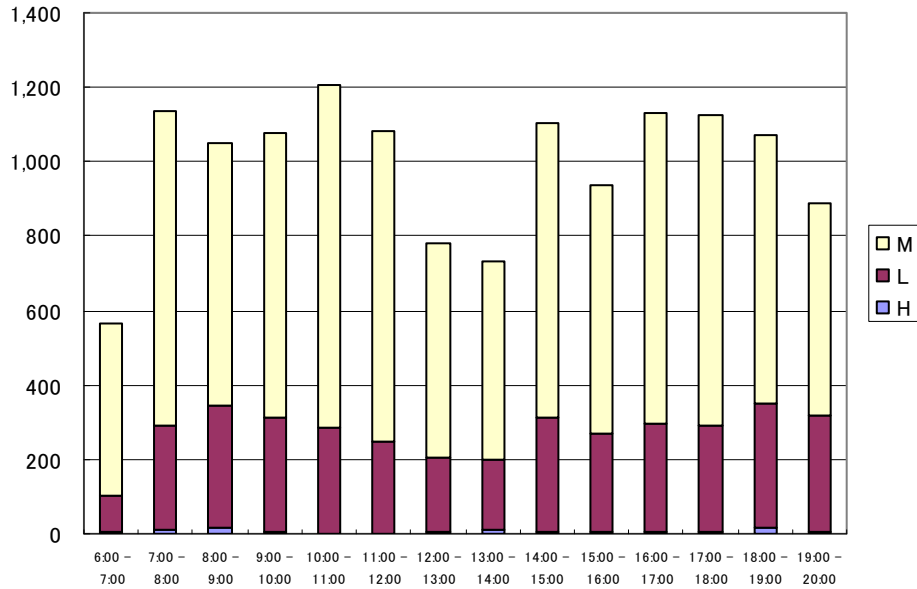
**Table 3.6.4 Time Distribution of Traffic Volume**

**16<sup>th</sup> Jan 2010 (Sat)**

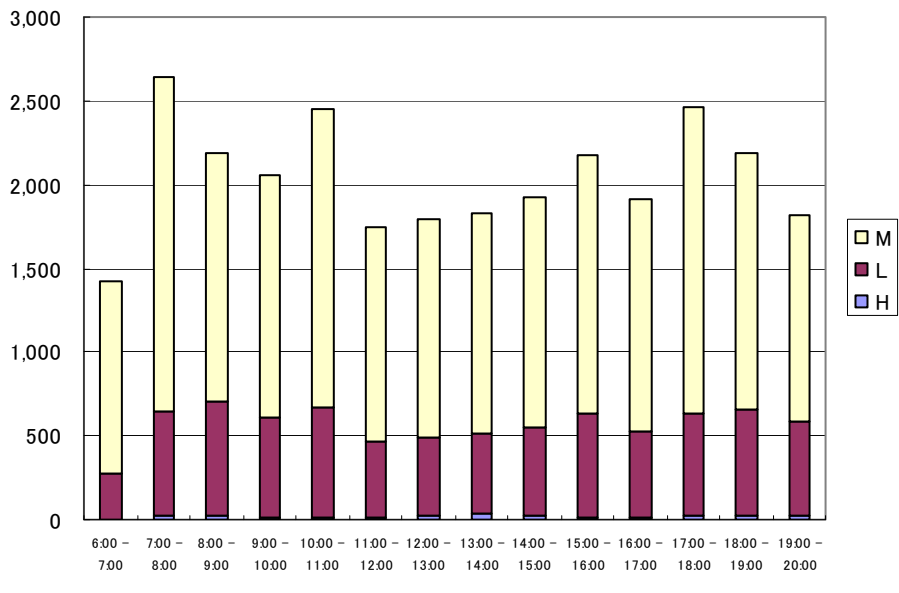
	No.10				No.11				No.12			
	H	L	M	Total	H	L	M	Total	H	L	M	Total
6:00 – 7:00	0	154	795	949	4	101	461	566	3	269	1,146	1,418
7:00 – 8:00	3	347	<b>1,645</b>	1,995	11	278	849	1,138	19	629	<b>1,993</b>	<b>2,641</b>
8:00 – 9:00	5	403	1,108	1,516	<b>14</b>	332	706	1,052	21	<b>682</b>	1,482	2,185
9:00 – 10:00	2	391	1,010	1,403	5	310	761	1,076	10	599	1,448	2,057
10:00 – 11:00	3	410	1,065	1,478	2	284	<b>918</b>	<b>1,204</b>	9	665	1,771	2,445
11:00 – 12:00	12	374	961	1,347	2	246	833	1,081	13	456	1,271	1,740
12:00 – 13:00	14	325	955	1,294	6	197	580	783	21	471	1,295	1,787
13:00 – 14:00	13	390	1,011	1,414	12	185	534	731	<b>35</b>	481	1,312	1,828
14:00 – 15:00	5	392	1,007	1,404	6	309	787	1,102	27	521	1,377	1,925
15:00 – 16:00	13	406	884	1,303	5	266	666	937	12	622	1,543	2,177
16:00 – 17:00	10	453	1,047	1,510	8	287	835	1,130	14	507	1,396	1,917
17:00 – 18:00	4	573	1,295	1,872	5	284	835	1,124	22	615	1,830	2,467
18:00 – 19:00	<b>18</b>	<b>854</b>	1,636	<b>2,508</b>	14	<b>335</b>	720	1,069	19	633	1,530	2,182
19:00 – 20:00	10	527	991	1,528	6	312	572	890	26	555	1,239	1,820
Total (14hrs)	112	5,999	15,410	21,521	100	3,726	10,057	13,883	251	7,705	20,633	28,589



No.11  
16th Jan 2010 (Sat)



No.12  
16th Jan 2010 (Sat)

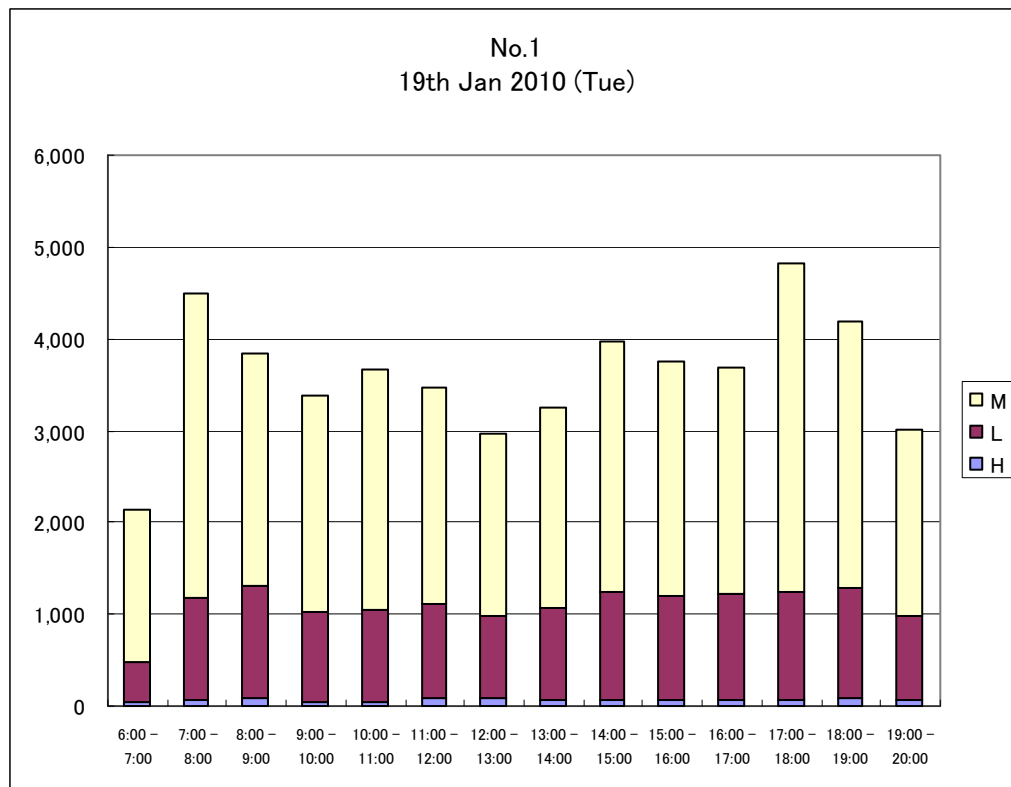




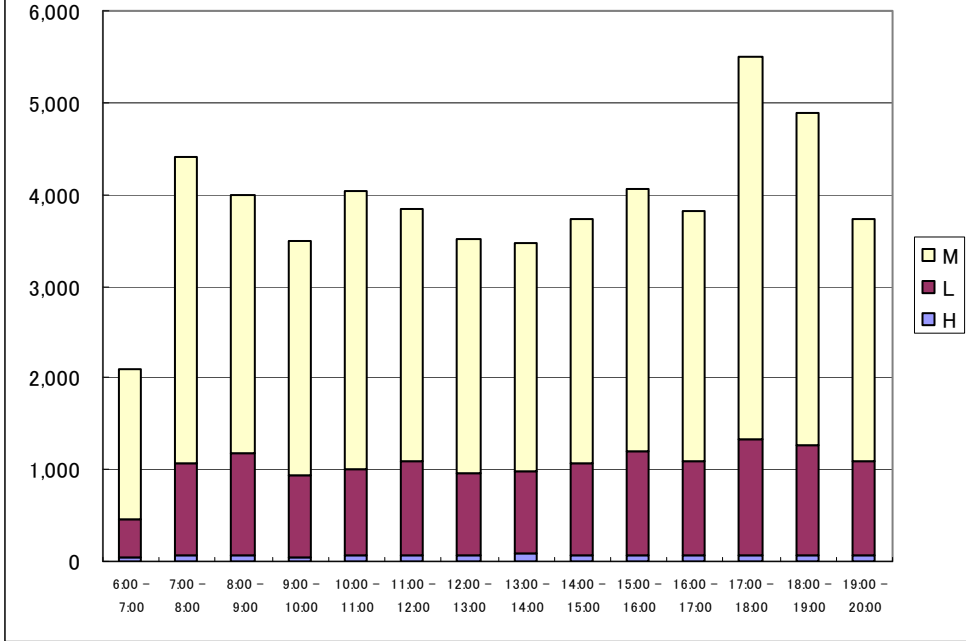
**Table 3.6.5 Time Distribution of Traffic Volume**

19<sup>th</sup> Jan 2010 (Tue)

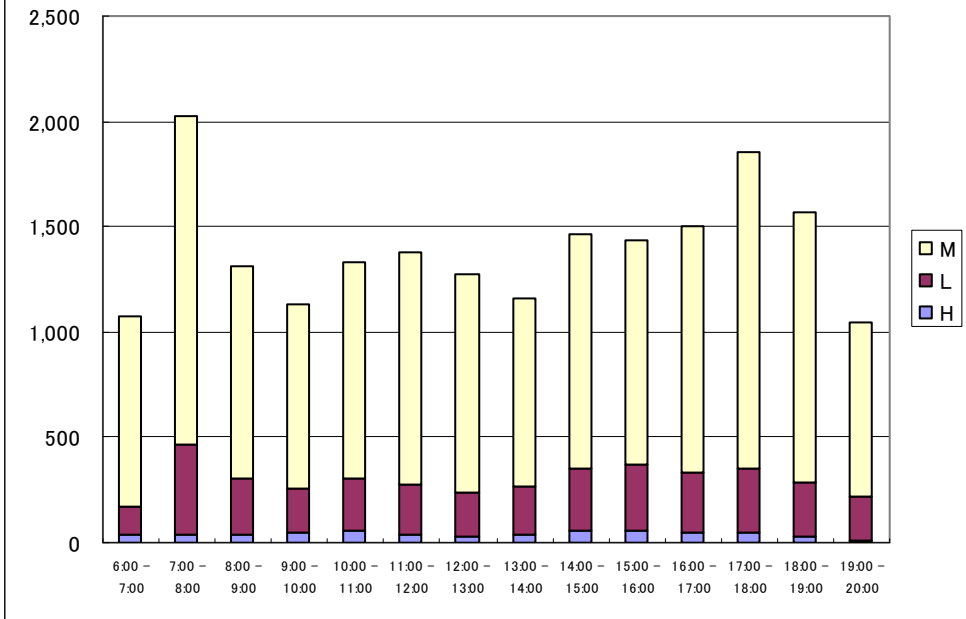
	No.1			Total	No.2			Total	No.3			Total
	H	L	M		H	L	M		H	L	M	
6:00 – 7:00	36	446	1,649	2,131	54	401	1,629	2,084	35	132	905	1,072
7:00 – 8:00	73	1,111	3,301	4,485	73	987	3,346	4,406	42	<b>428</b>	<b>1,556</b>	<b>2,026</b>
8:00 – 9:00	<b>86</b>	<b>1,232</b>	2,525	3,843	58	1,126	2,807	3,991	41	262	1,008	1,311
9:00 – 10:00	40	980	2,361	3,381	48	899	2,538	3,485	49	211	868	1,128
10:00 – 11:00	35	1,016	2,615	3,666	60	945	3,040	4,045	55	247	1,025	1,327
11:00 – 12:00	79	1,026	2,362	3,467	58	1,025	2,751	3,834	36	242	1,102	1,380
12:00 – 13:00	81	900	1,997	2,978	64	893	2,560	3,517	33	200	1,045	1,278
13:00 – 14:00	73	997	2,180	3,250	<b>78</b>	893	2,491	3,462	39	230	895	1,164
14:00 – 15:00	62	1,185	2,716	3,963	76	994	2,671	3,741	<b>56</b>	294	1,110	1,460
15:00 – 16:00	59	1,137	2,567	3,763	70	1,133	2,858	4,061	54	319	1,059	1,432
16:00 – 17:00	56	1,164	2,458	3,678	69	1,013	2,736	3,818	43	293	1,167	1,503
17:00 – 18:00	68	1,172	<b>3,586</b>	<b>4,826</b>	70	<b>1,253</b>	<b>4,178</b>	<b>5,501</b>	47	304	1,498	1,849
18:00 – 19:00	84	1,204	2,909	4,197	64	1,196	3,637	4,897	25	257	1,291	1,573
19:00 – 20:00	67	913	2,033	3,013	70	1,029	2,624	3,723	7	210	832	1,049
Total (14hrs)	899	14,483	35,259	50,641	912	13,787	39,866	54,565	562	3,629	15,361	19,552



No.2  
19th Jan 2010 (Tue)



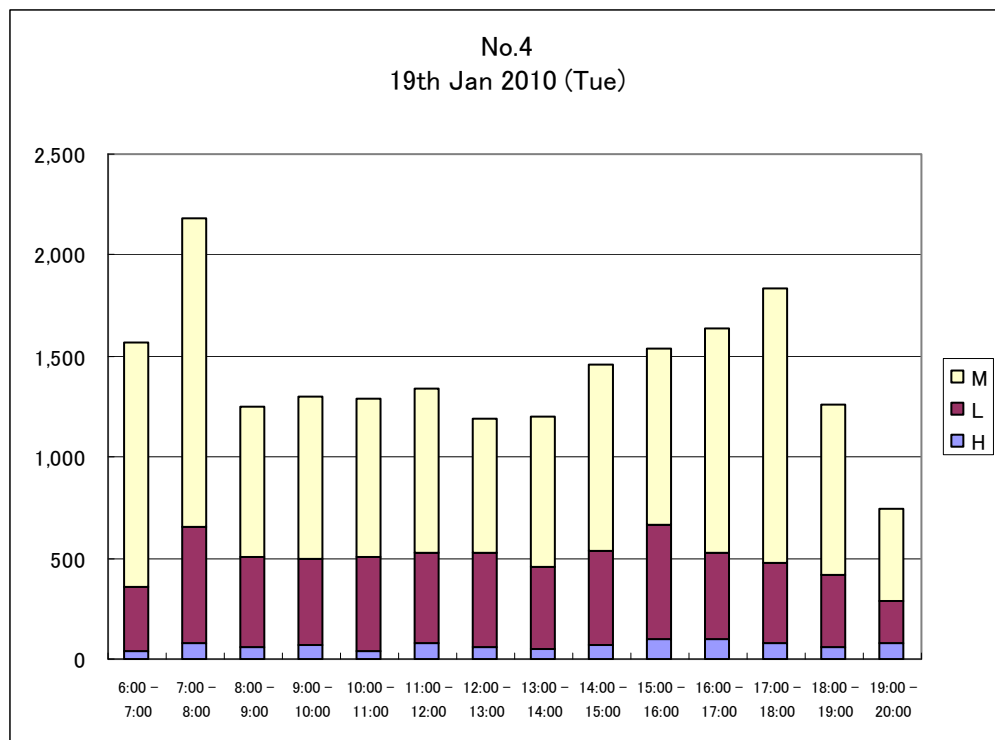
No.3  
19th Jan 2010 (Tue)

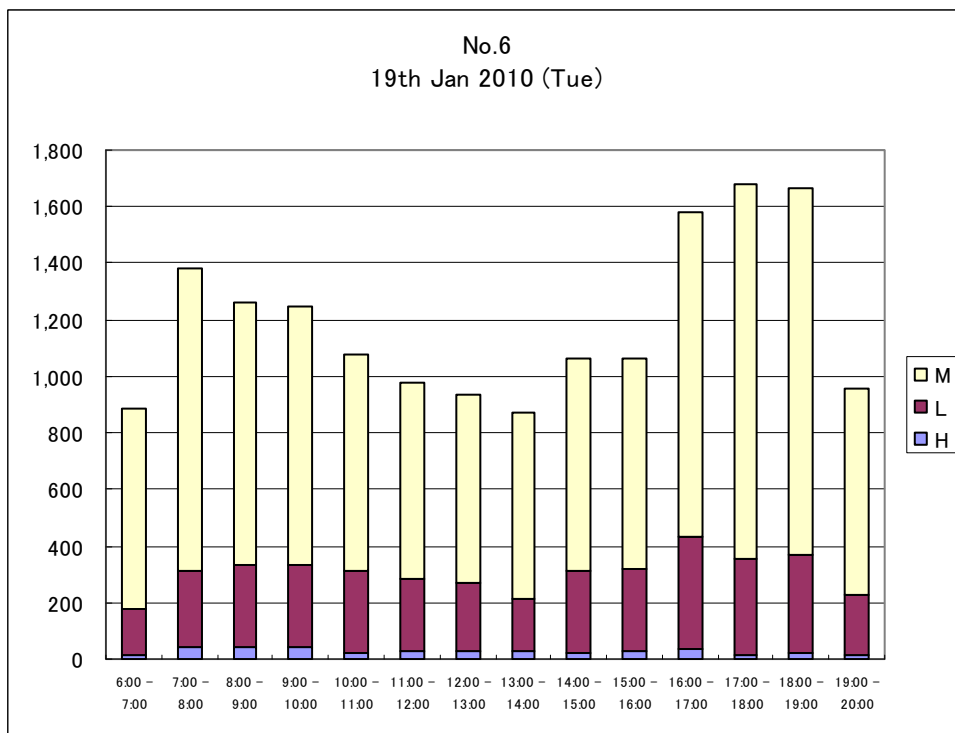
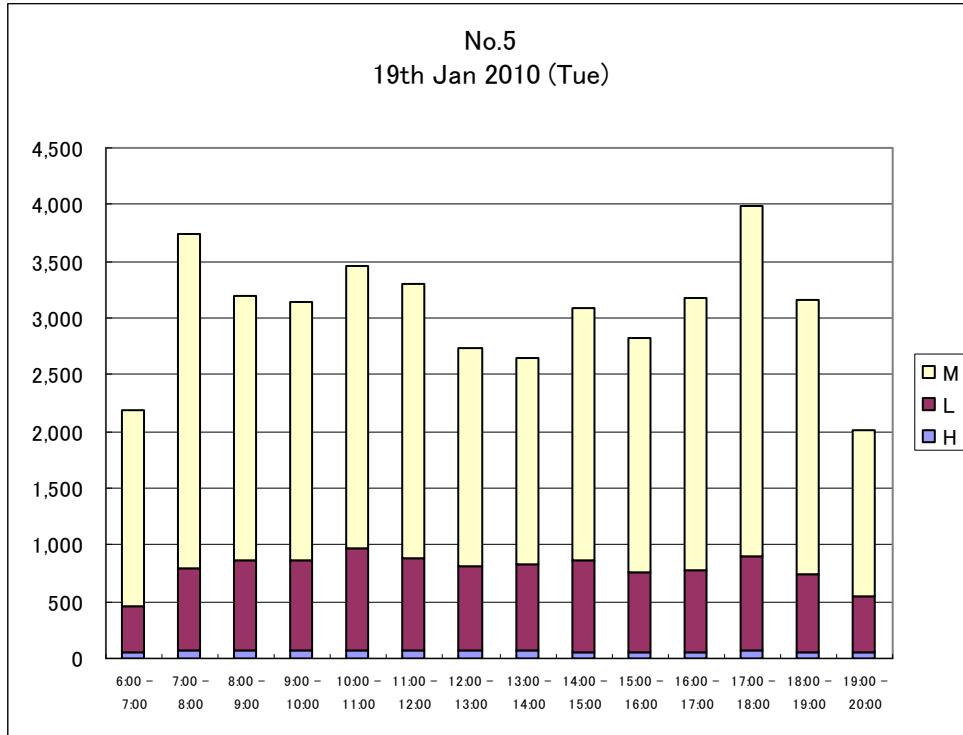


**Table 3.6.6 Time Distribution of Traffic Volume**

19<sup>th</sup> Jan 2010 (Tue)

	No.4				Total	No.5				Total	No.6				Total
	H	L	M	Total		H	L	M	Total		H	L	M	Total	
6:00 – 7:00	37	319	1,209	1,565	51	404	1,737	2,192	15	165	706	886			
7:00 – 8:00	84	570	1,525	2,179	62	734	2,940	3,736	45	270	1,066	1,381			
8:00 – 9:00	62	439	750	1,251	77	793	2,324	3,194	46	289	925	1,260			
9:00 – 10:00	69	426	806	1,301	64	798	2,273	3,135	40	292	913	1,245			
10:00 – 11:00	36	466	784	1,286	68	905	2,493	3,466	20	293	764	1,077			
11:00 – 12:00	77	447	812	1,336	77	805	2,410	3,292	27	257	695	979			
12:00 – 13:00	60	468	664	1,192	70	736	1,937	2,743	28	244	665	937			
13:00 – 14:00	54	399	743	1,196	70	767	1,807	2,644	25	188	658	871			
14:00 – 15:00	69	465	921	1,455	47	822	2,216	3,085	18	291	753	1,062			
15:00 – 16:00	95	569	872	1,536	55	701	2,062	2,818	31	285	748	1,064			
16:00 – 17:00	97	433	1,103	1,633	47	726	2,403	3,176	38	391	1,153	1,582			
17:00 – 18:00	78	401	1,357	1,836	66	827	3,087	3,980	12	342	1,328	1,682			
18:00 – 19:00	56	359	847	1,262	50	692	2,409	3,151	24	342	1,298	1,664			
19:00 – 20:00	77	212	459	748	47	506	1,458	2,011	16	211	727	954			
Total (14hrs)	951	5,973	12,852	19,776	851	10,216	31,556	42,623	385	3,860	12,399	16,644			

