TRAFFIC FLOW AND AVRAGE QUE DISTANCE USING SIDRA INTERSECTION AT AHMEDABAD CITY

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ABSTACT

Using the sidra intersection 5 pulse to use the traffic flow and average queue distance at Ahmadabad city area. This software are to using the traffic design anew the establishment to the unsignliused intersection and the traffic signal design and road width and the lane. There are road lane are the signal and double lane road at Ahmadabad city. To determinate the vehicular pcu and traffic flow.

Keyword: average queue distance, traffic flow , delay vehicle . vehicle pcu unit

1.INTRODUCTION

Traffic study is concept to determination and newly arrived software like sidra intersection mx road etc , there are number of traffic problem to the city . one of this is the queue distance and delay the traffic. There problem solving the using traffic software to sidra   intersection 5 plus there is mostly use of this softwere to determinate traffic flow , average queue distance ,delay the traffic and many number data to easily available to data and less physical work at site.

1.2 STUDY AREA

In Ahmadabad city is biggest and crowded city of India . there are Number of traffic problem to the city. Trp mall Bopal in Ahmadabad is our study area. They are nearly located at East side. There intersection is unsignlised and there are the four phase intersection at trp mal bopal junction

Figure 1 Study area trp mall Ahmadabad

2.METHODOLOGY

The methodology use to this intersection to calculate the vehicular pcu unit and is video graph method and and road width is calculate the pedometer instrument. There are the unsignalised intersection are the traffic floe and traffic delay and average queue distance also calculating help of sidra intersection software.

Figure 2: intersection B

3.DATA COLLECTION

Data collection are the mostly use to (1) Traffic volume data at intersection and second one is
(2) Road inventory data and the inter section number of lane divided or not and there width determinate.

Table 1 Rotary data collection

JUNCTION	INTERSECTION	ROAD TYPE	LENGTH	WIDTH
	B1	2 LANE UNDIVIDED	350	10
B	B2	4 LANE DIVIDED	460	14
	B3	2 LANE UN DIVIDED	480	10
	B4	4 LANE DIVIDED	950	14

3.1 Traffic Volume Study

There are the traffic volume study are there to which number of vehicular are passing the particular intersection b1-b2-b3-b4 there are in divided and unlived lane. So the calculate pcu unit for different type of vehicle like two vehicle four vehicle truck buses and others.

Table 2 Vehicle pcu unit

Direction: FROM AHMEDABAD																						Time: 0000 to 2200			
Time		Vehicles																								
		2W			3W			4W			LCV			HCV			BUS			N.M.V			OTHERS		
Hour	Minute	L	S	R	L	S	R	L	S	R	L	S	R	L	S	R	L	S	R	L	S	R	L	S	R
6:00	00-05	5	7	3	1	3	0	0	8	2	2	2	2	0	1	0	0	2	0	2	1	0	0	2	0
	05-10	4	8	4	2	5	2	1	6	1	1	1	1	0	2	0	0	3	0	0	0	1	0	1	0
	10-15	4	10	5	1	4	1	2	9	0	0	0	1	0	0	0	0	2	0	0	0	0	1	2	0
15 Min. Total		13	25	12	4	12	3	3	23	3	3	3	4	0	3	0	0	7	0	2	1	1	1	5	
	15-20	6	9	5	3	4	1	5	8	3	1	2	2	1	1	0	1	1	0	1	2	0	1	2	1
	20-25	5	7	7	2	4	3	3	7	4	2	1	2	0	2	1	0	2	1	0	1	0	0	1	0
	25-30	7	10	6	2	3	2	4	6	5	0	2	3	0	1	0	0	3	1	1	1	1	0	1	0
15 Min. Total		18	26	18	7	11	6	12	21	12	3	5	7	1	4	1	1	6	2	2	3	1	1	4	1
	30-35	7	8	5	2	4	3	3	6	3	1	2	2	0	1	0	1	3	0	0	2	0	1	3	1
	35-40	8	9	3	1	3	3	3	6	4	1	3	1	0	1	0	0	1	0	1	1	0	1	3	1
	40-45	9	10	6	2	5	3	5	8	3	2	1	1	0	0	1	0	2	0	0	1	1	1	2	2
15 Min. Total		24	27	14	7	12	8	11	20	10	4	6	4	0	2	1	1	6	0	1	4	1	3	8	4
	45-50	8	7	5	3	5	3	1	9	3	1	1	1	0	1	1	1	2	1	0	1	0	1	1	1
	50-55	9	9	4	3	4	2	2	7	4	0	1	1	0	1	0	1	1	0	1	1	0	0	1	1
	55-60	7	10	5	2	5	1	2	6	2	1	2	1	0	2	0	0	1	1	0	1	1	1	2	0
15 Min. Total		24	26	14	8	14	6	5	22	9	2	4	3	0	4	1	2	4	2	1	3	1	2	4	2
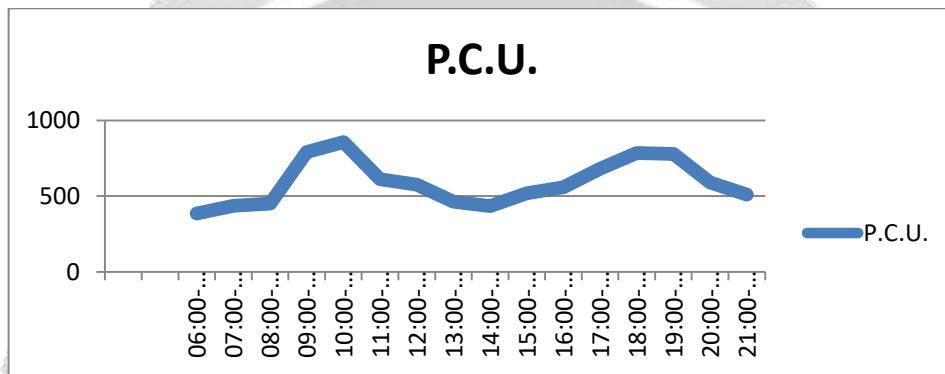
Chart-1 Hourly % vehicular composition graph at B

