The Project for Improving Public Bus Service in Yangon

2nd Traffic Engineering Training

Traffic Survey

21th February 2020



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1. Making Survey Sheets

Fill out the required information and make a survey sheet.



Direction

2. Implementation of Traffic Survey





3. How to Summarize Traffic Survey Results



Traffic survey results

North Traffic survey results are rearranged ∞ by inflow direction. West +> •• 💀 🗲 East 00 South North Right Straight Left Sub Sub Sub Total Time Total Total Total Vehicle Type Vehicle Type Vehicle Type 15:00 East Right Straight Left Sub Sub Sub Total Time Total Tota Total Vehicle Type Vehicle Type Vehicle Type 15:00 South Right Straight Left Sub Sub Sub Total Time Total Total Total Vehicle Type Vehicle Type Vehicle Type 15:00 West Right Straight Left Sub Sub Sub Total Time Tota Total Vehicle Type Total Vehicle Type Vehicle Type 15:00

3. How to Summarize Traffic Survey Results



3. How to Summarize Traffic Survey Results



Pie charts can be created by calculating the total traffic volume by each vehicle type







Traffic Flow Graph

 It is possible to know in <u>which direction</u> the traffic volume is high.

		Left				Straight							
Time	Ca	r Ta	Тахі		Iotal		Car Tax		ĸi	Total			
15:00	100	0 7	0	170		400		250		65	0		
15:15	Time		Left		·		Straig		ht		Total		
15:30	Thine	Bus		Truck		otai		Bus	٦	ruck		Total	
15:45	15:00	30		15	45			55	15			70	
	15:15	Timo		Right			Total	Straigh			t	Tota	
	15:30		(Car	Т	Тахі	iotai	C	ar	٦	axi	1010	
	15:45	15:00		15		5	2	20	1	0		15	25
		15:15		20	4	40	6	50		5		25	30
		15:30		35	1	25	6	50	1	5		40	55
		15:45		40		10	5	50	ţ	55		10	65

Traffic Survey Results





Pie Graph of vehicle type

- It is possible to know in <u>which vehicle type</u> is high.
- It is possible to calculate large size vehicle rate.

Hourly Traffic volume Graph

- It is possible to know <u>which</u> <u>time</u> the traffic volume is high.
 - It is possible to calculate peak rate.

Passenger Car Unit (PCU)

A Passenger Car Unit is a measure used primarily to assess highway capacity, for modelling purposes. Different vehicles are assigned different values, according to the space they take up. A car has a value of 1; smaller vehicles will have lower values, and larger vehicles will have higher values.

Table Passenger Car Equivalent (PCE)



	Yangon	Japan	Singapore	London
Motorcycles	0.25	0.5	0.4	0.4
Car / Taxi	1.0	1.0	1.0	1.0
Light trucks	1.6	1.5	1.3	1.0
Heavy trucks	2.28	2.0	2.6	2.3
Buses	2.0	2.0	2.7	2.0

Traffic Capacity

Road has a traffic capacity. If the traffic volume exceeds the traffic capacity, traffic congestion will be occurred.

Due to the occurrence of traffic congestion, traffic flow and speed are decreased.



Speed decreases due to increase traffic flow

Traffic Capacity

Traffic capacity value is different depending on the type of road section.

There is <u>basic capacity</u> when road and traffic conditions are ideal.

The factors affecting basic capacity are as follows,

- Lane width
- Shoulder width
- Roadside Condition : urban or others
- Pavement Condition
- Heavy trucks : Large size vehicle rate

Volume / Capacity Ratio

For a given lane group i, Volume / Capacity Ratio is computed using equation below.

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Volume / Capacity Ratio = Vi / Ci
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where

V: actual or projected demand flow rate for lane group i (pcu/h),

C: capacity of lane group i (pcu/hour),

Relationship between V/C ratio and Traffic Situation

LOS	V/C Ratio	Traffic Situation
А	0.00 to 0.28	Free flow with low volumes, densities and high speeds. Driver can maintain their desired speeds with little or no delay.
В	0.29 to 0.47	Stable flow. Operating speeds beginning to be restricted somewhat by traffic conditions, some slight delay.
С	0.48 to 0.66	Stable flow, speeds and maneuverability are more closely controlled by higher volume. Acceptable delay.
D	0.67 to 0.79	Approaching unstable flow. Tolerable operating speeds which are considerably affected by operating conditions. Tolerable delay.
E	0.80 to 1.00	Unstable flow. Yet lower operating speeds and perhaps stoppages of momentary duration. Volumes at or near capacity and intolerable delay.
F	More than 1	Forced flow. Speeds and volume can drop to zero. Stoppage can occur for long periods. Queues of vehicles backing up from a restriction downstream.