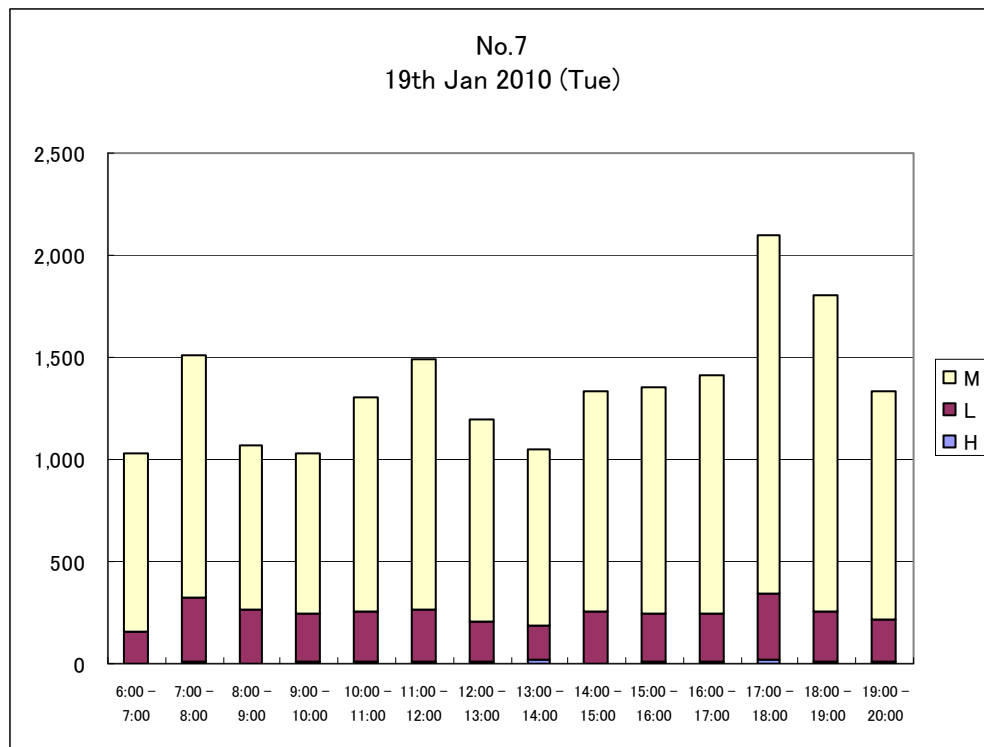


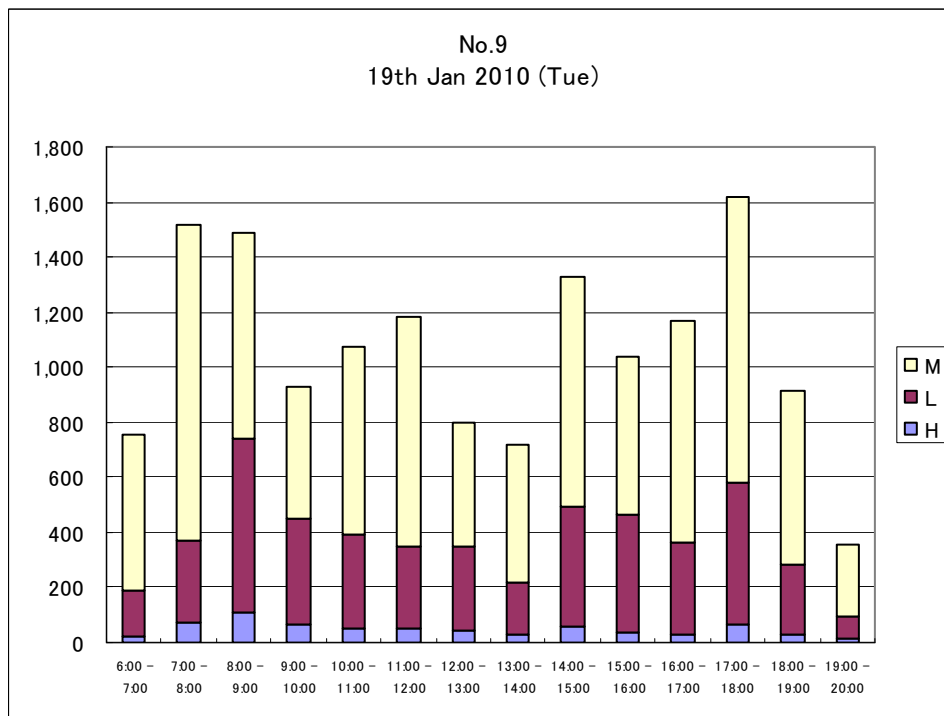
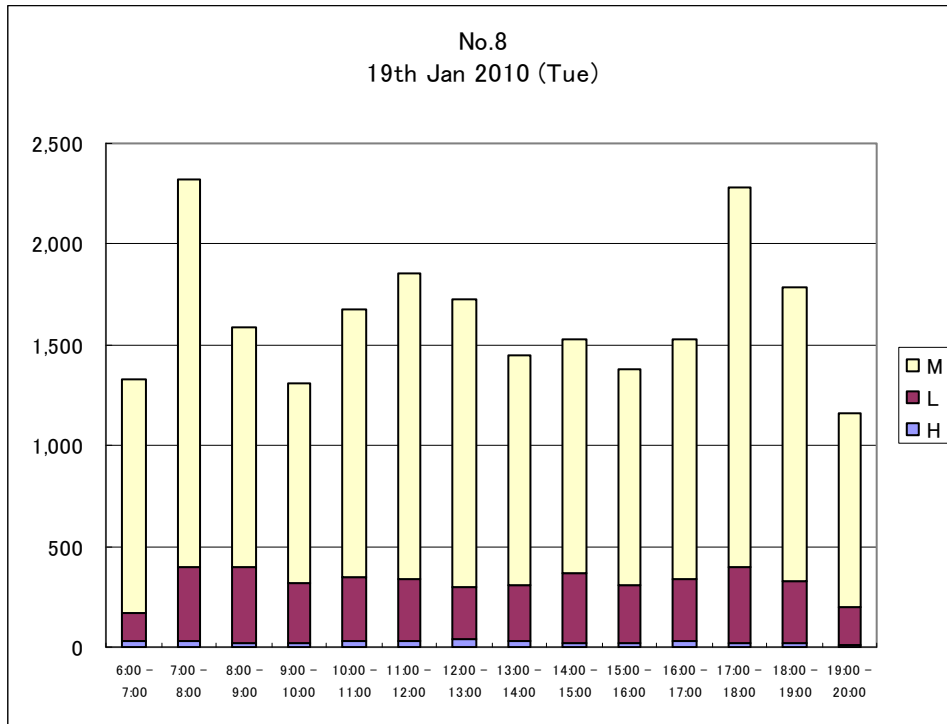


**Table 3.6.7 Time Distribution of Traffic Volume**

19<sup>th</sup> Jan 2010 (Tue)

	No.7				Total	No.8				Total	No.9				Total
	H	L	M			H	L	M			H	L	M		
6:00 – 7:00	4	151	874		1,029	25	146	1,156		1,327	25	163	570		758
7:00 – 8:00	9	315	1,186		1,510	27	368	1,922	2,317	69	298	1,151		1,518	
8:00 – 9:00	3	266	799		1,068	23	369	1,196	1,588	112	628	748		1,488	
9:00 – 10:00	13	231	783		1,027	24	292	997	1,313	65	386	481		932	
10:00 – 11:00	14	239	1,049		1,302	33	310	1,334	1,677	48	347	678		1,073	
11:00 – 12:00	10	250	1,227		1,487	34	304	1,517	1,855	48	297	837		1,182	
12:00 – 13:00	14	196	988		1,198	35	263	1,428	1,726	42	303	457		802	
13:00 – 14:00	16	174	859		1,049	27	284	1,142	1,453	32	188	502		722	
14:00 – 15:00	3	255	1,077		1,335	23	340	1,164	1,527	57	434	836		1,327	
15:00 – 16:00	11	237	1,108		1,356	23	281	1,073	1,377	37	428	571		1,036	
16:00 – 17:00	11	234	1,168		1,413	32	309	1,182	1,523	27	336	807		1,170	
17:00 – 18:00	17	324	1,760	2,101	19	380	1,878	2,277	63	520	1,034	1,617			
18:00 – 19:00	7	249	1,550		1,806	16	311	1,459	1,786	29	256	631		916	
19:00 – 20:00	5	207	1,122		1,334	14	180	970	1,164	13	81	261		355	
Total (14hrs)	137	3,328	15,550	19,015	355	4,137	18,418	22,910	667	4,665	9,564	14,896			

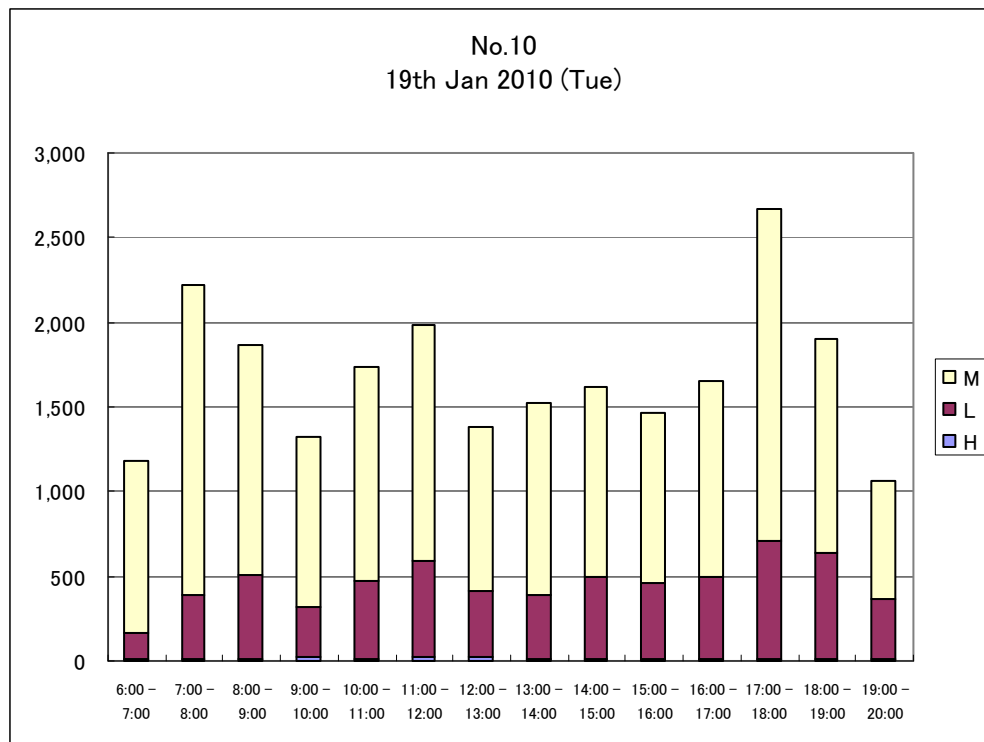


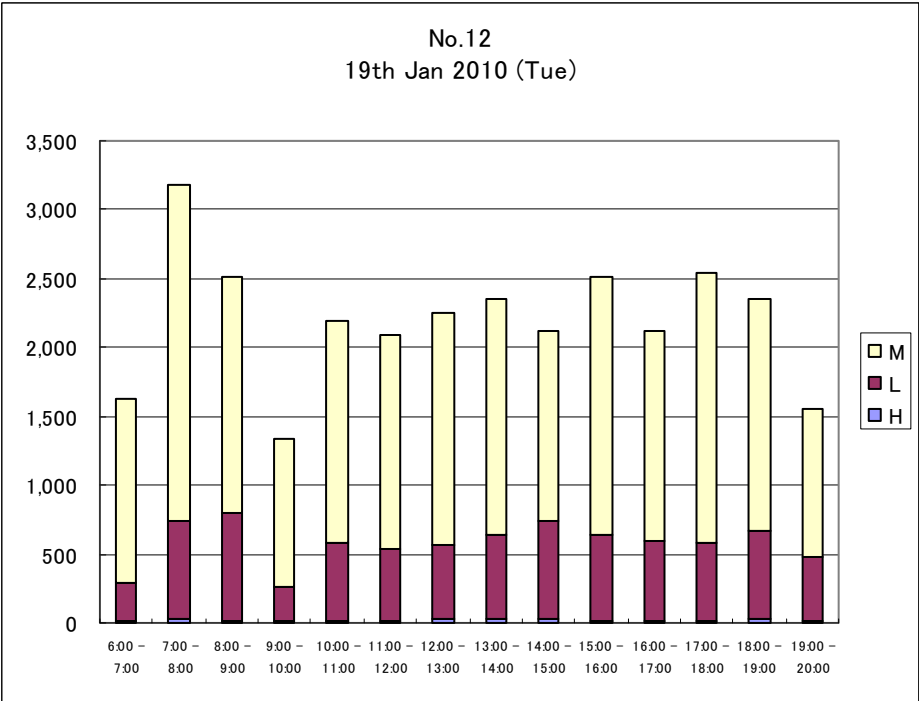
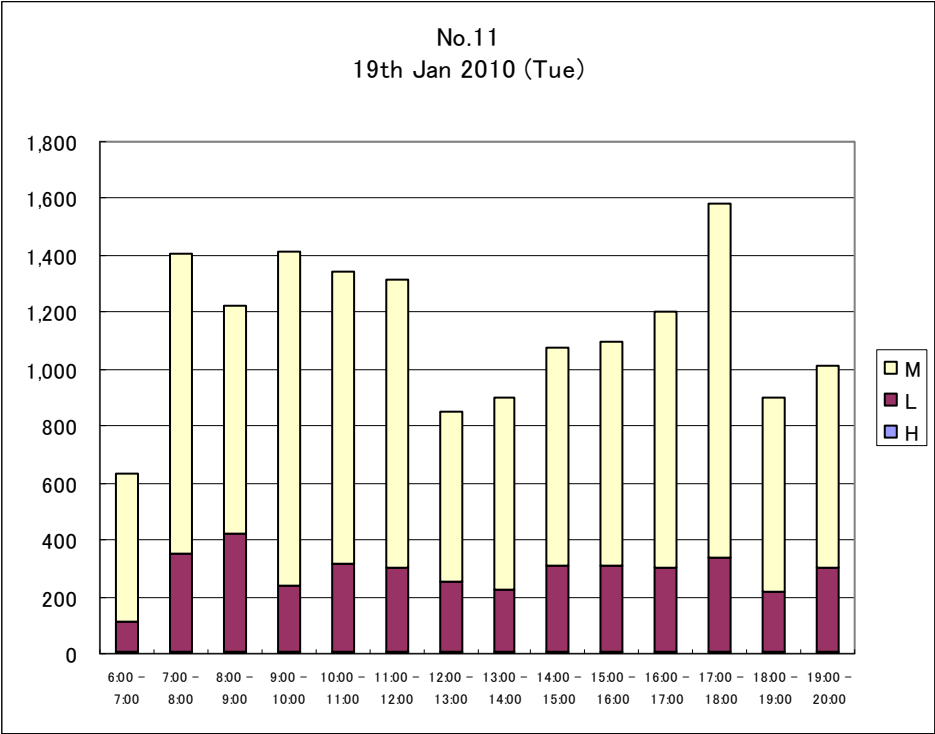


**Table 3.6.8 Time Distribution of Traffic Volume**

19<sup>th</sup> Jan 2010 (Tue)

	No.10				Total	No.11				Total	No.12				Total
	H	L	M	Total		H	L	M	Total		H	L	M	Total	
6:00 – 7:00	9	153	1,019	1,181	6	105	522	633	14	282	1,334	1,630			
7:00 – 8:00	15	374	1,831	2,220	10	342	1,055	1,407	24	718	2,436	3,178			
8:00 – 9:00	11	494	1,364	1,869	7	416	799	1,222	16	788	1,708	2,512			
9:00 – 10:00	25	294	1,005	1,324	4	237	1,173	1,414	13	242	1,081	1,336			
10:00 – 11:00	11	465	1,259	1,735	6	309	1,026	1,341	8	578	1,613	2,199			
11:00 – 12:00	28	562	1,390	1,980	6	298	1,013	1,317	13	521	1,552	2,086			
12:00 – 13:00	21	390	970	1,381	4	250	598	852	29	541	1,685	2,255			
13:00 – 14:00	16	377	1,129	1,522	5	222	675	902	22	613	1,713	2,348			
14:00 – 15:00	10	487	1,117	1,614	8	300	766	1,074	28	718	1,381	2,127			
15:00 – 16:00	12	454	996	1,462	5	302	787	1,094	20	621	1,872	2,513			
16:00 – 17:00	9	491	1,153	1,653	7	297	896	1,200	15	576	1,528	2,119			
17:00 – 18:00	17	690	1,968	2,675	8	327	1,249	1,584	20	563	1,952	2,535			
18:00 – 19:00	17	615	1,274	1,906	4	217	679	900	27	645	1,679	2,351			
19:00 – 20:00	8	356	696	1,060	7	296	706	1,009	21	461	1,072	1,554			
Total (14hrs)	209	6,202	17,171	23,582	87	3,918	11,944	15,949	270	7,867	22,606	30,743			

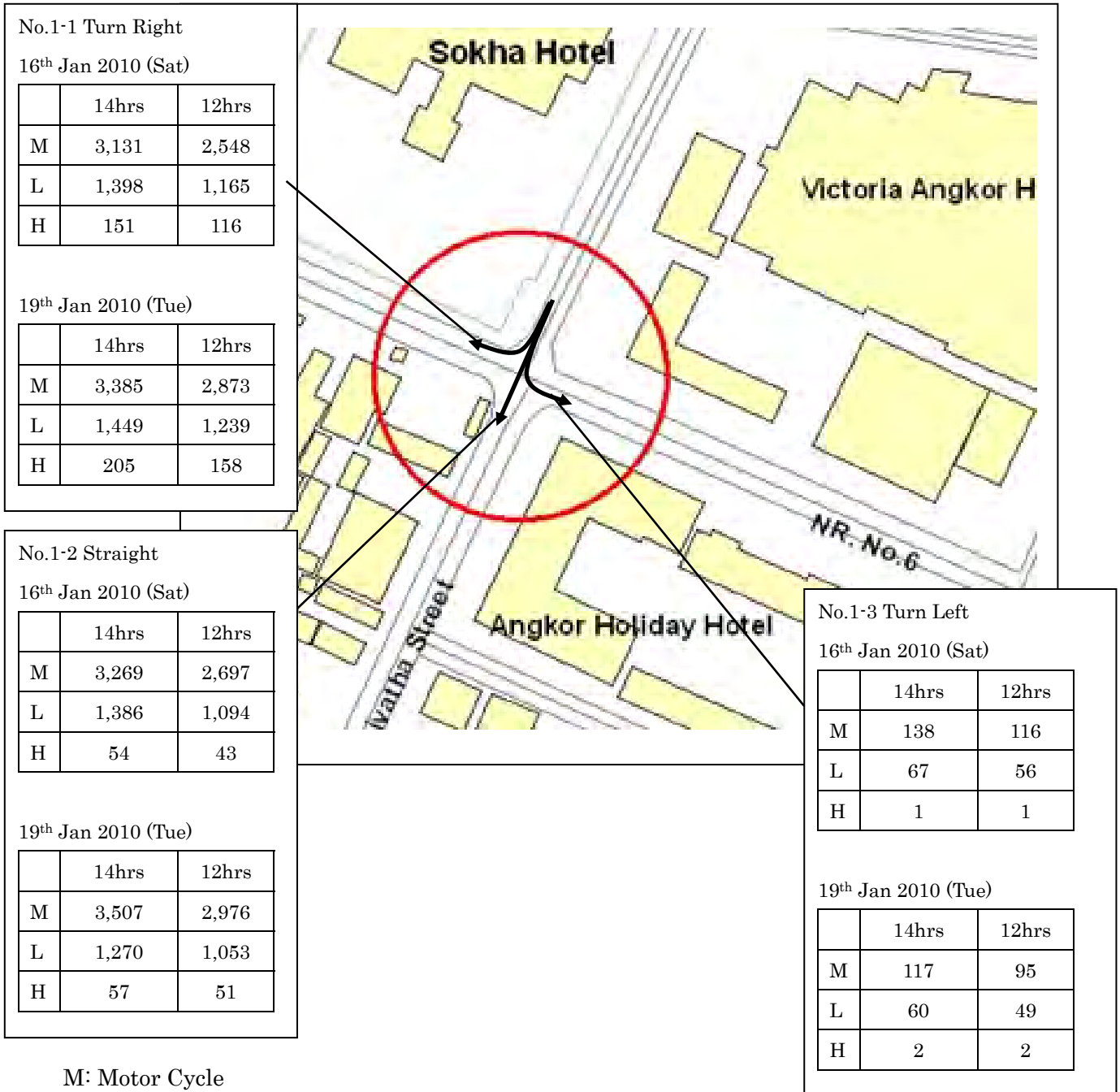






6) Data on each direction

No.1 : Intersection between National Road No.6 and Shivatha Street

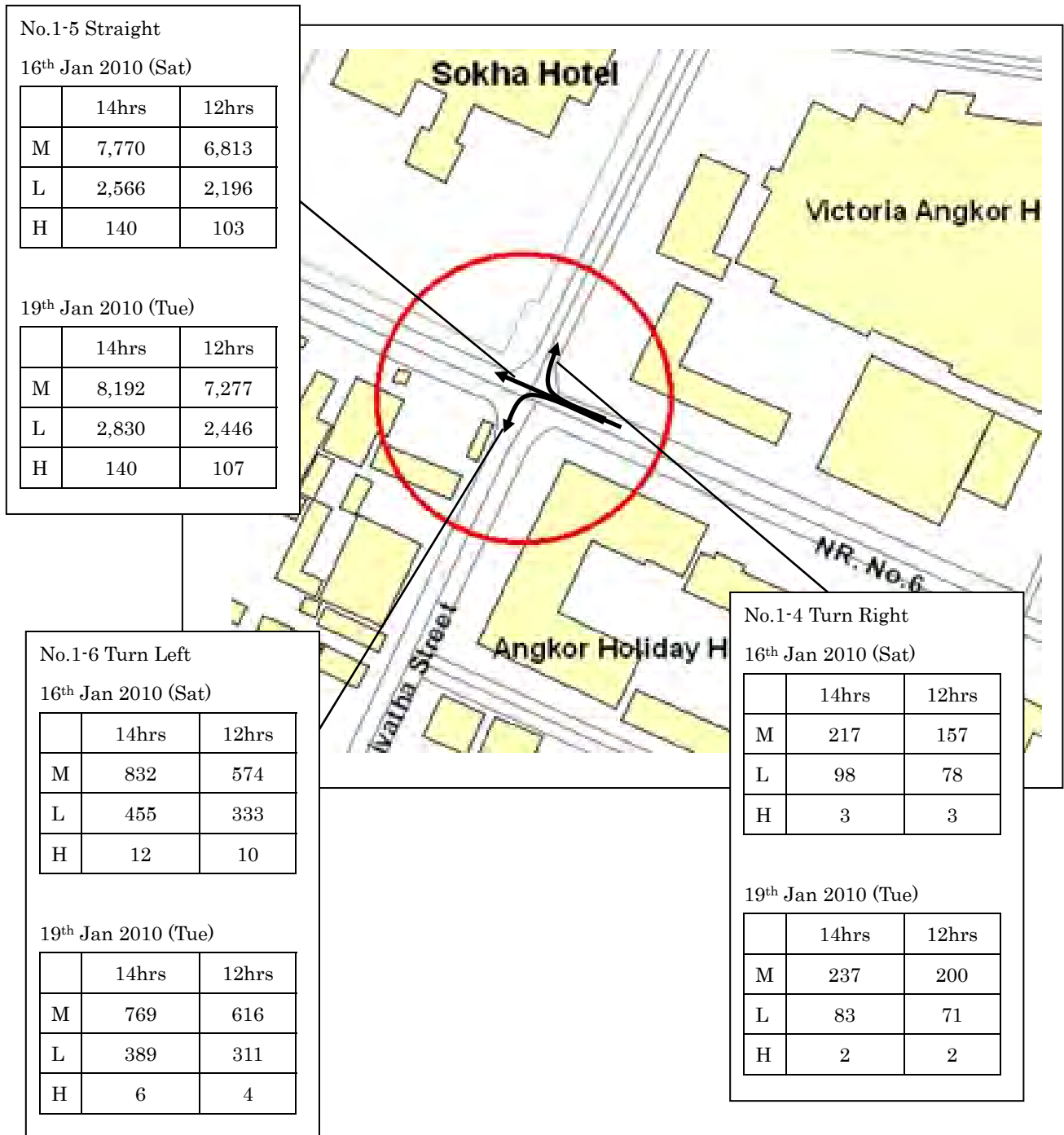


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.1 : Intersection between National Road No.6 and Shivatha Street