4. CONCLUSION

There are the using the sidra intersection software to determinate the traffic flow and average queue distance at intersection B there are the fastest compare to manually and less physical work and more software work are there are the intersection b after the average queue distance is 54 % and after the implementation to this signal design to 72 % .
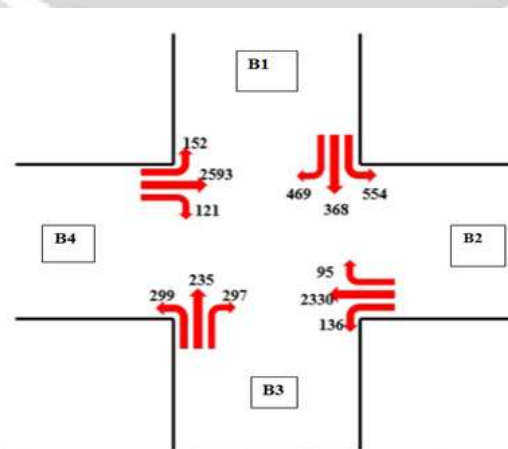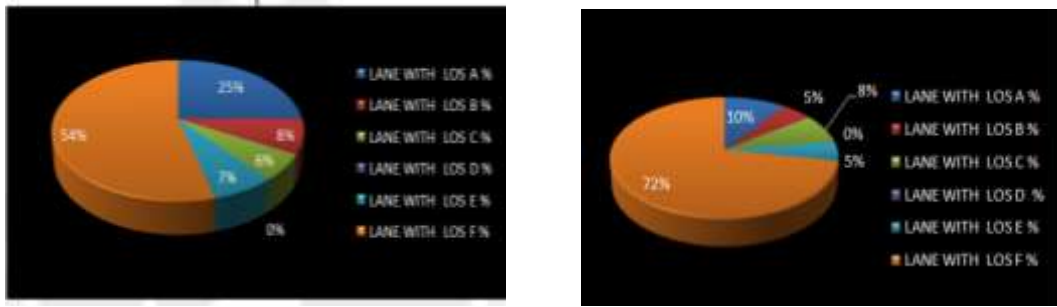

Figure 3: sidra intersection B

Figure 4: % Lane-LOS before and after signal co-ordination average queue distance

5.REFFRENCES

[1]Koonce, P., L. Rodegerdts, K. Lee, S. Quayle, S. Beaird, C. Braud, J. Bonneson, P. Tarnoff, and T. Urbanik. Traffic Signal Timing Manual. Publication FHWA-HOP-08-024. FHWA, U.S. Department of Transportation, 2008

[2]Khusboo M. Patel, Dr. H.R. Varia,and Dr. P.J. Gundaliya, "A Methodology of Signal Coordination at Network Level," National Conference on Recent Trends in Engineering and Technology, May 2011

[3] Kishor Bambode, Vishal Gajghate (Feb 2014) "Traffic Signal Optimization for Important Routes In Nagpur City: A Review." ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 4, Issue 2, February 2014

[4] Koshi, M. Cycle Time Optimization in Traffic Signal Coordination. Transpn. Res. Vol 23A No. 1, pp. 29-34, 1989