The Project for Improving Public Bus Service in Yangon

Traffic Engineering Training

Traffic Survey

14th February 2020



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1. Outline

- One of major issue on transport sector in Yangon is road traffic congestion.
- Road traffic congestion affect to citizen life and economic growth.
- Main transport mode in Yangon is bus (YBS) and road traffic congestion affect to operation of YBS directory.
- Main traffic congestion points in Yangon are intersection and bus stop. Thus, tips of planning and design for bus stop and intersection are shown in this training.



Traffic Engineering Training Schedule

Contents	2020.2	2020.3	2020.4	2020.5	2020.6	2020.7	2020.8 - 11
Lecture on Traffic Survey							
Lecture on Planning and Design Standard							
Lecture on Signalized Intersection Analysis							
Lecture on Bus Stop Planning							
Selection of Pilot Project Sites							
Study on road improvement for the pilot projects							l
Implementation of the pilot projects						I	

Traffic Survey Purpose and Method of Traffic Survey

- The purpose of the traffic survey is to investigate the <u>traffic</u> <u>volume</u> and the <u>current conditions of the road</u>, and to obtain basic data on <u>road planning</u>, <u>construction</u>, <u>maintenance</u> and <u>repair</u>, and other management.
- Traffic survey focus on the phenomenon of road traffic flow. When planning a traffic survey, it is important to clarify which section you want to know, and to select the survey contents such as traffic volume and travel speed, which are the elements of traffic flow.
- ◆The following survey methods are explained in 2.1.
 - 2.1.1. Traffic Volume Count
 - 2.1.2. Travel Speed
 - 2.1.3. Road Inventory Survey

2.2. Traffic Volume Count

The purpose of the traffic survey is to grasp the general situation of traffic flow in the road network. The traffic volume is the number of vehicles passing through a section of the road in a unit time. It is a quantitative value to know how many cars are using a road.





(1) Traffic Volume Count at Section

- i. A point representing section is set on the survey target route.
- ii. The 12 hours or the 24 hours traffic volume by <u>vehicle</u> <u>type</u> by direction on weekday and holiday are counted.
 - < Vehicle Type >
 - Bicycle
 - Motorcycle
 - Car / Van
 - Taxi
 - Passenger Truck

- Small Bus -
- Large Bus
- Pick Up
- Medium Truck
- Large Truck

- Trailer
 - Others

*Vehicle type can be changed according to the survey purpose

(2) Directional Traffic Volume Count at Intersection

- i. A intersection is set on the survey target area.
- ii. The 12 hours or the 24 hours traffic volume by vehicle type by <u>direction</u> on weekday and holiday are counted.
 - < Direction >
 - Left / Straight / Right turns
 - < Target Vehicle>
 - Vehicles entering the intersection



(2) Directional Traffic Volume Count at Intersection

- < Manual Counts >
- Each direction: a1, a2, a3, b1, b2, b3, c1, c2, c3, d1,d2,d3

*More surveyors are needed depending on the vehicle type and traffic volume.

- Using calculation can reduce the number of surveyors.
 - Section [1+2+3] left turn[1] right turn[3] = straight[2]





(2) Directional Traffic Volume Count at Intersection

< Video Counts >

- CCTVs are installed at major intersections in Yangon city, and it is possible to grasp the traffic volume by using them.
- Traffic Control Center has introduced an automatic traffic counting system.

Counting



Video Input









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(3) Directional Traffic Volume Count at Roundabout

- i. A roundabout is set on the survey target area.
- ii. The 12 hours or the 24 hours traffic volume by vehicle type by <u>direction</u> on weekday and holiday are counted.

< How to count traffic volume by direction >

- a. To record the license number and passing time at each inflow / outflow section (a1 – d2).
- b. To count traffic volume by direction by matching license numbers.



(3) Directional Traffic Volume Count at Roundabout

The traffic survey using drone is conducted, in order to easily conduct the survey.



(3) Directional Traffic Volume Count at Roundabout

 The traffic volume in each direction is automatically counted by AI.



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2.3. Travel Speed

A probe car (drive recorder) is used to investigate the travel speed for each direction on weekday and holidays (peak hour and non-peak hour) on target route.

Bottle neck (traffic congestion section) can be grasped from result of travel speed survey.



Result of Travel Speed Survey

2.4. Road Inventory Survey

- Road inventory survey is a comprehensive survey which can be used to study the profile of the roads in the area of study.
- Survey items according to purpose, such as the road pavement types, street lighting, drain types, vendors, bus stops etc.
- It can be studied and detailed resulting in the most accurate and detailed profiling of the existing conditions.



2.4. Road Inventory Survey

Sample of road inventory survey



3. Group Work

◆Please make 3 Groups.

◆ To conduct traffic volume survey in each group.

Target Intersection



3. Group Work

To go to site and check the traffic flow for planning survey.

Time	Left		Total	Stra	Total	
	Car	Тахі	ΙΟΙΔΙ	Car	Тахі	ΙΟΙΔΙ
15:00						
15:15						
15:30						
15:45						