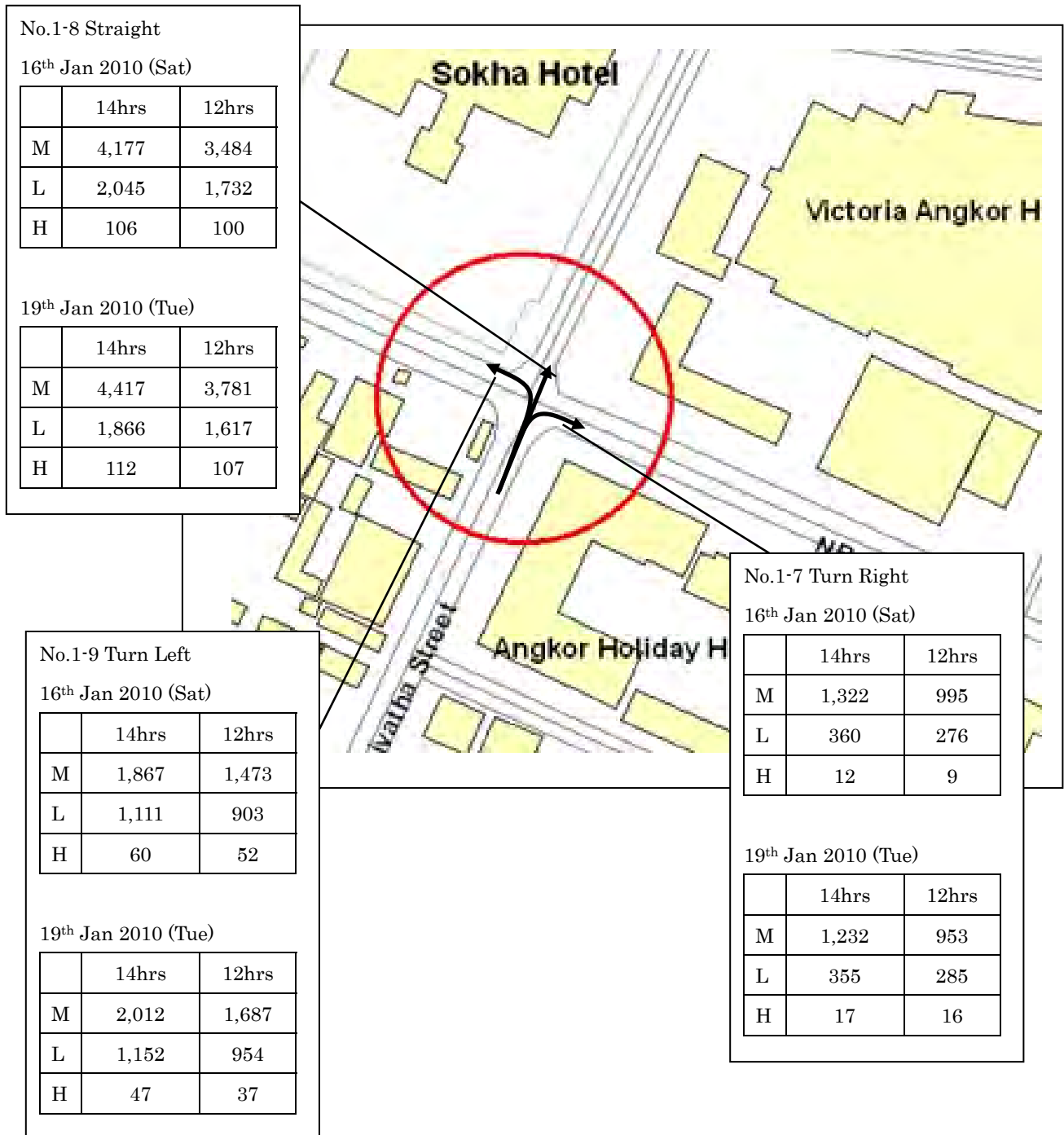


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.1 : Intersection between National Road No.6 and Shivatha Street

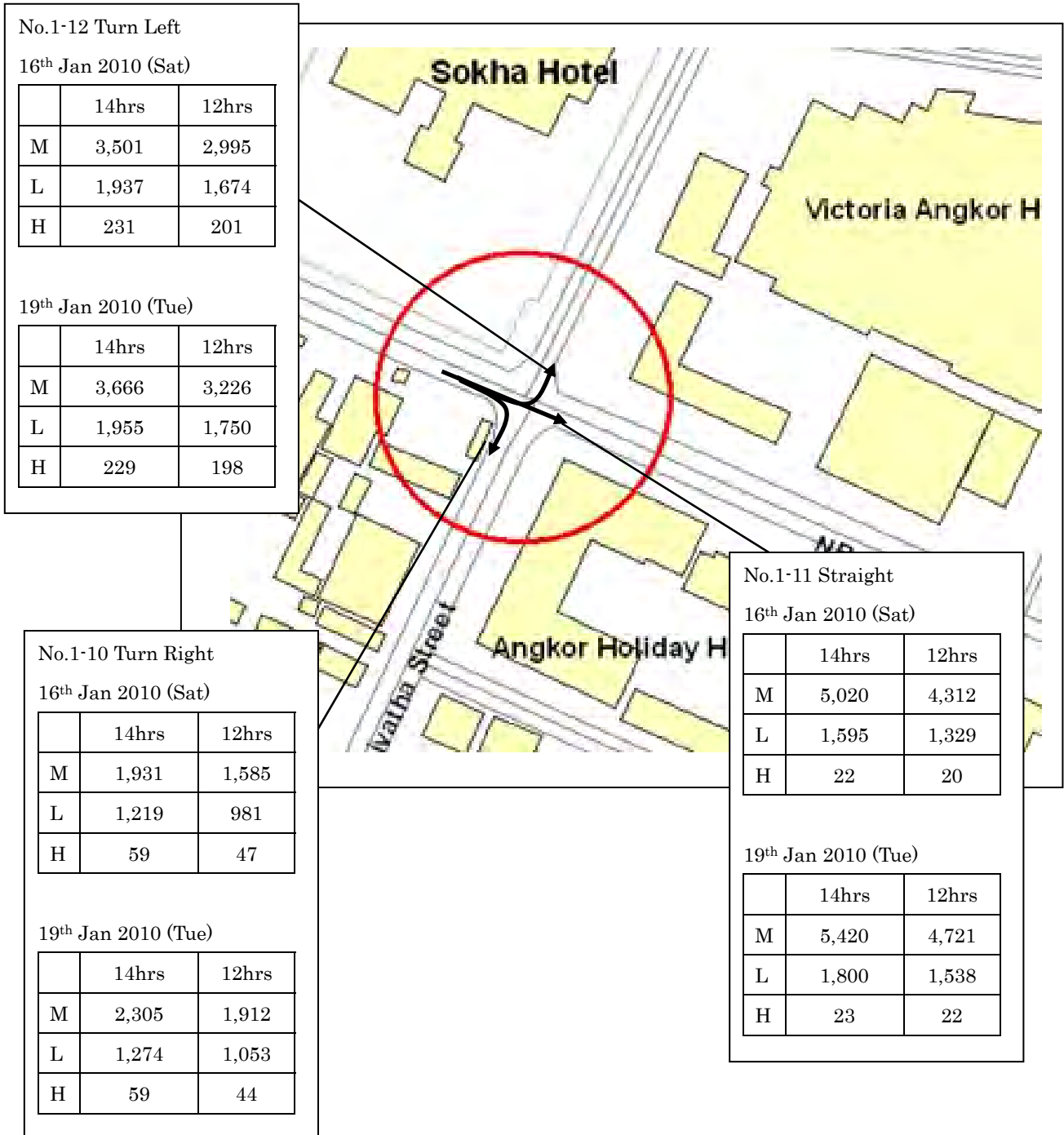


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.1 : Intersection between National Road No.6 and Shivatha Street

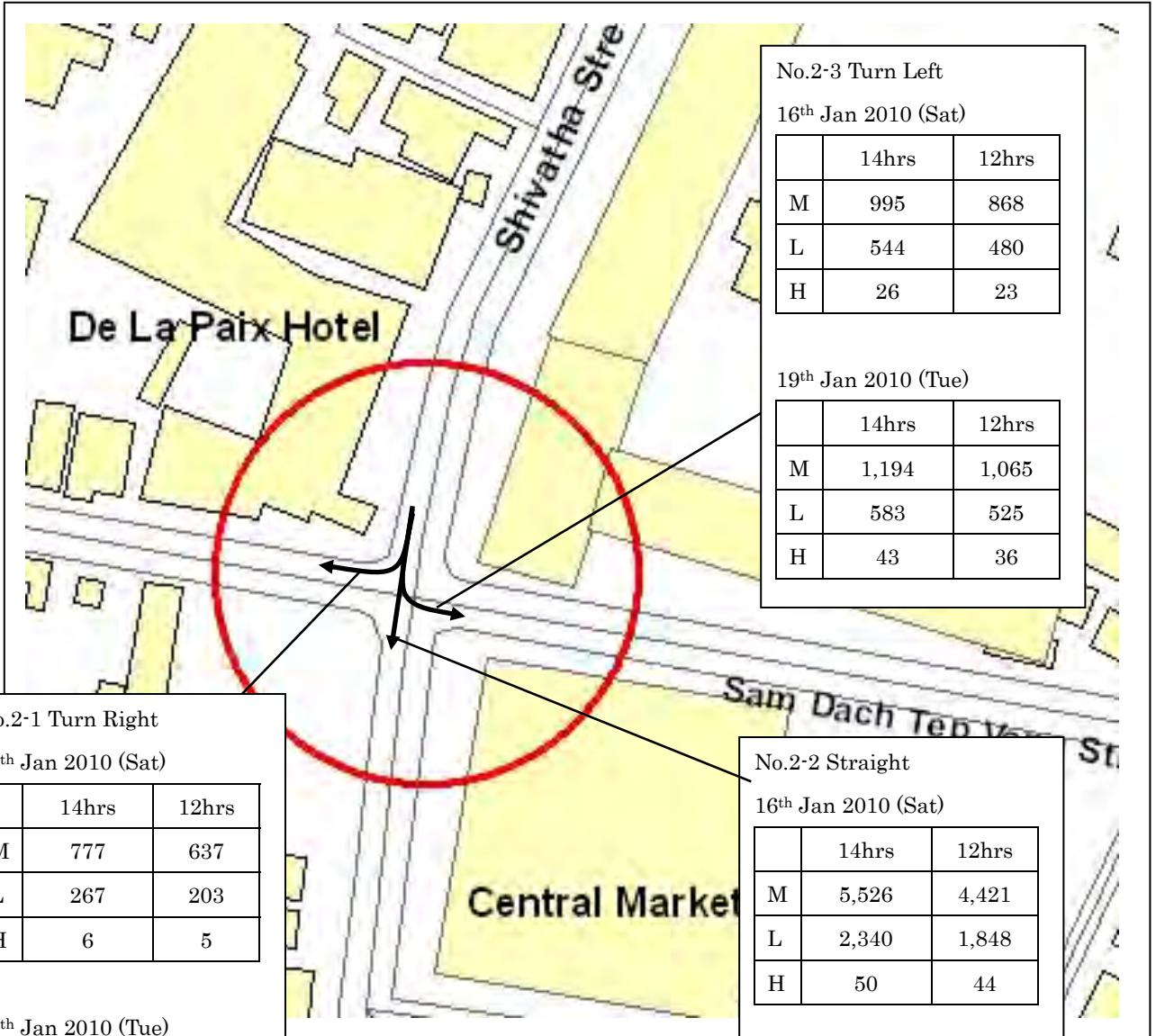


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

**No.2 : Intersection between Sam Dach Tep Vong Street and Shivatha Street**



**No.2-3 Turn Left**  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	995	868
L	544	480
H	26	23

19<sup>th</sup> Jan 2010 (Tue)

	14hrs	12hrs
M	1,194	1,065
L	583	525
H	43	36

**No.2-1 Turn Right**  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	777	637
L	267	203
H	6	5

19<sup>th</sup> Jan 2010 (Tue)

	14hrs	12hrs
M	894	728
L	243	197
H	9	7

**No.2-2 Straight**  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	5,526	4,421
L	2,340	1,848
H	50	44

19<sup>th</sup> Jan 2010 (Tue)

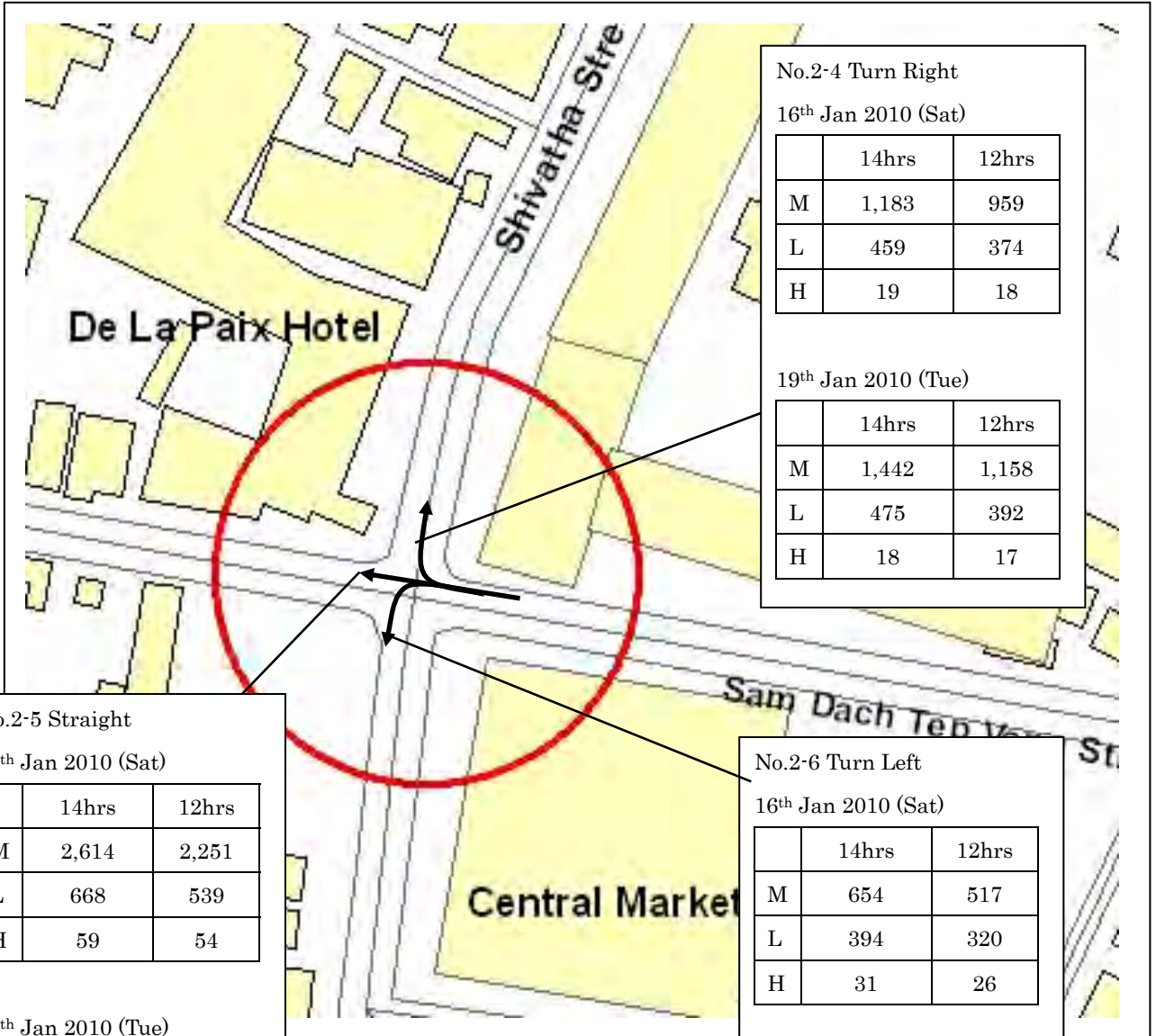
	14hrs	12hrs
M	6,248	5,061
L	2,403	1,949
H	102	88

M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

**No.2 : Intersection between Sam Dach Tep Vong Street and Shivatha Street**



**No.2-4 Turn Right**  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	1,183	959
L	459	374
H	19	18

19<sup>th</sup> Jan 2010 (Tue)

	14hrs	12hrs
M	1,442	1,158
L	475	392
H	18	17

**No.2-5 Straight**  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	2,614	2,251
L	668	539
H	59	54

19<sup>th</sup> Jan 2010 (Tue)

	14hrs	12hrs
M	3,138	2,654
L	762	640
H	68	58

**No.2-6 Turn Left**  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	654	517
L	394	320
H	31	26

19<sup>th</sup> Jan 2010 (Tue)

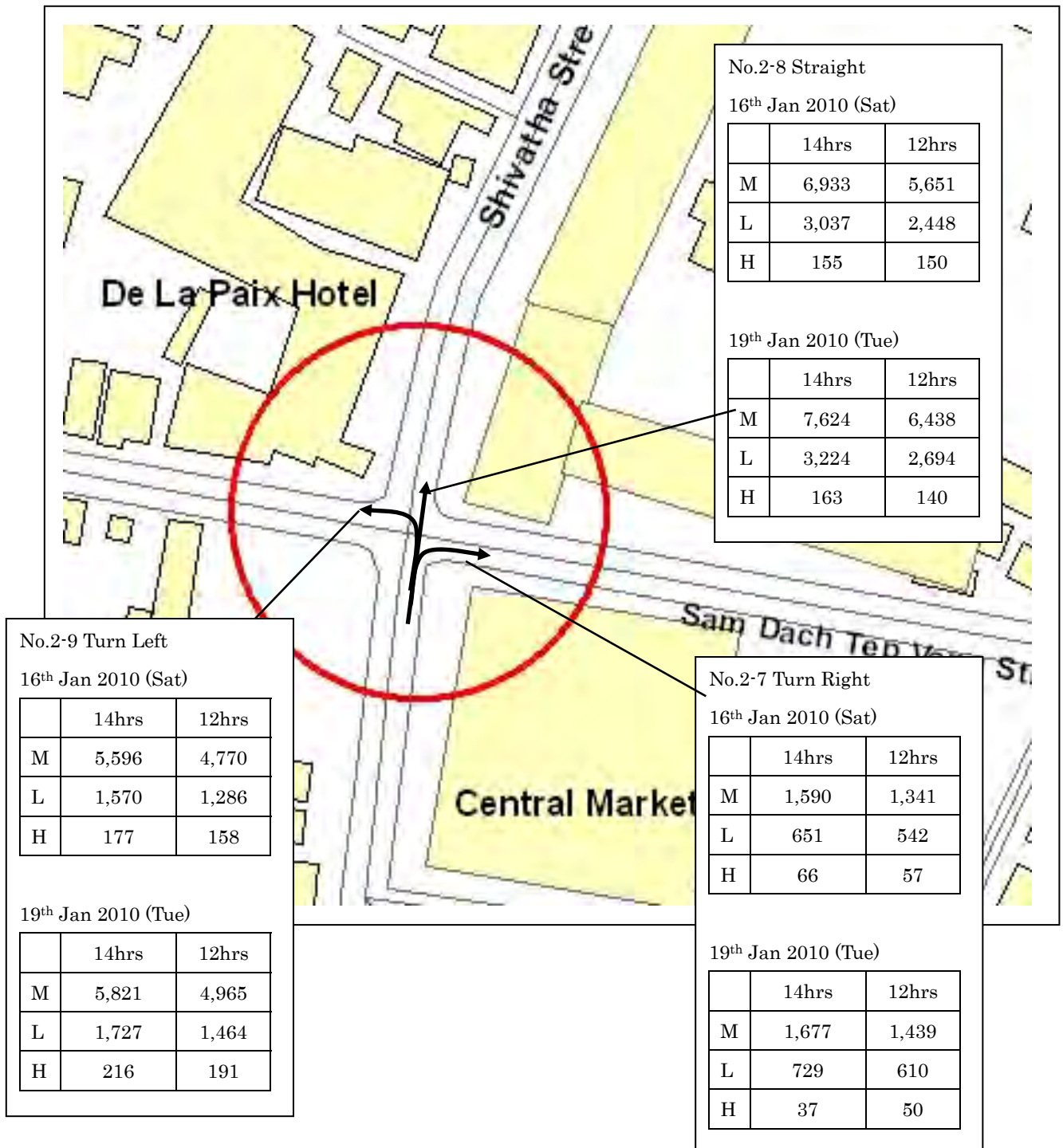
	14hrs	12hrs
M	674	542
L	428	369
H	34	31

M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.2 : Intersection between Sam Dach Tep Vong Street and Shivatha Street

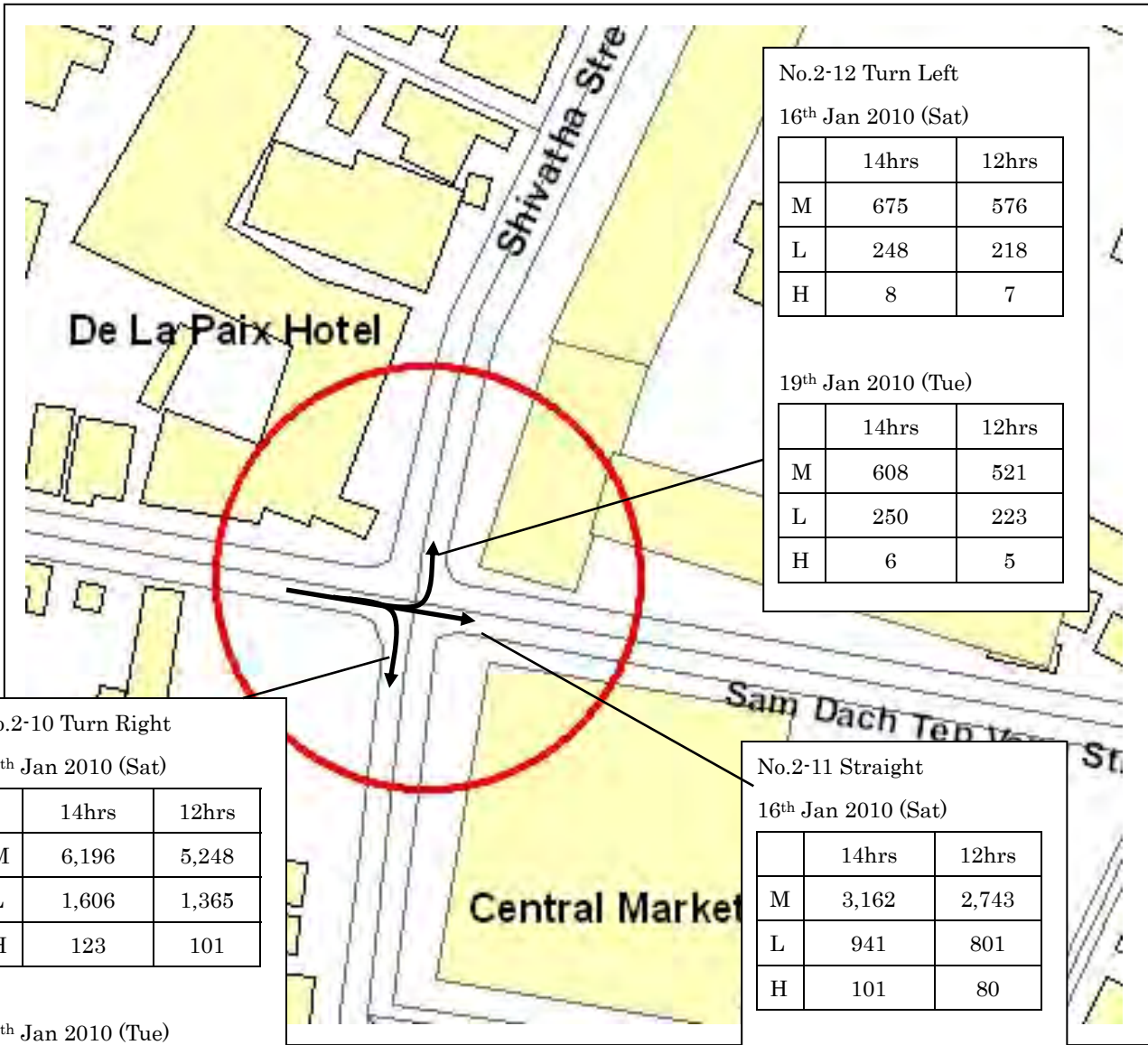


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

No.2 : Intersection between Sam Dach Tep Vong Street and Shivatha Street



No.2-12 Turn Left  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	675	576
L	248	218
H	8	7

19<sup>th</sup> Jan 2010 (Tue)

	14hrs	12hrs
M	608	521
L	250	223
H	6	5

No.2-10 Turn Right  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	6,196	5,248
L	1,606	1,365
H	123	101

19<sup>th</sup> Jan 2010 (Tue)

	14hrs	12hrs
M	6,693	5,736
L	1,880	1,583
H	116	87

No.2-11 Straight  
16<sup>th</sup> Jan 2010 (Sat)

	14hrs	12hrs
M	3,162	2,743
L	941	801
H	101	80

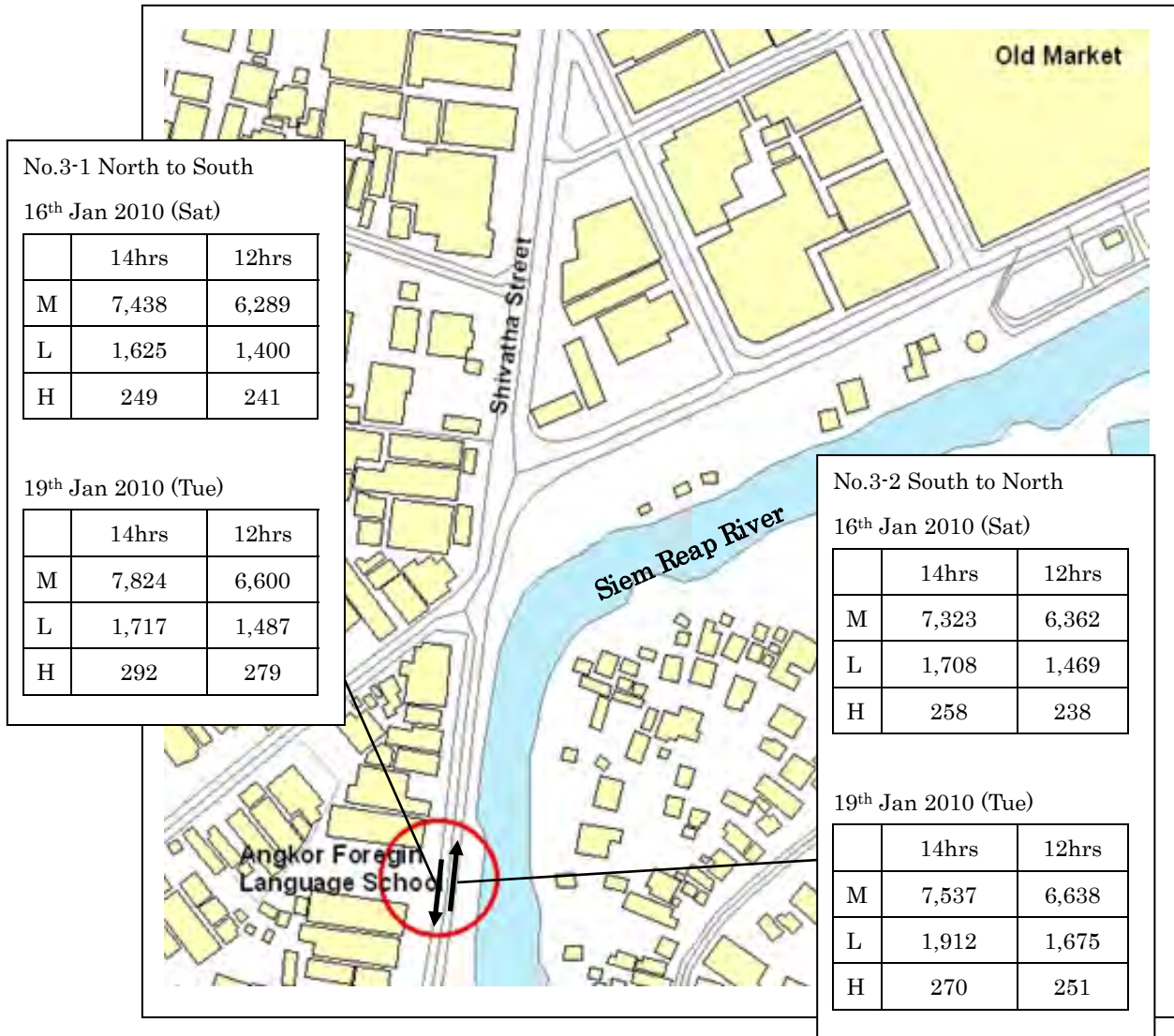
19<sup>th</sup> Jan 2010 (Tue)

	14hrs	12hrs
M	3,853	3,383
L	1,083	947
H	80	65

M: Motor Cycle  
 L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)  
 H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)



### No.3 : Shivatha Street on the south of town

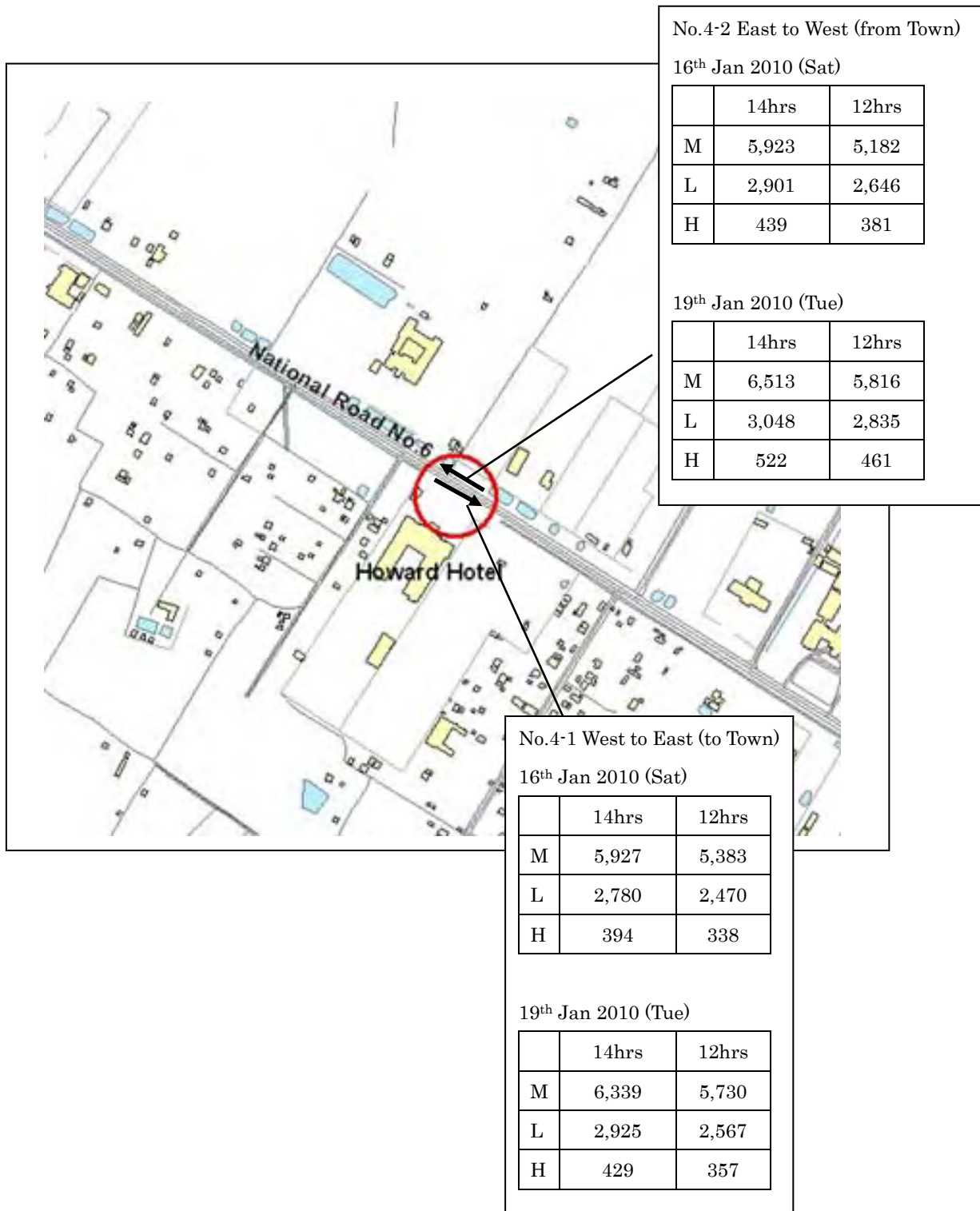


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.4: National Road No.6 on the west of town near Howard Hotel

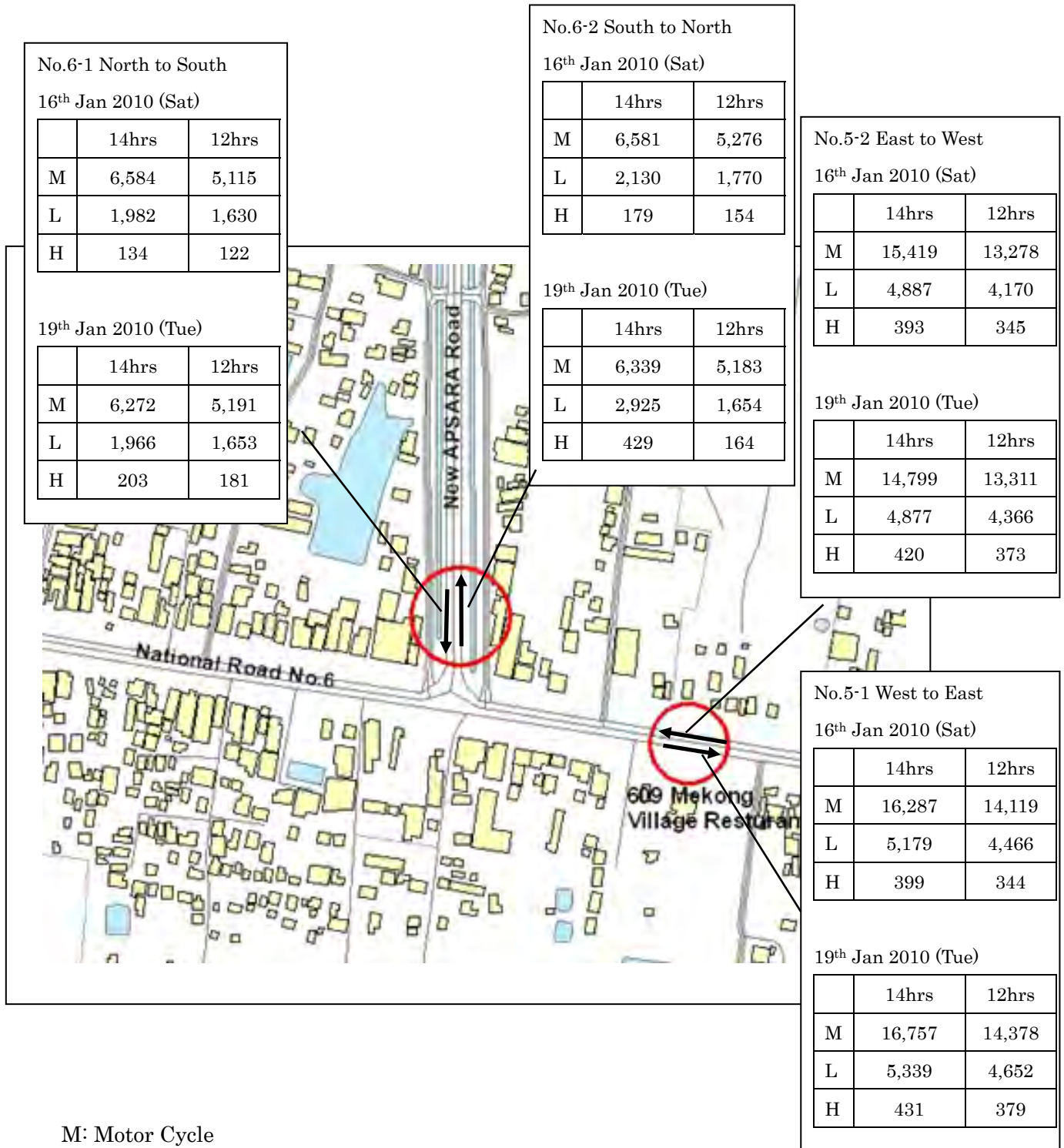


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

**No.5: National Road No.6 on the east of town near New APSARA Road**  
**Road**  
**No.6: New APSARA Road**

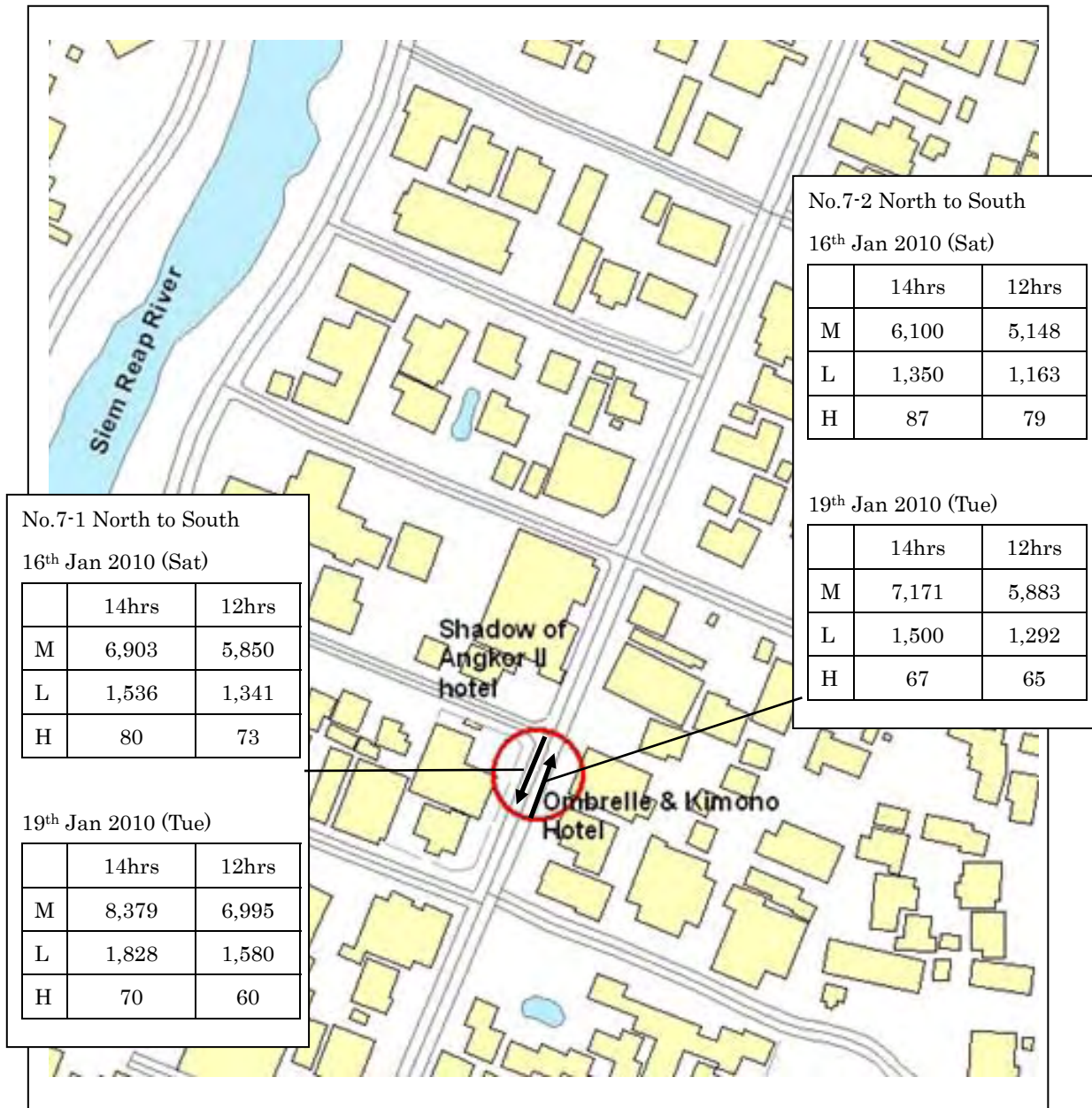


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.7: Achya Ham Chiev Street (Wat Bo Street )

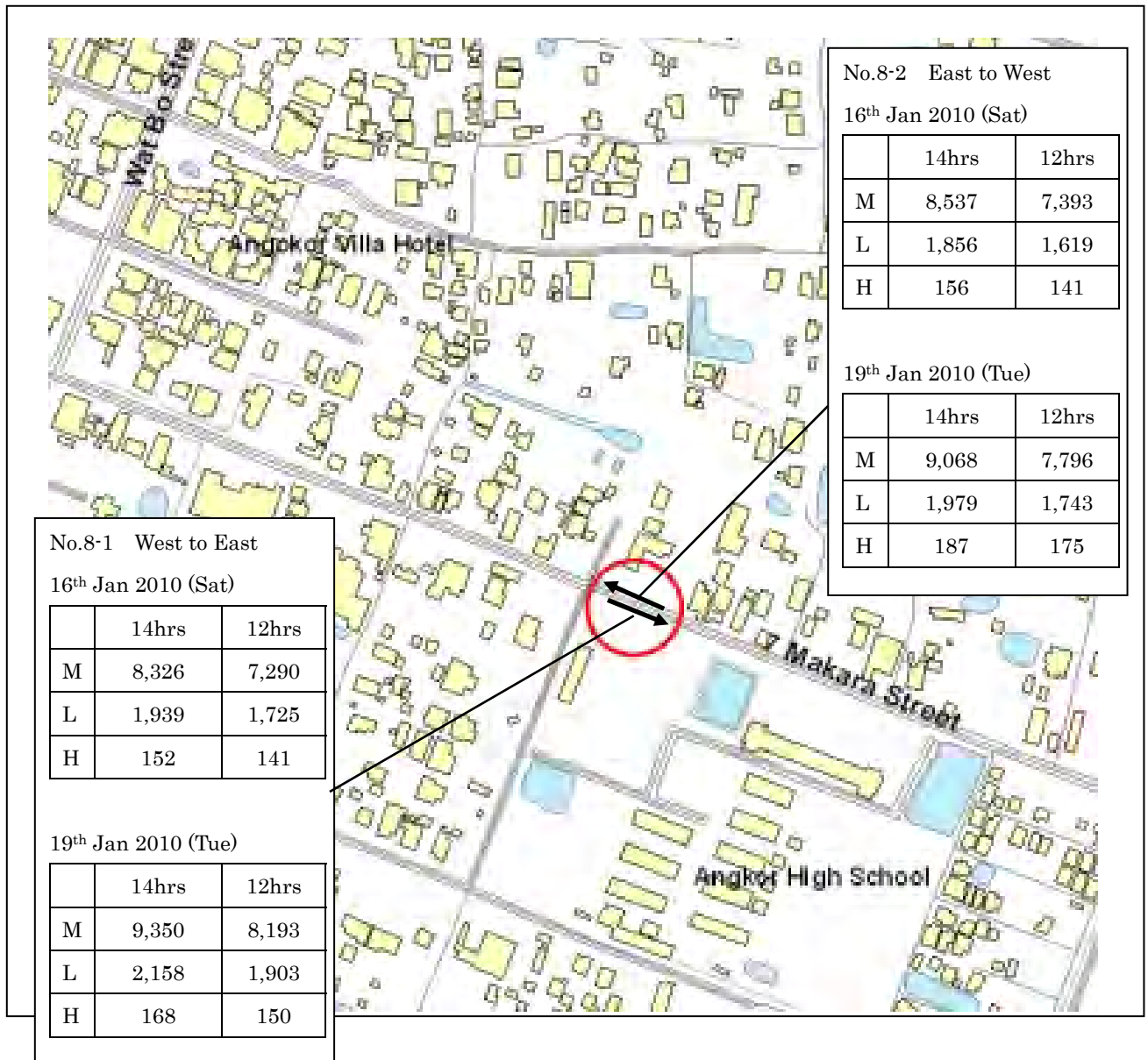


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.8: 7 Makara Street near Angkor High School

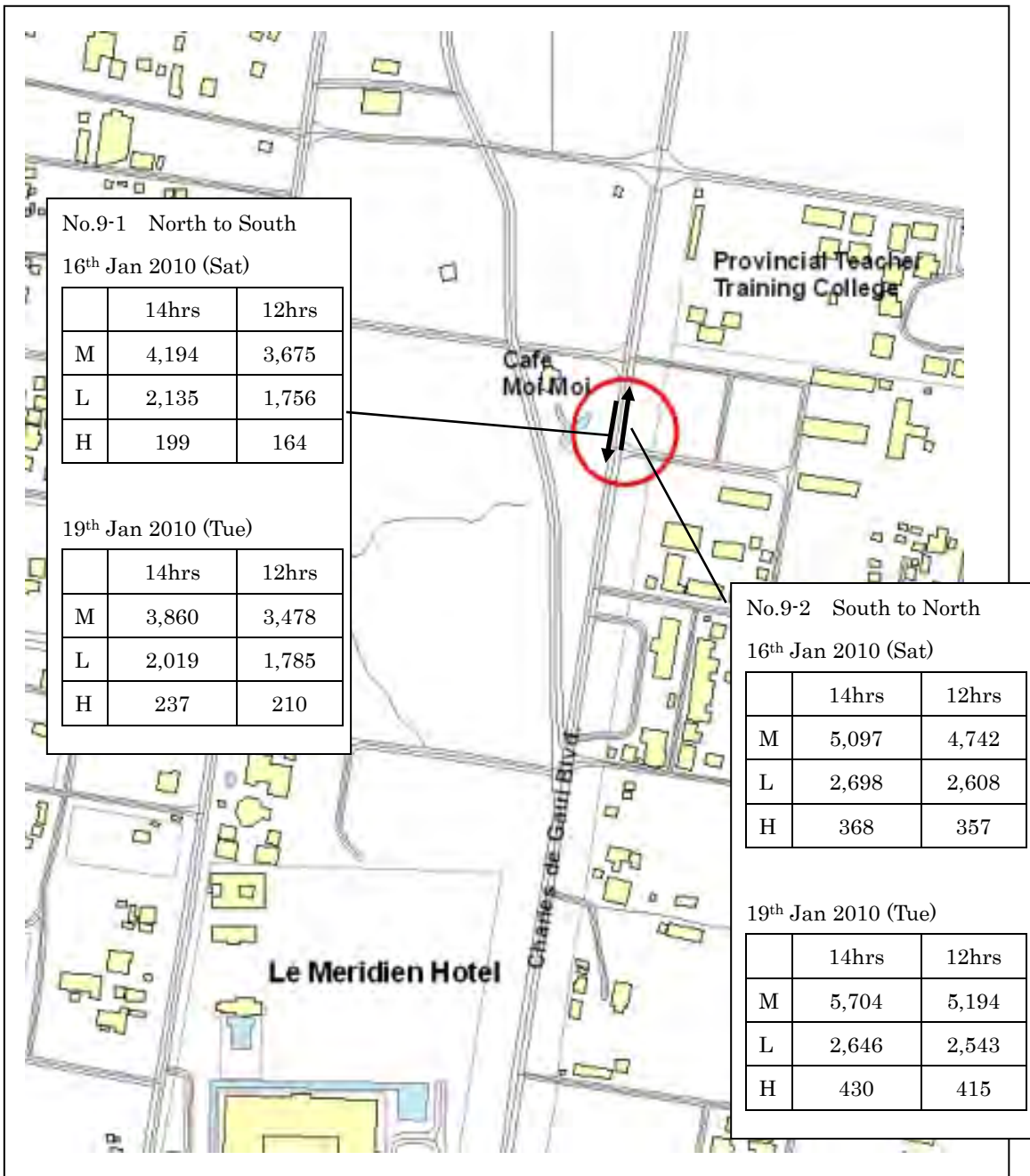


M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

## No.9: Charles de Gaul Blvd (Angkor Wat Street) near Provincial Teacher Training College



M: Motor Cycle

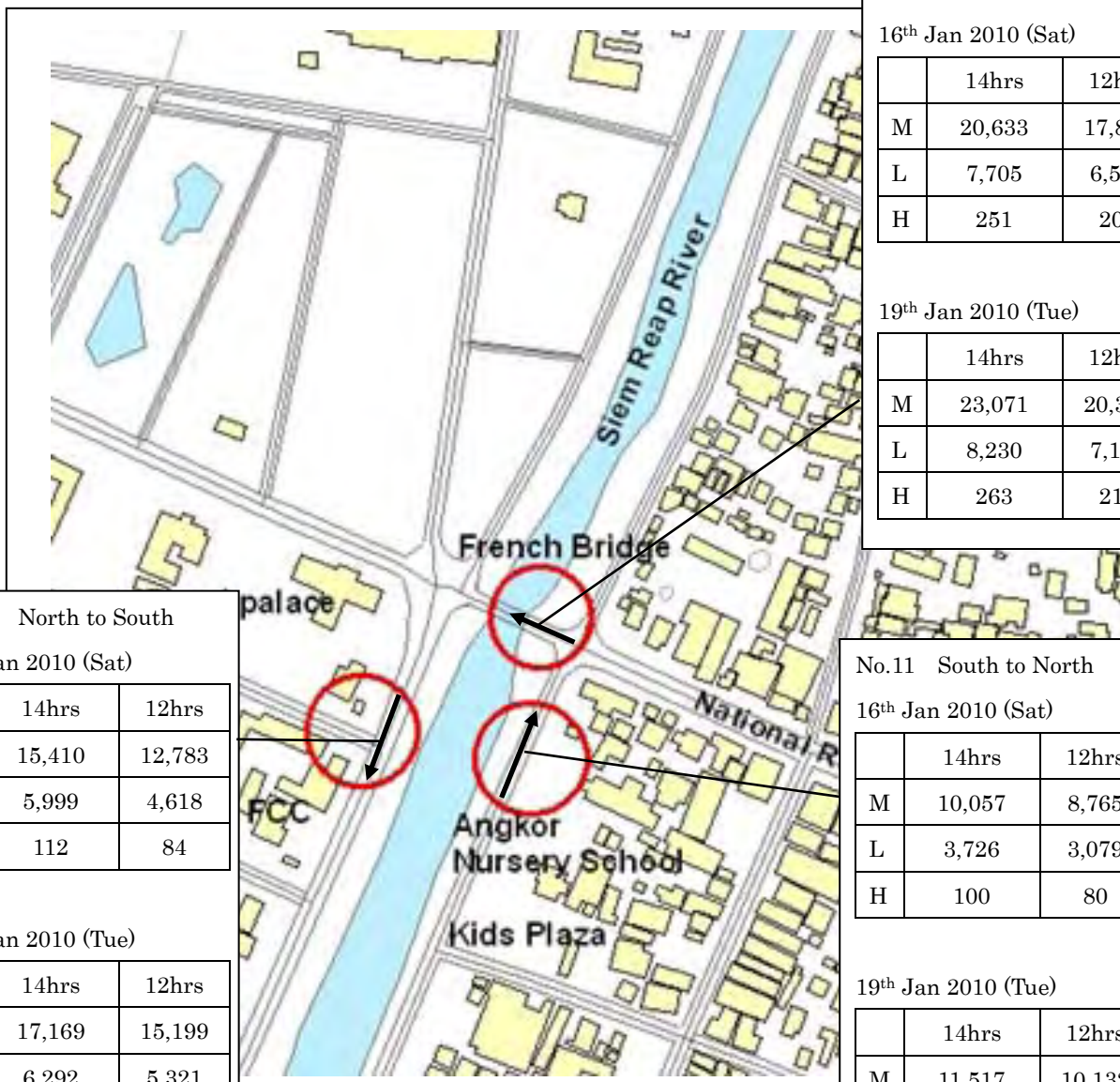
L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

No.10: Pou Kambour Ave  
(riverside road on west of Siem Reap River)

No.11: Acha Sva Street  
(river side road on the east of Siem Reap River) near  
Angkor Nursery School

No.12: National Road No.6 on French Bridge



No.10 North to South		
16 <sup>th</sup> Jan 2010 (Sat)		
	14hrs	12hrs
M	15,410	12,783
L	5,999	4,618
H	112	84

19 <sup>th</sup> Jan 2010 (Tue)		
	14hrs	12hrs
M	17,169	15,199
L	6,292	5,321
H	188	163

No.12 East to West		
16 <sup>th</sup> Jan 2010 (Sat)		
	14hrs	12hrs
M	20,633	17,864
L	7,705	6,517
H	251	206

19 <sup>th</sup> Jan 2010 (Tue)		
	14hrs	12hrs
M	23,071	20,320
L	8,230	7,124
H	263	215

No.11 South to North		
16 <sup>th</sup> Jan 2010 (Sat)		
	14hrs	12hrs
M	10,057	8,765
L	3,726	3,079
H	100	80

19 <sup>th</sup> Jan 2010 (Tue)		
	14hrs	12hrs
M	11,517	10,132
L	4,022	3,509
H	88	77

M: Motor Cycle

L: Light Vehicle (Tuku-tku, Normal Car, Mini Bus, Pick Up, Motor Trailer)

H: Heavy Vehicle (Bus, Truck, Trailer, Special Vehicle)

Traffic Survey Result 2010  
16-Jan-10 (Sat)

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.1-1 north to west			No.1-2 north to south			No.1-3 north to east			No.1-4 east to north			No.1-5 east to west			No.1-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	2	13	52	1	10	42	1	1	2	0	2	5	0	43	142	0	2	13
6:30 - 7:00	3	31	137	1	27	131	1	2	6	0	2	7	0	100	328	0	9	23
7:00 - 7:30	7	85	258	2	70	291	1	7	18	0	5	16	14	165	699	0	22	36
7:30 - 8:00	7	144	407	2	122	447	1	8	22	0	9	26	16	292	984	0	35	70
8:00 - 8:30	7	213	533	4	176	637	1	12	29	0	10	31	20	409	1,283	0	51	99
8:30 - 9:00	7	255	645	5	214	722	1	13	29	0	14	40	26	519	1,661	2	71	126
9:00 - 9:30	8	305	764	6	241	842	1	14	31	0	19	44	29	616	1,938	3	76	158
9:30 - 10:00	9	338	846	7	295	964	1	15	35	0	24	48	31	701	2,179	5	93	180
10:00 - 10:30	11	370	936	7	333	1,044	1	17	41	0	30	66	31	796	2,462	5	106	209
10:30 - 11:00	15	413	1,018	9	374	1,133	1	17	45	0	31	78	32	889	2,912	5	124	228
11:00 - 11:30	23	457	1,141	12	423	1,258	1	20	48	0	38	90	37	998	3,193	5	136	245
11:30 - 12:00	30	519	1,255	13	478	1,350	1	22	50	0	40	95	41	1,090	3,419	5	156	259
12:00 - 12:30	47	565	1,341	17	521	1,436	1	26	58	1	44	102	47	1,161	3,606	5	165	290
12:30 - 13:00	61	608	1,457	19	568	1,526	1	28	61	1	49	111	58	1,240	3,850	5	182	312
13:00 - 13:30	73	667	1,542	20	605	1,620	1	31	64	2	50	118	63	1,327	4,016	5	192	326
13:30 - 14:00	77	697	1,623	23	643	1,723	1	32	69	2	51	122	69	1,410	4,248	6	206	344
14:00 - 14:30	82	758	1,735	26	690	1,838	1	35	73	3	56	123	74	1,487	4,464	7	219	371
14:30 - 15:00	85	802	1,820	28	720	1,932	1	36	76	3	57	127	74	1,602	4,902	8	233	397
15:00 - 15:30	88	862	1,925	29	768	2,034	1	39	80	3	60	131	79	1,705	5,136	9	255	425
15:30 - 16:00	92	924	2,029	32	837	2,138	1	41	88	3	62	132	79	1,800	5,381	9	272	449
16:00 - 16:30	100	976	2,130	35	901	2,251	1	45	95	3	65	135	82	1,910	5,855	9	284	478
16:30 - 17:00	103	1,029	2,229	36	953	2,336	1	51	103	3	69	136	92	1,998	6,080	9	298	510
17:00 - 17:30	109	1,091	2,390	39	1,008	2,489	1	53	110	3	76	151	95	2,115	6,420	10	319	541
17:30 - 18:00	116	1,165	2,548	43	1,094	2,697	1	56	116	3	78	157	103	2,196	6,813	10	333	574
18:00 - 18:30	139	1,252	2,722	47	1,220	2,918	1	61	124	3	87	173	113	2,299	7,101	10	366	640
18:30 - 19:00	144	1,336	2,889	53	1,314	3,076	1	66	133	3	90	184	121	2,411	7,385	10	399	713
19:00 - 19:30	149	1,374	3,004	54	1,350	3,172	1	67	134	3	95	202	135	2,492	7,591	10	432	777
19:30 - 20:00	151	1,398	3,131	54	1,386	3,269	1	67	138	3	98	217	140	2,566	7,770	12	455	832

12 hrs	No.1-1 north to west			No.1-2 north to south			No.1-3 north to east			No.1-4 east to north			No.1-5 east to west			No.1-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	116	1,165	2,548	43	1,094	2,697	1	56	116	3	78	157	103	2,196	6,813	10	333	574



Traffic Survey Result 2010  
16-Jan-10 (Sat)

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.1-7 south to east			No.1-8 south to north			No.1-9 south to west			No.1-10 west to south			No.1-11 west to east			No.1-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	0	4	25	0	21	74	0	9	33	1	17	53	0	20	94	4	21	70
6:30 - 7:00	0	9	43	5	45	177	2	30	71	1	41	113	0	50	312	15	53	220
7:00 - 7:30	2	16	73	9	91	366	3	56	123	3	82	208	0	105	552	25	110	375
7:30 - 8:00	2	28	120	16	166	512	7	90	182	8	134	321	0	154	768	48	204	568
8:00 - 8:30	2	41	151	26	286	683	11	136	249	14	170	404	5	219	915	68	300	684
8:30 - 9:00	2	53	179	39	382	812	11	170	295	18	227	485	6	288	1,070	82	413	831
9:00 - 9:30	2	72	228	45	487	960	13	216	358	19	280	555	6	353	1,201	89	496	973
9:30 - 10:00	2	83	279	48	581	1,091	14	260	431	20	317	612	6	412	1,348	93	581	1,096
10:00 - 10:30	2	96	320	50	671	1,229	16	297	499	21	362	656	6	478	1,528	97	643	1,198
10:30 - 11:00	2	110	364	55	772	1,413	19	342	571	23	399	703	7	530	1,711	102	704	1,306
11:00 - 11:30	2	116	389	56	840	1,572	21	380	636	24	435	745	10	586	1,881	104	762	1,440
11:30 - 12:00	3	123	414	57	904	1,727	24	433	697	27	468	788	11	639	2,005	112	833	1,554
12:00 - 12:30	5	132	459	61	973	1,857	27	471	779	27	491	831	11	679	2,200	119	895	1,654
12:30 - 13:00	6	140	502	62	1,016	1,976	27	506	811	27	533	891	12	734	2,400	129	953	1,769
13:00 - 13:30	6	159	536	64	1,079	2,103	28	535	864	29	570	952	12	790	2,568	139	1,030	1,864
13:30 - 14:00	7	167	579	70	1,150	2,215	29	569	920	30	611	1,017	13	825	2,749	144	1,109	1,960
14:00 - 14:30	7	179	620	72	1,201	2,326	34	606	988	31	646	1,113	13	884	2,962	154	1,189	2,086
14:30 - 15:00	7	193	670	76	1,282	2,436	35	649	1,057	33	707	1,194	16	943	3,144	162	1,273	2,197
15:00 - 15:30	7	208	718	84	1,347	2,576	38	690	1,125	36	761	1,262	17	1,014	3,319	174	1,329	2,313
15:30 - 16:00	7	218	766	90	1,411	2,729	39	726	1,179	37	792	1,322	18	1,061	3,462	183	1,406	2,427
16:00 - 16:30	8	235	830	93	1,479	2,878	42	779	1,249	40	859	1,393	18	1,121	3,677	190	1,500	2,564
16:30 - 17:00	8	248	891	98	1,583	3,042	43	816	1,310	40	884	1,442	18	1,159	3,827	192	1,554	2,647
17:00 - 17:30	9	261	947	100	1,672	3,301	44	867	1,409	44	929	1,508	19	1,230	4,071	197	1,609	2,822
17:30 - 18:00	9	276	995	100	1,732	3,484	52	903	1,473	47	981	1,585	20	1,329	4,312	201	1,674	2,995
18:00 - 18:30	10	294	1,083	101	1,817	3,700	55	945	1,582	47	1,037	1,700	21	1,403	4,546	202	1,741	3,135
18:30 - 19:00	10	305	1,147	104	1,879	3,828	58	987	1,661	53	1,108	1,773	21	1,492	4,735	209	1,810	3,293
19:00 - 19:30	12	332	1,247	106	1,989	4,022	59	1,060	1,768	59	1,165	1,850	21	1,548	4,892	218	1,868	3,391
19:30 - 20:00	12	360	1,322	106	2,045	4,177	60	1,111	1,867	59	1,219	1,931	22	1,595	5,020	231	1,937	3,501

12 hrs	No.1-7 south to east			No.1-8 south to north			No.1-9 south to west			No.1-10 west to south			No.1-11 west to east			No.1-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	9	276	995	100	1,732	3,484	52	903	1,473	47	981	1,585	20	1,329	4,312	201	1,674	2,995

Major Intersection (No.1) Sub Total

16-Jan-10 Sat

	H	L	M	Total	H	L	M	Total
06:00 - 20:00 (14hrs)	851	14,237	33,175	48,263	1.76%	29.50%	68.74%	100.00%
06:00 - 18:00 (12hrs)	705	11,817	27,749	40,271	1.75%	29.34%	68.91%	100.00%

Traffic Survey Result 2010  
16-Jan-10 (Sat)

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.2-1 north to west			No.2-2 north to south			No.2-3 north to east			No.2-4 east to north			No.2-5 east to west			No.2-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	0	2	2	2	25	69	1	7	10	0	2	9	1	6	38	0	2	7
6:30 - 7:00	0	9	17	2	57	167	2	18	43	0	12	30	5	25	140	0	7	22
7:00 - 7:30	0	14	38	2	126	380	5	41	78	0	20	65	5	47	248	0	12	34
7:30 - 8:00	0	16	45	5	183	583	5	57	112	2	39	88	8	63	313	0	26	51
8:00 - 8:30	0	30	78	11	361	985	5	84	161	2	55	118	13	80	373	2	41	64
8:30 - 9:00	0	39	102	14	444	1,203	8	96	180	4	74	158	15	104	449	3	59	82
9:00 - 9:30	0	50	122	14	460	1,256	8	107	222	5	86	191	17	121	522	5	70	89
9:30 - 10:00	0	60	139	16	541	1,398	9	123	247	7	101	246	18	145	623	5	75	95
10:00 - 10:30	1	71	174	16	630	1,583	11	142	281	7	129	290	19	171	725	6	99	129
10:30 - 11:00	2	80	201	17	713	1,761	13	162	318	8	153	355	20	196	866	6	121	174
11:00 - 11:30	2	92	241	19	796	1,949	13	182	359	8	169	410	21	227	997	8	135	199
11:30 - 12:00	3	100	269	23	873	2,103	15	211	391	8	183	442	23	251	1,108	9	145	234
12:00 - 12:30	3	105	303	23	946	2,285	18	228	423	9	199	487	28	277	1,186	11	156	261
12:30 - 13:00	4	112	335	25	1,031	2,453	19	241	449	9	213	524	35	295	1,282	13	170	286
13:00 - 13:30	4	125	364	28	1,090	2,586	19	258	479	9	226	560	36	318	1,365	18	188	314
13:30 - 14:00	4	135	387	28	1,165	2,751	22	283	508	10	240	601	37	349	1,423	18	196	330
14:00 - 14:30	5	141	412	30	1,254	2,934	23	293	542	12	261	651	39	372	1,541	18	211	348
14:30 - 15:00	5	150	444	30	1,330	3,119	23	309	584	14	284	681	43	391	1,614	21	225	368
15:00 - 15:30	5	155	473	33	1,421	3,294	23	331	621	15	293	716	47	423	1,705	22	255	390
15:30 - 16:00	5	160	493	33	1,495	3,435	23	352	655	15	308	750	49	443	1,773	23	269	410
16:00 - 16:30	5	166	512	34	1,593	3,633	23	367	690	16	324	786	51	462	1,880	23	279	433
16:30 - 17:00	5	180	548	35	1,679	3,842	24	393	718	16	340	840	52	489	1,986	23	288	448
17:00 - 17:30	5	187	593	40	1,753	4,081	24	421	756	16	355	900	52	511	2,144	26	304	475
17:30 - 18:00	5	203	637	44	1,848	4,421	24	444	801	18	374	959	54	539	2,251	26	320	517
18:00 - 18:30	6	218	674	44	1,971	4,795	24	474	862	18	399	1,020	54	580	2,346	27	344	550
18:30 - 19:00	6	236	710	48	2,131	5,076	25	498	911	19	426	1,087	56	609	2,460	28	366	593
19:00 - 19:30	6	261	746	49	2,240	5,330	25	523	957	19	441	1,138	57	638	2,557	30	381	626
19:30 - 20:00	6	267	777	50	2,340	5,526	26	544	995	19	459	1,183	59	668	2,614	31	394	654

12 hrs	No.2-1 north to west			No.2-2 north to south			No.2-3 north to east			No.2-4 east to north			No.2-5 east to west			No.2-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	5	203	637	44	1,848	4,421	24	444	801	18	374	959	54	539	2,251	26	320	517

Traffic Survey Result 2010  
16-Jan-10 (Sat)

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.2-7 south to east			No.2-8 south to north			No.2-9 south to west			No.2-10 west to south			No.2-11 west to east			No.2-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	2	10	40	0	41	130	2	17	75	0	21	88	1	8	61	0	2	1
6:30 - 7:00	6	22	104	6	89	323	9	42	221	2	52	256	4	48	230	1	11	16
7:00 - 7:30	7	44	168	16	179	552	22	90	412	3	94	517	10	78	416	1	15	32
7:30 - 8:00	11	69	217	27	285	800	31	144	568	5	166	786	14	111	539	1	29	62
8:00 - 8:30	13	93	264	39	399	1,055	37	211	737	12	250	1,046	17	168	662	1	46	93
8:30 - 9:00	16	128	315	49	525	1,331	40	285	974	18	327	1,300	20	192	753	3	63	117
9:00 - 9:30	16	154	385	50	662	1,585	48	326	1,190	25	402	1,546	23	239	849	3	73	133
9:30 - 10:00	17	180	441	58	761	1,814	55	372	1,388	28	463	1,752	30	278	945	3	84	143
10:00 - 10:30	21	210	514	64	888	2,040	65	441	1,665	33	518	2,001	35	312	1,060	3	89	166
10:30 - 11:00	23	232	587	67	1,026	2,331	74	494	1,946	36	569	2,206	38	347	1,171	3	98	194
11:00 - 11:30	25	257	660	71	1,130	2,550	79	538	2,207	40	620	2,426	41	383	1,262	3	103	216
11:30 - 12:00	28	269	710	75	1,239	2,770	88	615	2,432	45	653	2,608	43	407	1,340	3	111	246
12:00 - 12:30	32	294	752	83	1,323	2,974	94	658	2,609	51	703	2,801	43	429	1,438	3	120	270
12:30 - 13:00	33	311	810	83	1,395	3,178	99	704	2,785	56	761	3,004	52	467	1,593	4	135	298
13:00 - 13:30	37	333	862	87	1,439	3,476	109	751	2,964	64	800	3,173	54	498	1,711	4	141	307
13:30 - 14:00	38	359	904	96	1,567	3,583	114	803	3,135	70	849	3,350	58	527	1,841	5	154	319
14:00 - 14:30	43	377	951	108	1,667	3,791	120	853	3,318	73	902	3,603	61	556	2,010	6	162	348
14:30 - 15:00	45	404	1,004	115	1,774	4,007	131	932	3,483	74	945	3,779	66	574	2,121	6	166	360
15:00 - 15:30	48	424	1,053	124	1,892	4,227	135	1,005	3,656	76	1,011	4,017	68	606	2,249	7	173	392
15:30 - 16:00	51	448	1,107	130	1,980	4,459	142	1,052	3,868	83	1,087	4,211	68	634	2,320	7	182	431
16:00 - 16:30	53	468	1,157	136	2,096	4,713	148	1,099	4,039	86	1,165	4,425	73	659	2,410	7	191	472
16:30 - 17:00	54	496	1,216	146	2,217	4,971	154	1,154	4,246	90	1,225	4,624	77	699	2,500	7	203	496
17:00 - 17:30	56	518	1,270	148	2,340	5,341	156	1,220	4,509	94	1,287	4,919	78	735	2,610	7	213	532
17:30 - 18:00	57	542	1,341	150	2,448	5,651	158	1,286	4,770	101	1,365	5,248	80	801	2,743	7	218	576
18:00 - 18:30	60	572	1,421	151	2,599	6,019	166	1,370	4,996	102	1,425	5,557	82	838	2,892	7	228	604
18:30 - 19:00	64	606	1,489	154	2,776	6,351	169	1,458	5,231	107	1,486	5,817	87	891	3,005	7	235	624
19:00 - 19:30	65	630	1,547	155	2,915	6,657	175	1,517	5,430	114	1,554	6,028	95	918	3,098	8	243	648
19:30 - 20:00	66	651	1,590	155	3,027	6,933	177	1,570	5,596	123	1,606	6,196	101	941	3,162	8	248	675

12 hrs	No.2-7 south to east			No.2-8 south to north			No.2-9 south to west			No.2-10 west to south			No.2-11 west to east			No.2-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	57	542	1,341	150	2,448	5,651	158	1,286	4,770	101	1,365	5,248	80	801	2,743	7	218	576

Major Intersection (No.2) Sub Total  
16-Jan-10 Sat

	H	L	M	Total	H	L	M	Total
06:00 - 20:00 (14hrs)	821	12,715	35,901	49,437	1.66%	25.72%	72.62%	100.00%
06:00 - 18:00 (12hrs)	724	10,388	29,915	41,027	1.76%	25.32%	72.92%	100.00%

Traffic Survey Result 2010  
16-Jan-10 (Sat)

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.3-1 north to south			No.3-2 south to north			No.4-1 west to east			No.4-2 east to west			No.5-1 west to east			No.5-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	5	24	93	2	29	159	3	36	176	4	63	246	7	62	233	9	58	334
6:30 - 7:00	14	48	314	13	88	577	7	94	637	12	148	465	27	163	638	29	184	997
7:00 - 7:30	20	77	564	22	177	1,059	16	183	1,045	29	243	681	48	315	1,268	34	339	1,919
7:30 - 8:00	31	137	771	34	257	1,417	27	299	1,355	43	373	900	63	502	1,857	49	512	2,648
8:00 - 8:30	45	201	1,055	51	342	1,724	34	412	1,552	71	506	1,065	83	717	2,479	61	703	3,259
8:30 - 9:00	60	260	1,287	65	423	2,013	47	521	1,770	104	656	1,301	110	940	3,010	79	869	3,830
9:00 - 9:30	72	312	1,523	79	474	2,246	56	613	1,940	121	764	1,542	127	1,149	3,583	88	1,023	4,328
9:30 - 10:00	80	381	1,739	89	519	2,419	68	706	2,108	138	868	1,757	142	1,347	4,187	104	1,234	4,871
10:00 - 10:30	88	440	1,992	101	574	2,625	75	788	2,247	155	1,025	2,040	151	1,544	4,836	121	1,455	5,399
10:30 - 11:00	100	502	2,328	117	643	2,843	88	876	2,433	162	1,085	2,127	157	1,734	5,477	124	1,663	5,847
11:00 - 11:30	109	558	2,667	124	697	3,084	99	974	2,610	177	1,213	2,310	166	2,009	6,316	146	1,874	6,442
11:30 - 12:00	115	611	2,982	134	738	3,323	119	1,075	2,779	187	1,340	2,477	174	2,153	6,748	165	2,033	6,844
12:00 - 12:30	119	651	3,270	142	796	3,536	138	1,153	2,985	197	1,461	2,650	197	2,355	7,411	185	2,221	7,345
12:30 - 13:00	125	716	3,553	147	847	3,808	152	1,295	3,166	208	1,574	2,829	214	2,561	7,964	204	2,374	7,860
13:00 - 13:30	136	772	3,780	150	897	4,065	165	1,396	3,344	224	1,681	3,004	230	2,777	8,519	218	2,518	8,313
13:30 - 14:00	146	807	3,973	156	937	4,278	174	1,504	3,582	236	1,807	3,182	248	3,029	9,169	238	2,716	8,869
14:00 - 14:30	162	890	4,235	175	994	4,565	192	1,596	3,840	253	1,933	3,447	261	3,201	9,684	249	2,878	9,341
14:30 - 15:00	172	955	4,458	186	1,079	4,749	215	1,732	4,091	273	2,046	3,678	278	3,363	10,267	258	3,075	9,946
15:00 - 15:30	187	1,029	4,730	203	1,139	4,999	237	1,884	4,281	289	2,202	3,919	290	3,524	10,798	270	3,249	10,528
15:30 - 16:00	199	1,122	4,977	213	1,205	5,213	245	1,988	4,476	316	2,323	4,114	298	3,668	11,355	288	3,402	10,993
16:00 - 16:30	210	1,199	5,245	222	1,273	5,460	275	2,131	4,675	344	2,408	4,378	306	3,809	11,866	303	3,573	11,463
16:30 - 17:00	221	1,256	5,549	226	1,337	5,767	293	2,245	4,936	363	2,493	4,637	315	3,954	12,446	316	3,776	11,992
17:00 - 17:30	230	1,329	5,939	234	1,415	6,079	312	2,355	5,111	369	2,551	4,884	329	4,199	13,359	327	3,968	12,612
17:30 - 18:00	241	1,400	6,289	238	1,469	6,362	338	2,470	5,383	381	2,646	5,182	344	4,466	14,119	345	4,170	13,278
18:00 - 18:30	246	1,468	6,623	244	1,550	6,683	351	2,561	5,589	399	2,723	5,464	359	4,666	14,844	358	4,405	13,955
18:30 - 19:00	248	1,539	6,956	257	1,632	6,988	363	2,652	5,760	406	2,811	5,706	374	4,887	15,467	373	4,641	14,602
19:00 - 19:30	249	1,596	7,254	258	1,672	7,182	380	2,732	5,892	423	2,863	5,837	385	5,040	15,890	380	4,780	15,034
19:30 - 20:00	249	1,625	7,438	258	1,708	7,323	394	2,780	5,927	439	2,901	5,923	399	5,179	16,287	393	4,887	15,419

12 hrs	No.3-1 north to south			No.3-2 south to north			No.4-1 west to east			No.4-2 east to west			No.5-1 west to east			No.5-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	241	1,400	6,289	238	1,469	6,362	338	2,470	5,383	381	2,646	5,182	344	4,466	14,119	345	4,170	13,278

16-Jan-10 Sat	Cross Section Sub Total (No.3)				(No.4)				(No.5)			
	H	L	M	total	H	L	M	total	H	L	M	total
06:00 - 20:00 (14hrs)	507	3,333	14,761	18,601	833	5,681	11,850	18,364	792	10,066	31,706	42,564
06:00 - 18:00 (12hrs)	479	2,869	12,651	15,999	719	5,116	10,565	16,400	689	8,636	27,397	36,722
Sat	(No.3)				(No.4)				(No.5)			
	H	L	M	total	H	L	M	total	H	L	M	total
06:00 - 20:00 (14hrs)	2.73%	17.92%	79.36%	100.00%	4.54%	30.94%	64.53%	100.00%	1.86%	23.65%	74.49%	100.00%
06:00 - 18:00 (12hrs)	2.99%	17.93%	79.07%	100.00%	4.38%	31.20%	64.42%	100.00%	1.88%	23.52%	74.61%	100.00%

Traffic Survey Result 2010  
16-Jan-10 (Sat)

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.6-1 north to south			No.6-2 south to north			No.7-1 north to south			No.7-2 south to north			No.8-1 west to east			No.8-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	3	29	152	3	19	142	4	24	102	8	18	92	5	24	104	6	20	125
6:30 - 7:00	7	64	376	10	49	345	9	74	457	9	57	307	10	78	411	10	78	633
7:00 - 7:30	14	123	670	19	87	568	14	136	832	15	118	559	15	131	872	21	153	1,172
7:30 - 8:00	17	199	944	30	166	815	18	205	1,063	19	173	729	20	195	1,149	34	229	1,484
8:00 - 8:30	19	266	1,194	39	265	1,046	20	285	1,278	23	225	915	27	278	1,431	41	300	1,784
8:30 - 9:00	28	338	1,411	49	338	1,286	20	348	1,459	30	278	1,059	36	351	1,711	45	358	2,052
9:00 - 9:30	35	406	1,639	53	423	1,514	29	398	1,621	32	330	1,272	40	430	2,004	51	419	2,362
9:30 - 10:00	41	477	1,867	60	485	1,741	31	461	1,818	32	374	1,461	49	518	2,310	53	490	2,649
10:00 - 10:30	41	542	2,052	71	573	1,948	32	506	2,000	34	420	1,643	60	585	2,599	58	568	3,050
10:30 - 11:00	45	610	2,225	79	639	2,129	34	561	2,192	41	470	1,881	68	671	2,985	62	636	3,276
11:00 - 11:30	49	672	2,413	86	711	2,298	38	618	2,566	45	529	2,165	77	758	3,370	72	706	3,570
11:30 - 12:00	57	735	2,616	90	795	2,499	38	664	2,785	51	568	2,372	80	814	3,700	78	757	3,774
12:00 - 12:30	64	808	2,809	97	865	2,676	39	716	3,008	53	615	2,579	84	874	3,940	81	804	4,015
12:30 - 13:00	75	885	2,963	100	916	2,791	41	766	3,311	56	663	2,820	89	960	4,320	87	879	4,482
13:00 - 13:30	77	937	3,140	108	958	2,895	47	810	3,527	60	708	2,972	98	1,048	4,660	93	955	4,765
13:30 - 14:00	80	1,006	3,339	113	1,025	3,073	48	870	3,748	63	753	3,154	102	1,122	4,852	98	1,007	4,978
14:00 - 14:30	88	1,071	3,503	118	1,079	3,247	53	920	4,040	64	810	3,385	109	1,201	5,162	104	1,101	5,272
14:30 - 15:00	92	1,152	3,689	124	1,159	3,445	55	964	4,270	64	866	3,593	114	1,278	5,390	109	1,184	5,537
15:00 - 15:30	97	1,220	3,863	132	1,240	3,662	55	1,022	4,488	66	918	3,812	118	1,339	5,638	110	1,254	5,811
15:30 - 16:00	101	1,282	4,036	135	1,316	3,849	56	1,089	4,722	70	970	4,013	120	1,411	5,859	114	1,314	6,038
16:00 - 16:30	106	1,347	4,227	141	1,417	4,110	62	1,140	4,942	71	1,003	4,201	123	1,486	6,146	122	1,365	6,308
16:30 - 17:00	111	1,425	4,445	149	1,543	4,380	65	1,159	5,164	72	1,057	4,437	128	1,555	6,414	128	1,447	6,612
17:00 - 17:30	118	1,520	4,751	151	1,643	4,810	70	1,271	5,563	77	1,110	4,885	135	1,636	6,917	135	1,537	7,020
17:30 - 18:00	122	1,630	5,115	154	1,770	5,276	73	1,341	5,850	79	1,163	5,148	141	1,725	7,290	141	1,619	7,393
18:00 - 18:30	127	1,729	5,509	162	1,914	5,750	75	1,406	6,249	80	1,225	5,479	145	1,793	7,682	148	1,704	7,805
18:30 - 19:00	130	1,832	5,915	168	2,025	6,154	75	1,463	6,494	84	1,276	5,748	147	1,853	7,961	150	1,769	8,092
19:00 - 19:30	132	1,916	6,282	170	2,083	6,374	77	1,503	6,780	84	1,315	5,940	150	1,909	8,168	153	1,822	8,316
19:30 - 20:00	134	1,982	6,584	179	2,130	6,581	80	1,536	6,903	87	1,350	6,100	152	1,939	8,326	156	1,856	8,537

12 hrs	No.6-1 north to south			No.6-2 south to north			No.7-1 north to south			No.7-2 south to north			No.8-1 west to east			No.8-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	122	1,630	5,115	154	1,770	5,276	73	1,341	5,850	79	1,163	5,148	141	1,725	7,290	141	1,619	7,393

16-Jan-10 Sat	Cross Section Sub Total (No.6)				(No.7)				(No.8)			
	H	L	M	total	H	L	M	total	H	L	M	total
06:00 - 20:00 (14hrs)	313	4,112	13,165	17,590	167	2,886	13,003	16,056	308	3,795	16,863	20,966
06:00 - 18:00 (12hrs)	276	3,400	10,391	14,067	152	2,504	10,998	13,654	282	3,344	14,683	18,309
Sat	(No.6)				(No.7)				(No.8)			
	H	L	M	total	H	L	M	total	H	L	M	total
06:00 - 20:00 (14hrs)	1.78%	23.38%	74.84%	100.00%	1.04%	17.97%	80.99%	100.00%	1.47%	18.10%	80.43%	100.00%
06:00 - 18:00 (12hrs)	1.96%	24.17%	73.87%	100.00%	1.11%	18.34%	80.55%	100.00%	1.54%	18.26%	80.20%	100.00%

Traffic Survey Result 2010  
16-Jan-10 (Sat)

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.9-1 north to south			No.9-2 south to north			No.10 north to south			No.11 south to north			No.12 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	1	29	194	1	57	143	0	48	268	2	40	159	0	131	592
6:30 - 7:00	7	89	466	8	87	330	0	154	795	4	101	461	3	269	1,146
7:00 - 7:30	12	136	644	19	160	516	0	274	1,640	7	212	866	17	557	2,220
7:30 - 8:00	16	166	844	53	296	735	3	501	2,440	15	379	1,310	22	898	3,139
8:00 - 8:30	19	216	990	107	544	981	5	682	2,999	19	549	1,655	31	1,263	3,900
8:30 - 9:00	21	267	1,107	137	794	1,145	8	904	3,548	29	711	2,016	43	1,580	4,621
9:00 - 9:30	28	302	1,204	170	1,015	1,364	10	1,087	4,068	31	883	2,410	50	1,799	5,630
9:30 - 10:00	33	336	1,299	179	1,166	1,543	10	1,295	4,558	34	1,021	2,777	53	2,179	6,069
10:00 - 10:30	34	385	1,399	187	1,280	1,723	12	1,501	5,087	35	1,163	3,239	59	2,548	7,106
10:30 - 11:00	38	440	1,509	197	1,359	1,898	13	1,705	5,623	36	1,305	3,695	62	2,844	7,840
11:00 - 11:30	51	521	1,690	202	1,432	2,155	14	1,905	6,153	36	1,432	4,196	65	3,088	8,518
11:30 - 12:00	62	613	1,781	210	1,482	2,279	25	2,079	6,584	38	1,551	4,528	75	3,300	9,111
12:00 - 12:30	77	713	1,881	217	1,559	2,395	32	2,240	7,038	43	1,654	4,816	84	3,572	9,834
12:30 - 13:00	90	773	1,981	226	1,612	2,524	39	2,404	7,539	44	1,748	5,108	96	3,771	10,406
13:00 - 13:30	101	844	2,116	234	1,691	2,657	46	2,635	8,190	51	1,834	5,342	115	4,043	11,053
13:30 - 14:00	105	892	2,278	250	1,771	2,826	52	2,794	8,550	56	1,933	5,642	131	4,252	11,718
14:00 - 14:30	108	923	2,373	267	1,864	3,040	56	2,969	9,082	60	2,087	6,076	148	4,458	12,322
14:30 - 15:00	111	985	2,510	290	2,003	3,234	57	3,186	9,557	62	2,242	6,429	158	4,773	13,095
15:00 - 15:30	112	1,052	2,615	301	2,100	3,443	60	3,398	9,966	63	2,385	6,774	165	5,097	13,804
15:30 - 16:00	116	1,192	2,752	319	2,212	3,657	70	3,592	10,441	67	2,508	7,095	170	5,395	14,638
16:00 - 16:30	122	1,341	2,896	327	2,341	3,924	76	3,803	10,924	69	2,653	7,521	175	5,636	15,266
16:30 - 17:00	139	1,466	3,105	349	2,473	4,227	80	4,045	11,488	75	2,795	7,930	184	5,902	16,034
17:00 - 17:30	154	1,592	3,428	356	2,555	4,561	81	4,308	12,139	78	2,939	8,388	188	6,191	16,923
17:30 - 18:00	164	1,756	3,675	357	2,608	4,742	84	4,618	12,783	80	3,079	8,765	206	6,517	17,864
18:00 - 18:30	193	2,031	3,934	360	2,635	4,873	91	4,941	13,383	89	3,223	9,148	215	6,879	18,726
18:30 - 19:00	195	2,109	4,088	363	2,663	4,963	102	5,472	14,419	94	3,414	9,485	225	7,150	19,394
19:00 - 19:30	199	2,127	4,168	365	2,690	5,054	106	5,799	15,080	98	3,568	9,747	239	7,407	20,007
19:30 - 20:00	199	2,135	4,194	368	2,698	5,097	112	5,999	15,410	100	3,726	10,057	251	7,705	20,633

12 hrs	No.9-1 north to south			No.9-2 south to north			No.10 north to south			No.11 south to north			No.12 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	164	1,756	3,675	357	2,608	4,742	84	4,618	12,783	80	3,079	8,765	206	6,517	17,864

16-Jan-10 Sat	Cross Section Sub Total (No.9)				(No.10)				(No.11)				(No.12)			
	H	L	M	total	H	L	M	total	H	L	M	total	H	L	M	total
06:00 - 20:00 (14hrs)	567	4,833	9,291	14,691	112	5,999	15,410	21,521	100	3,726	10,057	13,883	251	7,705	20,633	28,589
06:00 - 18:00 (12hrs)	521	4,364	8,417	13,302	84	4,618	12,783	17,485	80	3,079	8,765	11,924	206	6,517	17,864	24,587
16-Jan-10 Sat	(No.9)				(No.10)				(No.11)				(No.12)			
06:00 - 20:00 (14hrs)	3.86%	32.90%	63.24%	100.00%	0.52%	27.88%	71.60%	100.00%	0.72%	26.84%	72.44%	100.00%	0.88%	26.95%	72.17%	100.00%
06:00 - 18:00 (12hrs)	3.92%	32.81%	63.28%	100.00%	0.48%	26.41%	73.11%	100.00%	0.67%	25.82%	73.51%	100.00%	0.84%	26.51%	72.66%	100.00%

Traffic Survey Result 2010  
19-Jan-10 Tue

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.1-1 north to west			No.1-2 north to south			No.1-3 north to east			No.1-4 east to north			No.1-5 east to west			No.1-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	0	15	61	3	10	51	0	2	3	0	2	2	2	32	126	0	4	6
6:30 - 7:00	4	47	147	3	31	162	0	7	4	0	3	3	6	97	335	0	11	18
7:00 - 7:30	12	110	311	7	85	382	0	9	10	0	5	10	8	230	795	0	20	36
7:30 - 8:00	14	160	461	9	142	567	0	10	18	0	13	17	12	378	1,163	0	29	70
8:00 - 8:30	19	201	582	10	180	723	0	10	22	0	14	26	15	504	1,487	0	44	101
8:30 - 9:00	20	251	703	11	221	838	0	12	25	0	18	36	17	621	1,755	0	61	123
9:00 - 9:30	23	291	818	11	247	958	0	16	30	0	25	51	17	718	2,056	0	69	145
9:30 - 10:00	24	316	921	13	278	1,067	0	17	31	0	29	61	24	814	2,300	0	78	179
10:00 - 10:30	26	357	1,038	15	327	1,187	0	21	36	0	31	72	25	932	2,817	0	90	215
10:30 - 11:00	29	389	1,110	15	362	1,286	1	22	41	0	34	84	25	1,027	3,043	0	103	244
11:00 - 11:30	34	445	1,255	16	404	1,405	1	23	48	0	37	101	33	1,149	3,383	0	118	268
11:30 - 12:00	59	501	1,342	24	435	1,499	1	24	50	1	41	111	39	1,251	3,633	0	129	289
12:00 - 12:30	76	539	1,438	24	461	1,574	1	25	52	1	45	120	49	1,330	3,859	0	136	296
12:30 - 13:00	90	617	1,586	26	497	1,678	1	26	55	1	50	124	57	1,416	4,048	0	145	316
13:00 - 13:30	101	655	1,684	26	536	1,781	1	27	61	1	54	130	61	1,534	4,263	0	168	345
13:30 - 14:00	108	706	1,788	26	566	1,876	1	28	61	1	56	135	64	1,604	4,474	0	173	362
14:00 - 14:30	112	763	1,919	28	625	2,018	2	29	69	2	56	138	69	1,727	4,951	1	191	384
14:30 - 15:00	115	818	2,019	34	675	2,158	2	32	74	2	57	145	74	1,836	5,225	1	207	424
15:00 - 15:30	124	884	2,135	36	730	2,273	2	33	77	2	58	153	78	1,937	5,469	1	224	449
15:30 - 16:00	129	948	2,241	38	783	2,379	2	35	81	2	60	162	83	2,079	5,953	1	237	487
16:00 - 16:30	134	1,002	2,370	39	833	2,498	2	38	85	2	61	163	92	2,172	6,221	3	255	512
16:30 - 17:00	140	1,067	2,495	43	910	2,623	2	43	86	2	63	169	96	2,265	6,448	3	276	540
17:00 - 17:30	146	1,148	2,700	47	980	2,803	2	47	90	2	68	187	99	2,360	6,966	3	287	569
17:30 - 18:00	158	1,239	2,873	51	1,053	2,976	2	49	95	2	71	200	107	2,446	7,277	4	311	616
18:00 - 18:30	179	1,339	3,058	52	1,136	3,190	2	52	98	2	75	211	118	2,535	7,560	5	323	675
18:30 - 19:00	187	1,385	3,156	55	1,205	3,317	2	56	108	2	79	217	129	2,639	7,790	5	344	716
19:00 - 19:30	201	1,417	3,300	56	1,239	3,423	2	56	111	2	81	227	135	2,761	8,001	6	364	739
19:30 - 20:00	205	1,449	3,385	57	1,270	3,507	2	60	117	2	83	237	140	2,830	8,192	6	389	769

12 hrs	No.1-1 north to west			No.1-2 north to south			No.1-3 north to east			No.1-4 east to north			No.1-5 east to west			No.1-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	158	1,239	2,873	51	1,053	2,976	2	49	95	2	71	200	107	2,446	7,277	4	311	616

Traffic Survey Result 2010  
19-Jan-10 Tue

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.1-7 south to east			No.1-8 south to north			No.1-9 south to west			No.1-10 west to south			No.1-11 west to east			No.1-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	0	4	13	0	5	34	1	12	18	0	19	58	1	26	156	6	25	95
6:30 - 7:00	1	5	32	3	27	148	3	54	74	4	49	123	1	64	388	11	51	215
7:00 - 7:30	2	22	72	6	84	371	3	75	130	9	87	220	2	126	655	23	91	395
7:30 - 8:00	3	38	119	14	154	555	3	114	206	12	138	327	3	214	882	39	167	565
8:00 - 8:30	3	56	161	22	253	743	7	157	278	15	185	410	6	291	1,066	65	290	744
8:30 - 9:00	3	67	206	32	379	919	8	202	342	17	229	468	7	341	1,200	80	387	860
9:00 - 9:30	3	82	227	35	452	1,057	9	242	404	17	277	564	8	407	1,436	87	486	1,024
9:30 - 10:00	4	90	276	42	551	1,192	11	279	472	18	302	630	8	453	1,580	91	562	1,127
10:00 - 10:30	6	98	311	45	631	1,358	12	311	554	18	340	697	8	523	1,746	96	617	1,238
10:30 - 11:00	10	118	358	48	696	1,564	12	349	641	18	398	762	12	592	1,961	100	695	1,357
11:00 - 11:30	10	127	392	49	760	1,733	17	399	715	20	428	829	12	662	2,139	105	765	1,476
11:30 - 12:00	11	139	421	52	827	1,899	17	440	785	23	481	881	13	710	2,277	109	833	1,626
12:00 - 12:30	11	146	453	56	883	2,049	19	478	851	25	521	934	13	770	2,433	112	917	1,727
12:30 - 13:00	11	153	476	58	934	2,163	21	502	899	26	570	1,011	13	817	2,615	126	984	1,839
13:00 - 13:30	11	161	512	69	986	2,306	23	544	973	27	626	1,100	14	897	2,800	139	1,091	1,962
13:30 - 14:00	12	168	545	74	1,046	2,448	23	571	1,032	29	673	1,191	14	941	2,974	151	1,176	2,104
14:00 - 14:30	12	185	587	76	1,112	2,590	23	626	1,106	33	741	1,300	15	1,010	3,196	154	1,283	2,239
14:30 - 15:00	12	201	637	84	1,171	2,735	26	684	1,170	34	783	1,376	15	1,089	3,383	166	1,340	2,360
15:00 - 15:30	14	214	684	90	1,237	2,889	26	723	1,250	36	825	1,456	18	1,145	3,567	176	1,430	2,489
15:30 - 16:00	14	228	730	93	1,304	3,030	28	766	1,318	38	859	1,531	18	1,243	3,749	178	1,488	2,612
16:00 - 16:30	14	242	776	96	1,382	3,168	29	818	1,394	39	905	1,617	19	1,336	3,967	183	1,574	2,773
16:30 - 17:00	14	266	825	100	1,480	3,335	32	861	1,489	41	931	1,680	19	1,395	4,136	188	1,637	2,905
17:00 - 17:30	15	276	891	104	1,546	3,554	36	906	1,589	43	990	1,779	21	1,467	4,454	193	1,692	3,094
17:30 - 18:00	16	285	953	107	1,617	3,781	37	954	1,687	44	1,053	1,912	22	1,538	4,721	198	1,750	3,226
18:00 - 18:30	17	304	1,039	109	1,701	3,992	38	1,011	1,809	49	1,104	2,025	23	1,599	4,949	201	1,791	3,324
18:30 - 19:00	17	327	1,109	110	1,756	4,148	43	1,053	1,892	53	1,174	2,138	23	1,695	5,167	206	1,857	3,468
19:00 - 19:30	17	345	1,180	112	1,821	4,298	46	1,103	1,955	58	1,221	2,233	23	1,757	5,303	214	1,911	3,584
19:30 - 20:00	17	355	1,232	112	1,866	4,417	47	1,152	2,012	59	1,274	2,305	23	1,800	5,420	229	1,955	3,666

12 hrs	No.1-7 south to east			No.1-8 south to north			No.1-9 south to west			No.1-10 west to south			No.1-11 west to east			No.1-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	16	285	953	107	1,617	3,781	37	954	1,687	44	1,053	1,912	22	1,538	4,721	198	1,750	3,226

Major Intersection (No.1) Sub Total  
19-Jan-10 Tue

	H	L	M	Total	H	L	M	Total
06:00 - 20:00 (14hrs)	899	14,483	35,259	50,641	1.78%	28.60%	69.63%	100.00%
06:00 - 18:00 (12hrs)	748	12,366	30,317	43,431	1.72%	28.47%	69.80%	100.00%



Traffic Survey Result 2010  
19-Jan-10 Tue

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.2-1 north to west			No.2-2 north to south			No.2-3 north to east			No.2-4 east to north			No.2-5 east to west			No.2-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	0	3	4	0	24	50	1	8	15	1	5	12	0	6	22	0	3	8
6:30 - 7:00	1	6	22	3	60	162	5	22	44	2	13	48	4	23	129	0	10	26
7:00 - 7:30	1	13	41	6	124	444	9	41	100	2	22	88	7	48	234	1	17	58
7:30 - 8:00	2	25	75	9	202	693	12	54	147	3	36	134	11	85	354	1	37	87
8:00 - 8:30	2	34	100	11	283	910	12	75	175	4	48	198	15	118	458	3	52	104
8:30 - 9:00	2	39	124	12	367	1,125	16	105	210	5	62	237	16	138	544	3	68	125
9:00 - 9:30	2	43	144	13	430	1,321	17	120	233	5	80	276	20	161	631	3	79	131
9:30 - 10:00	2	46	176	16	508	1,515	17	143	269	5	101	310	22	185	702	4	95	136
10:00 - 10:30	2	53	205	18	565	1,699	18	163	294	5	116	358	22	206	787	5	105	158
10:30 - 11:00	2	65	240	22	648	1,939	19	190	327	6	136	440	26	235	909	8	120	194
11:00 - 11:30	2	77	276	23	720	2,173	21	205	367	6	154	504	31	274	1,093	8	148	234
11:30 - 12:00	2	93	315	29	812	2,346	23	226	403	6	174	546	34	304	1,193	10	163	259
12:00 - 12:30	2	101	348	31	907	2,546	23	244	440	6	194	599	35	321	1,304	12	179	285
12:30 - 13:00	2	112	380	35	980	2,695	23	268	480	7	210	638	39	351	1,440	12	186	310
13:00 - 13:30	3	119	409	37	1,056	2,882	26	286	520	7	228	697	44	373	1,528	17	195	325
13:30 - 14:00	3	125	431	43	1,143	3,013	29	309	553	7	240	743	45	401	1,607	20	212	357
14:00 - 14:30	4	133	460	62	1,243	3,306	29	342	600	8	260	784	45	431	1,720	21	233	368
14:30 - 15:00	4	139	479	68	1,325	3,506	30	368	635	9	278	810	48	455	1,830	21	245	378
15:00 - 15:30	4	147	512	73	1,441	3,755	31	391	679	9	305	847	51	486	1,935	21	271	388
15:30 - 16:00	4	160	546	74	1,562	3,992	34	426	757	10	319	896	53	513	2,063	22	284	407
16:00 - 16:30	4	165	569	74	1,636	4,146	34	440	810	13	337	948	54	543	2,150	23	303	422
16:30 - 17:00	4	171	612	80	1,741	4,390	34	454	867	14	352	1,002	54	571	2,302	25	319	442
17:00 - 17:30	4	183	678	83	1,850	4,716	37	468	905	15	371	1,081	56	611	2,520	29	344	490
17:30 - 18:00	7	197	728	88	1,949	5,061	39	494	980	17	392	1,158	58	640	2,654	31	369	542
18:00 - 18:30	8	204	767	90	2,048	5,495	39	521	1,048	17	412	1,244	62	673	2,807	32	384	579
18:30 - 19:00	9	220	816	92	2,185	5,827	41	547	1,109	17	434	1,306	62	725	2,918	33	401	604
19:00 - 19:30	9	230	858	95	2,296	6,036	43	567	1,162	17	456	1,395	65	744	3,048	33	414	648
19:30 - 20:00	9	243	894	102	2,403	6,248	43	583	1,194	18	475	1,442	68	762	3,138	34	428	674

12 hrs	No.2-1 north to west			No.2-2 north to south			No.2-3 north to east			No.2-4 east to north			No.2-5 east to west			No.2-6 east to south		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	7	197	728	88	1,949	5,061	39	494	980	17	392	1,158	58	640	2,654	31	369	542

Traffic Survey Result 2010  
19-Jan-10 Tue

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.2-7 south to east			No.2-8 south to north			No.2-9 south to west			No.2-10 west to south			No.2-11 west to east			No.2-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	3	13	52	3	37	117	5	27	98	4	17	92	4	14	71	0	1	8
6:30 - 7:00	5	28	107	10	91	297	13	56	246	4	51	264	7	36	265	0	5	19
7:00 - 7:30	8	49	199	16	197	582	22	113	464	7	104	591	11	81	506	1	13	40
7:30 - 8:00	10	70	270	23	328	926	31	186	679	9	201	868	15	133	670	1	31	72
8:00 - 8:30	12	101	330	28	459	1,201	41	255	872	12	276	1,139	16	192	812	1	49	103
8:30 - 9:00	14	141	376	34	604	1,469	48	316	1,074	16	366	1,430	18	241	939	1	67	129
9:00 - 9:30	16	168	433	39	702	1,718	51	362	1,306	17	456	1,646	18	276	1,059	2	80	150
9:30 - 10:00	18	193	500	49	826	1,962	58	403	1,503	19	514	1,903	21	310	1,169	2	89	175
10:00 - 10:30	21	228	565	55	938	2,258	61	464	1,747	22	603	2,217	25	364	1,352	3	103	215
10:30 - 11:00	24	254	645	64	1,084	2,617	69	517	2,009	24	626	2,397	26	376	1,416	3	107	227
11:00 - 11:30	27	285	709	67	1,184	2,886	74	578	2,241	30	729	2,682	31	435	1,582	4	122	252
11:30 - 12:00	29	307	750	71	1,305	3,130	80	668	2,488	32	756	2,781	31	452	1,635	4	123	265
12:00 - 12:30	31	330	801	75	1,403	3,340	90	728	2,702	40	819	2,994	32	497	1,767	4	126	286
12:30 - 13:00	31	347	850	78	1,488	3,526	102	779	2,887	44	878	3,223	38	546	1,944	4	131	298
13:00 - 13:30	32	367	892	88	1,583	3,799	109	852	3,079	48	930	3,437	43	574	2,081	5	135	310
13:30 - 14:00	34	391	942	90	1,678	4,077	118	920	3,261	53	988	3,629	46	618	2,224	5	144	325
14:00 - 14:30	36	409	1,020	98	1,823	4,390	129	1,006	3,460	57	1,039	3,839	47	649	2,363	5	153	346
14:30 - 15:00	38	439	1,086	106	1,924	4,609	134	1,048	3,621	58	1,091	4,059	48	689	2,463	5	162	357
15:00 - 15:30	41	474	1,148	112	2,034	4,872	147	1,120	3,809	62	1,166	4,290	51	730	2,641	5	176	381
15:30 - 16:00	42	503	1,203	120	2,156	5,134	156	1,179	3,989	65	1,236	4,521	54	775	2,772	5	183	411
16:00 - 16:30	45	525	1,254	127	2,295	5,393	164	1,241	4,194	72	1,318	4,799	57	822	2,900	5	192	432
16:30 - 17:00	45	559	1,318	137	2,399	5,654	175	1,317	4,414	77	1,378	5,000	58	845	2,973	5	203	453
17:00 - 17:30	48	587	1,386	137	2,546	6,069	183	1,395	4,730	83	1,482	5,359	63	902	3,206	5	212	491
17:30 - 18:00	50	610	1,439	140	2,694	6,438	191	1,464	4,965	87	1,583	5,736	65	947	3,383	5	223	521
18:00 - 18:30	51	641	1,501	156	2,829	6,771	196	1,539	5,219	91	1,655	6,024	68	988	3,551	5	230	556
18:30 - 19:00	52	675	1,580	159	2,976	7,122	204	1,608	5,462	95	1,731	6,266	72	1,020	3,656	6	236	576
19:00 - 19:30	54	706	1,626	161	3,103	7,359	208	1,676	5,662	106	1,807	6,504	74	1,058	3,784	6	239	596
19:30 - 20:00	57	729	1,677	163	3,224	7,624	216	1,727	5,821	116	1,880	6,693	80	1,083	3,853	6	250	608

12 hrs	No.2-7 south to east			No.2-8 south to north			No.2-9 south to west			No.2-10 west to south			No.2-11 west to east			No.2-12 west to north		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	50	610	1,439	140	2,694	6,438	191	1,464	4,965	87	1,583	5,736	65	947	3,383	5	223	521

Major Intersection (No.2) Sub Total

19-Jan-10 Tue

	H	L	M	Total	H	L	M	Total
06:00 - 20:00 (14hrs)	912	13,787	39,866	54,565	1.67%	25.27%	73.06%	100.00%
06:00 - 18:00 (12hrs)	778	11,562	33,605	45,945	1.69%	25.16%	73.14%	100.00%

Traffic Survey Result 2010  
19-Jan-10 Tue

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.3-1 north to south			No.3-2 south to north			No.4-1 west to east			No.4-2 east to west			No.5-1 west to east			No.5-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	9	24	111	3	32	197	6	50	186	7	55	150	15	68	259	15	98	365
6:30 - 7:00	19	51	320	16	81	585	20	147	745	17	172	464	29	176	712	22	228	1,025
7:00 - 7:30	28	91	730	26	205	1,113	30	223	1,143	29	292	738	47	353	1,350	37	390	1,879
7:30 - 8:00	38	136	932	39	424	1,529	45	360	1,550	76	529	1,184	64	546	2,017	49	592	2,660
8:00 - 8:30	51	198	1,177	46	503	1,859	59	484	1,761	98	645	1,395	89	765	2,615	66	780	3,241
8:30 - 9:00	66	257	1,371	52	565	2,098	64	564	1,918	119	764	1,566	109	983	3,203	81	948	3,798
9:00 - 9:30	79	323	1,585	67	615	2,343	86	634	2,116	138	897	1,769	121	1,191	3,794	96	1,149	4,349
9:30 - 10:00	88	373	1,787	79	660	2,550	100	761	2,322	152	993	1,968	138	1,393	4,395	116	1,336	4,879
10:00 - 10:30	106	435	2,062	95	718	2,738	108	878	2,480	160	1,088	2,161	157	1,666	5,059	128	1,524	5,448
10:30 - 11:00	115	502	2,388	107	778	2,974	117	1,010	2,655	171	1,210	2,419	172	1,949	5,777	150	1,685	5,990
11:00 - 11:30	122	560	2,762	115	825	3,180	141	1,122	2,877	194	1,337	2,652	191	2,189	6,499	175	1,905	6,570
11:30 - 12:00	134	643	3,061	124	879	3,403	153	1,240	3,033	212	1,427	2,853	209	2,377	7,170	190	2,062	7,007
12:00 - 12:30	142	699	3,350	131	920	3,602	168	1,354	3,176	226	1,582	2,989	219	2,529	7,659	212	2,226	7,369
12:30 - 13:00	151	753	3,631	140	969	3,878	182	1,456	3,367	243	1,679	3,183	242	2,759	8,227	227	2,416	7,887
13:00 - 13:30	163	812	3,889	149	1,044	4,162	193	1,576	3,590	266	1,782	3,377	263	2,987	8,777	247	2,606	8,362
13:30 - 14:00	174	867	4,035	156	1,085	4,369	198	1,669	3,782	281	1,865	3,511	279	3,167	9,177	260	2,775	8,744
14:00 - 14:30	191	949	4,301	167	1,150	4,731	217	1,791	4,018	300	2,006	3,773	293	3,356	9,746	272	3,005	9,313
14:30 - 15:00	207	1,025	4,550	179	1,221	4,964	231	1,874	4,209	317	2,125	4,005	305	3,541	10,279	281	3,223	9,858
15:00 - 15:30	221	1,117	4,839	192	1,298	5,221	252	1,974	4,380	337	2,286	4,247	320	3,711	10,800	297	3,428	10,324
15:30 - 16:00	234	1,188	5,101	206	1,377	5,472	264	2,092	4,582	379	2,476	4,504	328	3,871	11,352	313	3,594	10,847
16:00 - 16:30	244	1,270	5,407	219	1,458	5,699	290	2,227	4,849	397	2,552	4,756	336	4,016	11,900	325	3,790	11,392
16:30 - 17:00	252	1,336	5,738	231	1,522	6,002	311	2,341	5,132	429	2,660	5,057	343	4,193	12,524	345	3,998	12,078
17:00 - 17:30	270	1,409	6,245	243	1,601	6,360	337	2,458	5,481	444	2,747	5,539	367	4,429	13,589	356	4,186	12,758
17:30 - 18:00	279	1,487	6,600	251	1,675	6,638	357	2,567	5,730	461	2,835	5,816	379	4,652	14,378	375	4,366	13,311
18:00 - 18:30	286	1,552	6,980	258	1,746	6,949	376	2,699	5,947	472	2,905	6,057	395	4,859	15,187	383	4,556	13,866
18:30 - 19:00	290	1,614	7,317	265	1,805	7,212	388	2,791	6,123	486	2,970	6,270	409	5,033	15,799	395	4,677	14,299
19:00 - 19:30	292	1,671	7,647	268	1,860	7,400	420	2,880	6,261	515	3,019	6,415	419	5,217	16,399	401	4,790	14,565
19:30 - 20:00	292	1,717	7,824	270	1,912	7,537	429	2,925	6,339	522	3,048	6,513	431	5,339	16,757	420	4,877	14,799

12 hrs	No.3-1 north to south			No.3-2 south to north			No.4-1 west to east			No.4-2 east to west			No.5-1 west to east			No.5-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	279	1,487	6,600	251	1,675	6,638	357	2,567	5,730	461	2,835	5,816	379	4,652	14,378	375	4,366	13,311

19-Jan-10 Tue	Cross Section Sub Total (No.3)				(No.4)				(No.5)			
	H	L	M	Total	H	L	M	Total	H	L	M	Total
06:00 - 20:00 (14hrs)	562	3,629	15,361	19,552	951	5,973	12,852	19,776	851	10,216	31,556	42,623
06:00 - 18:00 (12hrs)	530	3,162	13,238	16,930	818	5,402	11,546	17,766	754	9,018	27,689	37,461
Sat	(No.3)				(No.4)				(No.5)			
06:00 - 20:00 (14hrs)	2.87%	18.56%	78.56%	100.00%	4.81%	30.20%	64.99%	100.00%	2.00%	23.97%	74.04%	100.00%
06:00 - 18:00 (12hrs)	3.13%	18.68%	78.19%	100.00%	4.60%	30.41%	64.99%	100.00%	2.01%	24.07%	73.91%	100.00%

Traffic Survey Result 2010  
19-Jan-10 Tue

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.6-1 north to south			No.6-2 south to north			No.7-1 north to south			No.7-2 south to north			No.8-1 west to east			No.8-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	5	31	140	3	34	133	0	27	131	0	23	127	6	18	166	5	22	156
6:30 - 7:00	9	78	358	6	87	348	0	75	510	4	76	364	10	72	540	15	74	616
7:00 - 7:30	15	138	652	18	154	563	2	158	949	8	155	645	15	168	1,167	26	175	1,274
7:30 - 8:00	29	213	942	31	222	830	3	244	1,201	10	222	859	21	258	1,457	31	256	1,621
8:00 - 8:30	39	265	1,182	45	309	1,060	4	320	1,442	11	290	1,026	24	331	1,719	41	345	1,918
8:30 - 9:00	48	338	1,418	58	386	1,279	4	385	1,644	12	347	1,215	27	429	2,002	48	454	2,272
9:00 - 9:30	54	414	1,645	65	468	1,509	5	453	1,874	17	399	1,435	31	508	2,266	58	515	2,530
9:30 - 10:00	72	491	1,869	74	525	1,741	8	525	2,054	21	438	1,588	35	587	2,510	64	588	2,761
10:00 - 10:30	77	575	2,045	80	606	1,930	8	600	2,285	27	499	1,845	42	672	2,802	73	663	3,129
10:30 - 11:00	82	639	2,225	84	670	2,149	11	652	2,559	32	550	2,132	54	742	3,120	78	743	3,485
11:00 - 11:30	89	707	2,403	92	717	2,342	13	727	2,913	33	615	2,421	59	822	3,464	86	816	3,752
11:30 - 12:00	95	776	2,580	98	790	2,489	17	784	3,163	36	668	2,755	74	900	4,102	92	889	4,020
12:00 - 12:30	98	835	2,749	103	843	2,642	20	841	3,390	39	705	2,963	82	968	4,410	100	947	4,267
12:30 - 13:00	110	898	2,935	111	912	2,799	24	902	3,732	43	746	3,174	93	1,049	4,845	108	1,003	4,705
13:00 - 13:30	117	941	3,111	116	950	2,957	27	949	4,013	48	786	3,355	99	1,112	5,122	116	1,064	5,025
13:30 - 14:00	123	1,010	3,288	123	988	3,104	32	999	4,222	51	823	3,543	108	1,205	5,379	120	1,131	5,313
14:00 - 14:30	124	1,074	3,466	130	1,058	3,278	33	1,075	4,555	51	882	3,800	110	1,285	5,655	124	1,212	5,563
14:30 - 15:00	133	1,160	3,671	131	1,129	3,474	35	1,144	4,813	51	933	4,029	116	1,365	5,994	135	1,311	5,862
15:00 - 15:30	140	1,240	3,868	142	1,189	3,640	38	1,224	5,121	54	991	4,308	127	1,449	6,319	140	1,382	6,111
15:30 - 16:00	145	1,312	4,048	150	1,262	3,845	41	1,276	5,417	56	1,038	4,533	130	1,517	6,553	144	1,440	6,376
16:00 - 16:30	155	1,379	4,257	155	1,351	4,084	46	1,338	5,685	59	1,086	4,795	132	1,614	6,839	161	1,515	6,655
16:30 - 17:00	172	1,485	4,582	161	1,480	4,464	47	1,411	6,011	61	1,137	5,107	137	1,696	7,158	169	1,570	6,953
17:00 - 17:30	176	1,560	4,848	162	1,555	4,778	53	1,503	6,564	62	1,220	5,555	145	1,813	7,765	172	1,661	7,424
17:30 - 18:00	181	1,653	5,191	164	1,654	5,183	60	1,580	6,995	65	1,292	5,883	150	1,903	8,193	175	1,743	7,796
18:00 - 18:30	185	1,740	5,547	168	1,734	5,580	62	1,645	7,594	67	1,357	6,397	153	1,992	8,672	180	1,829	8,267
18:30 - 19:00	199	1,839	5,848	170	1,810	5,824	65	1,707	7,809	67	1,414	6,619	158	2,060	8,915	183	1,897	8,533
19:00 - 19:30	201	1,910	6,107	177	1,858	6,025	66	1,771	8,217	67	1,468	6,947	160	2,115	9,164	186	1,948	8,856
19:30 - 20:00	203	1,966	6,272	182	1,894	6,127	70	1,828	8,379	67	1,500	7,171	168	2,158	9,350	187	1,979	9,068

12 hrs	No.6-1 north to south			No.6-2 south to north			No.7-1 north to south			No.7-2 south to north			No.8-1 west to east			No.8-2 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	181	1,653	5,191	164	1,654	5,183	60	1,580	6,995	65	1,292	5,883	150	1,903	8,193	175	1,743	7,796

19-Jan-10 Tue	Cross Section Sub Total (No.6)				(No.7)				(No.8)			
	H	L	M	Total	H	L	M	Total	H	L	M	Total
06:00 - 20:00 (14hrs)	385	3,860	12,399	16,644	137	3,328	15,550	19,015	355	4,137	18,418	22,910
06:00 - 18:00 (12hrs)	345	3,307	10,374	14,026	125	2,872	12,878	15,875	325	3,646	15,989	19,960
Sat	(No.6)				(No.7)				(No.8)			
06:00 - 20:00 (14hrs)	2.31%	23.19%	74.50%	100.00%	0.72%	17.50%	81.78%	100.00%	1.55%	18.06%	80.39%	100.00%
06:00 - 18:00 (12hrs)	2.46%	23.58%	73.96%	100.00%	0.79%	18.09%	81.12%	100.00%	1.63%	18.27%	80.11%	100.00%

Traffic Survey Result 2010  
19-Jan-10 Tue

H: Heavy Vehicle, L: Light Vehicle, M: Motor Bike

	No.9-1 north to south			No.9-2 south to north			No.10 north to south			No.11 south to north			No.12 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
6:00 - 6:30	2	14	83	14	46	68	2	57	402	3	43	188	6	109	520
6:30 - 7:00	2	59	320	23	104	250	9	153	1,019	6	105	522	14	282	1,334
7:00 - 7:30	14	130	660	48	197	761	14	335	2,203	11	270	1,120	20	547	2,471
7:30 - 8:00	21	170	783	73	291	938	24	527	2,850	16	447	1,577	38	1,000	3,770
8:00 - 8:30	28	220	911	138	593	1,207	27	805	3,649	22	663	1,980	49	1,365	4,526
8:30 - 9:00	35	259	998	171	830	1,471	35	1,021	4,214	23	863	2,376	54	1,788	5,478
9:00 - 9:30	38	288	1,071	208	1,031	1,659	38	1,217	4,730	24	1,053	2,736	55	2,083	6,199
9:30 - 10:00	45	315	1,136	226	1,160	1,814	39	1,405	5,217	28	1,204	3,122	60	2,393	7,024
10:00 - 10:30	57	391	1,257	241	1,289	2,004	46	1,645	5,846	30	1,373	3,664	65	2,708	7,935
10:30 - 11:00	72	453	1,427	247	1,369	2,201	50	1,870	6,476	34	1,513	4,148	68	2,971	8,637
11:00 - 11:30	85	510	1,572	259	1,422	2,640	62	2,145	7,215	38	1,676	4,698	77	3,291	9,613
11:30 - 12:00	102	629	1,672	265	1,490	2,793	78	2,432	7,866	40	1,811	5,161	81	3,492	10,189
12:00 - 12:30	109	711	1,755	272	1,580	2,925	91	2,664	8,372	41	1,948	5,457	95	3,819	11,189
12:30 - 13:00	124	785	1,885	285	1,637	3,037	99	2,822	8,836	44	2,061	5,759	110	4,033	11,874
13:00 - 13:30	136	844	2,054	297	1,695	3,183	109	2,993	9,378	47	2,187	6,197	120	4,291	12,628
13:30 - 14:00	141	870	2,145	300	1,740	3,279	115	3,199	9,965	49	2,283	6,434	132	4,646	13,587
14:00 - 14:30	143	942	2,293	322	1,876	3,668	124	3,423	10,528	56	2,457	6,910	146	4,943	14,379
14:30 - 15:00	143	1,050	2,403	355	1,994	3,857	125	3,686	11,082	57	2,583	7,200	160	5,364	14,968
15:00 - 15:30	148	1,149	2,530	372	2,159	4,034	129	3,923	11,566	60	2,747	7,616	168	5,607	15,908
15:30 - 16:00	154	1,240	2,650	381	2,232	4,181	137	4,140	12,078	62	2,885	7,987	180	5,985	16,840
16:00 - 16:30	157	1,303	2,725	387	2,282	4,412	141	4,392	12,627	69	3,091	8,461	190	6,248	17,519
16:30 - 17:00	161	1,409	2,928	401	2,399	4,710	146	4,631	13,231	69	3,182	8,883	195	6,561	18,368
17:00 - 17:30	188	1,630	3,307	411	2,495	5,048	157	5,097	14,570	74	3,363	9,672	204	6,833	19,366
17:30 - 18:00	210	1,785	3,478	415	2,543	5,194	163	5,321	15,199	77	3,509	10,132	215	7,124	20,320
18:00 - 18:30	224	1,919	3,646	422	2,568	5,355	173	5,656	15,973	81	3,690	10,721	224	7,424	21,214
18:30 - 19:00	229	1,984	3,748	425	2,600	5,555	180	5,936	16,473	81	3,726	10,811	242	7,769	21,999
19:00 - 19:30	231	2,001	3,807	427	2,626	5,639	183	6,116	16,885	88	3,838	11,205	249	7,999	22,502
19:30 - 20:00	237	2,019	3,860	430	2,646	5,704	188	6,292	17,169	88	4,022	11,517	263	8,230	23,071

12 hrs	No.9-1 north to south			No.9-2 south to north			No.10 north to south			No.11 south to north			No.12 east to west		
	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M
06:00 - 18:00	210	1,785	3,478	415	2,543	5,194	163	5,321	15,199	77	3,509	10,132	215	7,124	20,320

19-Jan-10 Tue	Cross Section Sub Total (No.9)				(No.10)				(No.11)				(No.12)			
	H	L	M	Total	H	L	M	Total	H	L	M	Total	H	L	M	Total
06:00 - 20:00 (14hrs)	667	4,665	9,564	14,896	188	6,292	17,169	23,649	88	4,022	11,517	15,627	263	8,230	23,071	31,564
06:00 - 18:00 (12hrs)	625	4,328	8,672	13,625	163	5,321	15,199	20,683	77	3,509	10,132	13,718	215	7,124	20,320	27,659

16-Jan-10 Sat	(No.9)				(No.10)				(No.11)				(No.12)			
	H	L	M	total	H	L	M	total	H	L	M	total	H	L	M	total
06:00 - 20:00 (14hrs)	4.48%	31.32%	64.21%	100.00%	0.79%	26.61%	72.60%	100.00%	0.56%	25.74%	73.70%	100.00%	0.83%	26.07%	73.09%	100.00%
06:00 - 18:00 (12hrs)	4.59%	31.77%	63.65%	100.00%	0.79%	25.73%	73.49%	100.00%	0.56%	25.58%	73.86%	100.00%	0.78%	25.76%	73.47%	100.00%

**B: Achievement of Proposed Projects and Programs  
by the JICA Urban Management Advisor**



No.	Corresponding Strategy	Sector	Project ID	Title	Implementing Agency	Progress / Remark	Progress
1	3.4.5	Urban	U-1	City center area improvement	SRPH, APSARA with relevant ministerial departments	1) UDTC discussed the improvement of Center Area. 2) UDTC will discuss and make Urban Development plan as one component of ODA loan project. 3) APSARA Authority have some plans. (wooden bridge, roadside tree etc)	△
2	3.5.6		U-2	Urban planning capacity building	DLMUPC, District, APSARA and Province	1) Land Use Plan of Siem Reap District had already completed by Siem Reap District. 2) Siem Reap has supposedly three authorities responsible for urban planning, namely APSARA, District Government and DLMUPC. 3) At national level, regulation of Land Use is considering by MLMUPC. 4) Guideline on Land Use planning of Municipality, Province / City & Town (DRAFT) is preparing by MLMUPC. 5) JICA urban management advisor, Siem Reap Province and JICA SV (urban planning), APSARA are working.	△
3	3		U-3	Inventory for historical architectures	APSARA/ SRPH	1) APSARA Authority will conduct with AFD expert.	△
4	3.5		U-4	Residential development promotion	DLMUPC, District, and Private Sector	1) The assumed fund of this project is mainly private. 2) Some new town development project are supposed to be in progress.	△
5	1.3.4.5		U-5	Cultural and Tourism Zone development	APSARA and Private investors	1) In progress by APSARA such as land acquisition, some detail design	△
6	4.6	Environment	E-1	Institutional capacity development	SRPH, DPWT, DOE and Residents	1) The scope and framework of this proposed project is not clear at this stage. 2) UDTC requested Japanese government in 2008 as the JICA Technical Cooperation.	△
7	3.4		E-2	Environmental awareness enhancement	DOE	1) This project is supposed to be combined with E-1. 2) UDTC requested Japanese government in 2008 as the JICA Technical Cooperation.	△
8	4.5.6		E-3	Joint fee collection on public services	SRPH, Waterworks, DPWT, MICC	1) Public service of water supply, waste collection and sewerage treatment is not completed in town at this stage. 2) Concerning Finance issue, it is necessary to consider not only Environmental aspects but also Total Provincial Finance. 3) Decentralization and De-concentration (D&D) reform program is in progress. Improvement of provincial finance system is supposed to be discussed under D&D reform program. 4) Regarding the fee collection of sewerage, new organization was established under DPWT but ADB (sewerage) project is not completed.	×
9	1.2.3.5.6	Tourism	TO-1*	Khmer heritage tourism network and tourism facility development	MOT, SRTO, APSARA, MPWT and MOCFA	1) Some projects such as lightning, parking and monument etc. had done by APSARA. 2) This project site covers 5 provinces. At this stage, it may be not easy to manage this project by SRPH.	△
10	2.3		TO-2	Night market development	private sector	1) Night market is already opened by private sector.	○
11	1.2.3		TO-3*	Public-private partnership tourism quality improvement	DOT, MOT and APSARA	1) "Siem Reap Tourism Marketing and Promotion Board (SRMTB) " will be operated by Department of Tourism, Siem Reap Province in cooperation with APSARA Authority. 2) Firstly it may be necessary to enhance the capacity development of Tourism Sector.	×
12	1.2.6		TO-4	Development and promotion of community based eco and village tourism	NGO, APSARA	1) Eco-village project is planned by APSARA.	△
13	1.2		TO-5	Tour guide training and advanced tour guide system	SRTO, MOT, APSARA	1) With regard to Tourism management and Training, there are a University and a tourism vocational training school. 2) Private Korean Language school is already opened in town.	△
14	1.5		TO-6	Study for carrying capacity and site management	APSARA	1) Visitor survey conducted at Angkor Wat and Ta Prohm temples from Oct. to Dec., 2004 by the Survey Unit, Department of Tourism, APSARA.	△



No.	Corresponding Strategy	Sector	Project ID	Title	Implementing Agency	Progress / Remark	Progress
15	1.2.6	Agricultural Diversification and Local Product Promotion	A-1	HRD and local product promotion center	SRPH, APPC	1) The scope , framework, specific activity and effect of establish APPC is not clear at this stage. 2) APPC is not established yet in SRPH. There is no plan for establishment of APPC.	×
16	1.2.6		A-2	One Village and One Product Movement (OVOP)	SRPH, APPC	1) APPC is not established yet in SRPH. 2) There is no plan for establishment of APPC.	×
17	1.2.6		A-3	Production village development	SRPH, APPC	1) APPC is not established yet in SRPH. 2) There is no plan for establishment of APPC.	×
18	1.2.3		A-4	Angkor Products Fair	APPC	1) APPC is not established yet in SRPH. 2) There is no plan for establishment of APPC.	×
19	3.5	Transportation	TR-1	French Bridge improvement	MPWT	1) Temporary detour bride is under construction at about 200m upstream from French Bridge.	○
20	3.5		TR-2	Sub-arterial road network (Phase 1)	DPWT, SRPH	1) It is necessary to harmonize with the land use plan. 2) Some roads were already in progress, it is necessary to review the situation. 3) UDTC will discuss and make Urban Development plan as one component of ODA loan project.	△
21	3.5		TR-3*	Sub-arterial road network (Phase 2)	MPWT	Hun Sen Peace Road has been developed already.	○
22	3.5		TR-4	Sub-arterial road network (Phase 3)	DPWT, SRPH	See above (TR-2)	△
23	3.5		TR-5	Sub-arterial road network (Phase 4)	SRPH	See above (TR-2)	△
24	3.6		TR-6	Institutional improvement for road safety	Police, DPWT and SRPH	1) This project is supposed to be by MPWT or DPWT. 2) Police is taking action for road safety.	△
25	2.3.5		TR-7	Rural heritage road network rehabilitation	MPWT, MRD	1) Related project is ADB"NR6 rehabilitation project between SR and Poipet", WB "Provincial and Rural Infrastructure Project(PRIIP)", ADB"Northwest Regional Development Project (NRDP)", Thai Government "NR64 Urgent Rehabilitation and F/S for Rehabilitation". 2) This project site covers north west region of Cambodia. At this stage, it may be not easy to manage this project by	△
26	3.4.5		TR-8	Environmental public transport	APSARA	1) 50 electric car is working in Angkor park. 2) The increasing electric car is planned by Tourism departmnet of APSARA.	△
27	3.4.5		TR-9	Bicycle track construction	APSARA	1) Firstly it is necessary to make APP tourism strategy and APP tourism development plan. 2) Under APP tourism strategy and APP tourism development plan, it is necessary to make APP tourism transportation plan	×
28	3.5.6		TR-10	Institutional improvement for efficient road maintenance	DPWT, PDRD	No progress.	×
29	4.5.6	Water	W-1	Provincial regulation on registration of commercial Well	SRPH	1) The final draft of Water Resources Management Law was submitted to the National Assembly and waiting for its approval? 2) The sub-degree on the Issuance and Administration of License under the Water Resources Management Law will be executed soon after Law on Water Resources Management approved by the National Assembly. 3) D& D reform program is ongoing. After enact the organic law, Council may make Provincial regulation.	△
30	5.6		W-2	Ministerial Sub-decree on ground water changes for commercial well	SRPH	1) The final draft of Water Resources Management Law was submitted to the National Assembly and waiting for its approval? 2) The sub-degree on the Issuance and Administration of License under the Water Resources Management Law will be executed soon after Law on Water Resources Management approved by the National Assembly. 3) D& D reform program is ongoing. After enact the organic law, Council may make Provincial regulation.	△
31	4.5		W-3	Replacement of old pipeline	MIME	1) Technical cooperation "The project on Capacity Building for Water Supply System in Cambodia phase 2" is implementing by JICA.. One of target area is Siem Reap	△
32	4.5		W-4	Strategic study on integrated water resources management	MOWRAM	No progress.	×
33	4.5		W-5	Water supply system development of Siem Reap (stage 1)	MIME	1) The Preparatory Study on the Siem Reap Water Supply Expansion project is conducting by JICA.	△
34	4.5		W-6	Water resources development of North East Baray	MOWRAM	1) APSARA Authority is implementing Northern Baray Project.	△
35	4.5		W-7	Water supply system development of Siem Reap (stage 2)	MIME	1) The Preparatory Study on the Siem Reap Water Supply Expansion project is conducting by JICA.	△

No.	Corresponding Strategy	Sector	Project ID	Title	Implementing Agency	Progress / Remark	Progress
36	3.4.5.6	Solid Waste	SW-1	Sound solid waste management system development	MICC, SRPH	1) GAEA, a private company, executes all the SWM works and no local authorities are actively involved in it. The implementation of SWM works is legally under the responsibility of the Siem Reap provincial government or the Siem Reap District office. 3) MICC provides the collection service only in the center of Siem Reap town where the population is dense. 4) The contract period of GAEA is for 50 years, from January 1 2007	×
37	3.4.5.6		SW-2	Strengthening of waste collection system	MICC, SRPH	See above (SW-1)	×
38	4.5.6		SW-3	Sanitary landfill	MICC, SRPH	See above (SW-1)	×
39	3.4.5	Sewerage / Drainage	SD-1	Mekong Tourism Development Project (A1)	MPWT, DPWT (ADB funded)	1) ADB project is in progress.	△
40	3.4.5		SD-2	Urban Development Project SR (Drainage System Development)	SRPH, DPWT (AFD funded)	1) AFD Project is in progress.	△
41	3.4.5		SD-3	Sewerage (Phase I)	DPWT, MPWT	1) Siem Reap Sewerage System and improvement of Siem Reap River Project is supposed to be by Korea Exim Bank.	△
42	3.4.5		SD-4	Sewerage (Phase II)	DPWT, MPWT	See above (SD-3)	△
43	3.4.5		SD-5	Storm water relief	DPWT, MPWT	1) Siem Reap Sewerage System and improvement of Siem Reap River Project is supposed to be by Korea Exim Bank.	△
44	3.4.5		SD-6	Septage management (Phase I)	DPWT, MPWT	No progress.	×
45	3.4.5		SD-7	Septage management (Phase II)	DPWT, MPWT	No progress.	×
46	3.4.5		SD-8	Tank effluent disposals (Phase I)	DPWT, MPWT	No progress.	×
47	3.4.5		SD-9	Tank effluent disposals (Phase II)	DPWT, MPWT	No progress.	×
48	5.6	Power	P-1	Urgent installation of diesel generator	EdC	1) Now Cambodia buys power from Thailand. The generator in Siem Reap which Japan already supplied is not using now.	△
49	5		P-2	Expansion of existing diesel power	EdC	1) Now Cambodia buys power from Thailand. The generator in Siem Reap which Japan already supplied is not using now.	△
50	5		P-3	Extension and expansion of distribution networks	EdC	1) Now Cambodia buys power from Thailand. The generator in Siem Reap which Japan already supplied is not using now.	△
51	3.5		P-4	Installation and repair of street light	District	1) Some street lights are already installed.	△
52	1.3.6		P-5	Effective use of the electricity for Angkor Wat and other temples	APSARA and/or other relevant organization	1) APSARA and UNESCO already discussed to install the light for Angkor Wat in ICC meeting. 2) Private company already started Light up and night tour on Angkor Wat.	△
53	2.5		P-6	Planning for electrification for unelectrified area	EdC	No progress.	×
54	5.6		P-7	Assistance to capacity building for EdC	EdC	1) Now Cambodia buys power from Thailand. The generator in Siem Reap which Japan already supplied is not using now.	×
55	5.6		P-8	Assistance to reviewing of power tariff	EdC/EAC	No progress.	×
56	5.6		P-9	Revision of law, ordinances and decree for power to reduce environmental load	Municipality, EAC, EdC	No progress.	×
57	5.6		P-10	Sustainable power source development	EdC, MIME	No progress.	×

No.	Corresponding Strategy	Sector	Project ID	Title	Implementing Agency	Progress / Remark	Progress
58	6	Local Administration	L-1	Development committee for project approval	SRPH	1) Decentralization and De-concentration Reform (D&D Reform) program is ongoing. 2) Organic laws will be enacted. (Draft Law on Administration management of the Capital, Province, Municipality, District and Khan, Draft Law on Election of the Capital, Province, Municipality, District and Khan) 3) Provincial Development Committee was established on July 2008. 4) Provincial Council was established in May 2009.	△
59	6		L-2	Human resources development of Province	SRPH	1) D&D Reform program is ongoing. 2) There is Human Resources Development by Social Economic Improvement for Local Area (SEILA) program. 3) Provincial Council was established in May 2009.	△
60	6		L-3	Organizational reform of Provincial Government of Siem Reap	SRPH	1) D&D Reform program is ongoing. 2) Organic laws will be enacted. (Draft Law on Administration management of the Capital, Province, Municipality, District and Khan, Draft Law on Election of the Capital, Province, Municipality, District and Khan) 3) Provincial Council was established in May 2009.	△
61	6		L-4	Development and efficient operation of law and regulations	SRPH, Ministry of Interior	1) D&D Reform program is ongoing. 2) Organic laws will be enacted. (Draft Law on Administration management of the Capital, Province, Municipality, District and Khan, Draft Law on Election of the Capital, Province, Municipality, District and Khan) 3) Provincial Council was established in May 2009.	△
62	6		L-5	Financial budget reform for unified administration	Ministry of Finance and national Assembly	1) D&D Reform program is ongoing. 2) Organic laws will be enacted. (Draft Law on Administration management of the Capital, Province, Municipality, District and Khan, Draft Law on Election of the Capital, Province, Municipality, District and Khan) 3) Provincial Council was established in May 2009.	△
63	3.6	Community Empowerment	C-1	land use mapping	SRPH, Commune, Local stakeholders	1) GIS database which are prepared by JICA study team is suppose to belong APSARA Authority. 2) JOCV (GIS) is working in APSARA.	△
64	3.6		C-2	Community planning	SRPH, Commune, Local stakeholders	1) D&D Reform program is ongoing.	×
65	3.6		C-3	Community association	SRPH, Commune, Local stakeholders	1) D&D Reform program is ongoing.	×
66	2.3.6		C-4	Community application	SRPH, Commune, Local stakeholders	1) D&D Reform program is ongoing.	×
67	2.3.6		C-5*	Regulation on co-existing zone	APSARA, Commune, Local stakeholders	Run Ta-Ek Eco-Village for Sustainable Development is planed by APSARA Authority.	△
68	2.3.6		C-6*	Angkor management plan and community development	APSARA, Commune, Local stakeholders	Run Ta-Ek Eco-Village for Sustainable Development is planed by APSARA Authority.	△
69	3.6		C-7	People's needs collection	SRPH	1) Provincial Council was established in May 2009.	△

△ : Some activities are progressing or discussing and preparing.

\*: updated by JST as of April 2010

Source: JICA Urban Management Advisor, 2010

## **C: Project outline of City Center Improvement**



**Table 1 Project Outline of City Center Improvement Plan**

Program	Project Component		Outline	Responsible Agency (Member of Taskforces)	Phase		
					S	M	L
1	1-1 Improvement Streets in Old Market Area with Trigger Pilot Projects	1. Pedestrian Mall Development	<ul style="list-style-type: none"> <li>To secure walk-free street for safe and comfortable walk environment</li> <li>To pave well-organized design</li> <li>To equip street furniture</li> </ul>	DPWT (PG, MG, PS, PPO)	■	■	
		2. Trigger Pilot Project (See Table 5-2 in the main text for details)	<ul style="list-style-type: none"> <li>To initiate experimental "pedestrian mall" construction partially in Old Market Area</li> <li>To organize naming program for each street in Old Market Area involving local community and other relevant stakeholders</li> <li>To organize tourism promotion events and performance for Old Market Area</li> </ul>	DPWT / MG (PG, MG, PS, PPO)	■		
	1-2 Development of Small Corner Parks in Old Market Area (See Table 2 for details)	1. Gate Park Redevelopment in Kindergarten Area	<ul style="list-style-type: none"> <li>To construct the gate area of the Old Market Area</li> <li>To relocate the existing kindergarten facilities to suitable location</li> <li>To equip street furniture for transit station in association with tourist common bus service</li> </ul>	DTC (PG, MG, LDs)	■	■	
		2. Pocket Plaza Development	<ul style="list-style-type: none"> <li>To construct a pocket plaza at small corner area beside Sivatha Street in Old Market Area</li> <li>To equip street furniture for rest place</li> </ul>	DPWT (PG, MG, LDs)	■		
	1-3 Organizing Task Force for Old Market Area with Organized Local Community	1. Establishment Task Force for Old Market Area Improvement	<ul style="list-style-type: none"> <li>To formulate place for discussion and decision of cooperative activities for attractive place of Old Market Area</li> <li>To coordinate and cooperate with necessary activities among relevant stakeholders (private and public sectors) through pilot projects</li> <li>To establish the official organization as Market Area Development Committee</li> </ul>	PG / MG (PS)	■		
		2. Management and operation of Development Committee	<ul style="list-style-type: none"> <li>To coordinate and cooperate with relevant stakeholders initiated by concrete project (e.g. pedestrian mall construction, street naming, parking area establishment)</li> </ul>	PG / MG (PS)	■	■	■
	1-4 Establishing Green Colonnade Network (See Table 3 for details)		<ul style="list-style-type: none"> <li>To sustain attractive street landscape and enhance it by creating green colonnade network in the City Center Area</li> </ul>	DPWT (PS)	■	■	■
	1-5 Establishing Sidewalk Network (See Table 4 for details)		<ul style="list-style-type: none"> <li>To formulate safe and comfortable walkway network with pavement, street lightning etc.</li> </ul>	DPWT / DLMUPC/ Electricity company	■	■	■
	1-6 Amenity Plaza Development (See Table 5 for details)		<ul style="list-style-type: none"> <li>To provide multi-function open space in potential space for events and performance to attract visitors/tourists</li> </ul>	DPWT (PS)		■	■
	2	2-1 Integrated Traffic Management (See Table 6 for details)	1. Traffic Management Study with Trigger Pilot Projects	<ul style="list-style-type: none"> <li>To implement integrated traffic demand management study (public parking, traffic-cell control, common tourist bus system, cycling network, etc)</li> <li>To develop traffic management capacity for traffic control (regulation, signaling, etc) through pilot project formulation</li> <li>To study parking business opportunities for private sector with pilot project formulation</li> </ul>	DPWT / PPO (PG, MG, PS)	■	■
2. Tourist Transit Station Projects			<ul style="list-style-type: none"> <li>To construct the tourist transit station as the gateway of the old market area</li> <li>To manage and control access to the old market area by tourist bus, bike-taxi, tuk-tuk</li> <li>To provide public toilet, visitor information booth and rest place with shelter</li> </ul>	DPWT (DH, PS)			■
3. Traffic Management and Operation			<ul style="list-style-type: none"> <li>To introduce traffic zone control system</li> <li>To introduce charged on-street parking system</li> </ul>	DPWT / PPO	■	■	

	2-2 Common Tourist Bus System (circulation service)	1. Feasibility Study for Shuttle or Circulation Tourist Bus Formulation	<ul style="list-style-type: none"> <li>To introduce common tourist bus system connecting major tourist areas in order to mitigate pollution and congestion by private tour vehicles</li> <li>To operate sight-seeing vehicle as one of urban tourism attraction</li> <li>To formulation of key stations and destinations to coordinate each tourism facilities</li> <li>To formulation of implementation mechanism with financial study</li> <li>To implement experimental common bus service operation and evaluation</li> </ul>	Private Sector by Concession of Operation (DPWT, MG, PS)	■	■	
		2. Common Bus Management and Operation	<ul style="list-style-type: none"> <li>To operate bus service</li> <li>To monitor operation and management</li> </ul>	Private Sector by Concession of Operation (DPWT, MG, PS)		■	
	2-3 Environment-friendly Cycling Lane Network (See Table 7 for details)		<ul style="list-style-type: none"> <li>To establish comfortable and safe cycling lane network</li> <li>To link with the world heritage site, natural and urban heritages</li> </ul>	DPWT		■	■
	2-4 Promotion of private parking business		<ul style="list-style-type: none"> <li>To promote private parking business in the City Center Area</li> </ul>	DPWT / PPO	■	■	
3	3-1 Conservation of Urban Heritage & Old Street Tree		<ul style="list-style-type: none"> <li>To conserve and protect urban/natural heritages through establishment of inventories and registration</li> </ul>	PG / APSARA	■	■	■
	3-2 Improvement of Urban Heritage Information Board		<ul style="list-style-type: none"> <li>To provide attractive and useful information of urban heritages for visitors/tourists by information board</li> </ul>	DCA / APSARA	■		
	3-3 Conservation and Improvement of Riverside Area		<ul style="list-style-type: none"> <li>To improve riverside environment of Siem Reap River by landscaping and walkway with necessary street furniture</li> </ul>	APSARA	■	■	
4	4-1 Capacity Development for Urban Planning and its implementation	1. Zoning Control Implementation Capacity Development	<ul style="list-style-type: none"> <li>To strengthen capacity of zoning control planning and operation of urban development control by each responsibility and roles of Dept. Land Management, Urban Planning and Construction and Urban Development Department of Siem Reap Municipality</li> <li>To implement pilot detailed control plan and urban design study in the city center area for planning skills and capacity development</li> </ul>	DLMUPC / MG (PG, APSARA)	■	■	■
		2. Urban Planning Skill Development	<ul style="list-style-type: none"> <li>To implement pilot land use plan and subdivision study for planning skills and capacity development</li> <li>To build municipal institutional capacity and professionalizing department and municipal experts</li> </ul>	DLMUPC / MG (PG, APSARA)	■	■	
	4-2 Strengthening Coordination and Cooperation Mechanism among Urban Planning/ Development Authorities regarding Siem Reap City		<ul style="list-style-type: none"> <li>To establish effective and well-organized coordination mechanism of urban development among relevant authorities and agencies</li> </ul>	PG (MG / LDs / APSARA)	■	■	
	4-3 Formulation of Historical Townscape Conservation Guideline for City Center Area within Zone 3		<ul style="list-style-type: none"> <li>To formulate appropriate and detailed urban development guideline including urban design and historical townscape formulation of the City Center Area</li> </ul>	PG (MG / LDs / APSARA)	■	■	

Legend: PG = Provincial Government, LDs= Line Departments, MG = Siem Reap Municipality Government, PS = Private Sector, DLMUPC = Dept Land Management, Urban Planning and Construction, DPWT = Dept Public Works and Transportation, DT = Dept Tourism, DTC = Dept Trade and Commerce, DH = Dept Health, DCA = Dept Culture and Art, DC=Development Committee, PPO = Province Police Office, TF TT=Taskforce for Tourism Transportation, TFOMAI=Taskforce for Old Market Area Improvement, TFUGM=Taskforce for Urban Growth Management

**Table 2 Short & Mid-term Components in 1-2 Projects**

Component	Item of Improvement	Scale/ Volume	Responsible Agency	Development Phase
1. Construction of Gateway Plaza	<ul style="list-style-type: none"> <li>• Earthwork and pavement of the site</li> <li>• Street furniture (bench, flower-box, trash-box, street-lighting, etc)</li> <li>• Public toilet and bus station and car stop area</li> </ul>	1,400 m <sup>2</sup>	DTC under TFOMAI	Short-term/ Medium-term
2. Construction of Rest Pocket Park	<ul style="list-style-type: none"> <li>• Earthwork and pavement of the site</li> <li>• Street furniture (bench, flower-box, trash-box, street-lighting, etc)</li> </ul>	25 m <sup>2</sup>	DPWT under TFOMAI	Short-term

**Table 3 1-4: Green Colonnade Network**

Component	Item of Improvement	Scale and Volume	Responsible Agency	Development Phase
Tree Planting	<ul style="list-style-type: none"> <li>• Tree planting by large tree species on the streets</li> <li>• Some streets by flower trees based on the street tree planting scheme</li> </ul>	Around 700 trees on the sidewalk of key streets by 7.0 km length	DPWT	Short /Medium/Long

**Table 4 1-5: Establishing Sidewalk Network**

Component	Item of Improvement	Scale and Volume	Responsible Agency	Development Phase
1. Both-side Sidewalk pavement and ancillary improvement	<ul style="list-style-type: none"> <li>• Pavement work</li> <li>• Curve stone and drainage pit work</li> <li>• Street lighting pole installation</li> </ul>	5.2 km (road)	DLMUPC / DPWT	Long-term
		7.6 km		Short /Medium
		5.6 km		Short /Medium
2. Underground wires construction	<ul style="list-style-type: none"> <li>• Laying down wires of electricity and telecommunication into underground</li> </ul>	3.0 km*	Electricity company (PS)	Long-term
		6.0 km*		Short /Medium
		5.6 km*		Short /Medium

\* = length of wires to be underground is assumed by 60% length of road (2.5m sidewalk), 80% length of road (3.5m sidewalk), 100% length of road (over 3.5m or over 4.5m sidewalk)

**Table 5 1-6: Amenity Plaza Development**

Component	Item of Improvement	Scale/ Volume	Responsible Agency	Development Phase
Construction of Amenity Plaza	<ul style="list-style-type: none"> <li>• Earthwork and pavement of the site</li> <li>• Street furniture (bench, flower-box, trash-box, street-lighting, etc)</li> <li>• Public toilet and bus station</li> </ul>	1,000 – 2,000m <sup>2</sup> x 3 sites	DPWT in cooperation with large site owners	Medium -term / Long-term

**Table 6 Physical Project Components in 2-1 Project**

Component	Item of Improvement	Scale/ Volume	Responsible Agency	Development Phase
1. Construction of Tourist Transit Station	<ul style="list-style-type: none"> <li>• Earthwork and pavement of the site for vehicle access and limited parking area for tourist transportation</li> <li>• Pavement for walking space with street lighting poles</li> <li>• Street furniture (bench, trash-box, street-lighting, etc)</li> <li>• Public toilet and station shelters</li> </ul>	6,000 m <sup>2</sup>	DPWT/DH under TFOMAI, TFTT	Long-term



2. Execution of Traffic Management and Operation	On-street parking lot	<ul style="list-style-type: none"> <li>• Designation of chargeable on-street parking area with traffic sign</li> <li>• Road marking for parking lot</li> <li>• Allocation of collectors of parking charge (consignment work)</li> </ul>	around 150 lot	DPWT or MG	Short-medium term
	Promotion of parking restriction area	<ul style="list-style-type: none"> <li>• Designation of restriction roads for parking with traffic signs and road markings</li> <li>• Dissemination of restriction area by pamphlet</li> </ul>	--	DPWT or MG	Short-medium term
	Traffic flow control	<ul style="list-style-type: none"> <li>• Designation of one-way or two-way traffic road</li> </ul>	--	DPWT or MG	Short-medium term

**Table 7 2-3: Environment-friendly Cycling Lane Network**

Component	Item of Improvement	Scale/ Volume	Responsible Agency	Development Phase
Construction of Cycling Lanes	<ul style="list-style-type: none"> <li>• Earthwork and pavement of the site</li> <li>• Sign and information )</li> <li>• Public toilet and bus station</li> </ul>	3,600 m x 2 side of Siem Reap River	DPWT	Medium -term / Long-term