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Traffic Census and Analysis For Urban Transport Of Central Business District (Srinagar)

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Abstract

Transportation Engineering starts with a traffic census. All management and engineering activities are conducted solely on the basis of this. Because there are significant fluctuations in flow, averaging of these counts into a single volume count is done for design purposes. Manual Method, Automatic Method, Combination of Manual and Automatic Method, and Photographic Ways are the four primary methods of traffic census. All of them have advantages and disadvantages. They have various preferences in terms of accuracy, documentation convenience, versatility, and cost. Three primary traffic analysis methodologies, IRC, UK method, and US practises, have been covered, as well as IOWA Department of Transportation standards for congestion measurement. As metropolitan regions transition from developed to developing, the period of surveys as defined by the IRC must be expanded in order to effectively control traffic. The most significant intersection on the 17.8-kilometer NH1A Bypass, which is projected to be the jugular vein of Greater Srinagar City, is Poloview Intersection. It may be regarded a meeting point for all of Kashmir. The intersection in question is the subject of a traffic census and analysis case study..

Keywords: *Traffic Census, Traffic Analysis, Transport*

1. INTRODUCTION :

"It was not our prosperity that led to our transportation infrastructure, but our good transportation infrastructure led to our wealth," remarked John F Kennedy. Transportation and its related issues are phenomena that affect all road users in various ways, and an efficient solution is required for the society's general improvement. Transportation should be safe, quick, comfortable, convenient, and cost-effective, as well as environmentally friendly.

"Srinagar, the state capital, must serve as a source of pride for the people of the state who see the city as a model city" [8]. With the plan for a Greater Srinagar Satellite Town expected to be approved in the near future, the National Highway 1A Bypass, which runs 17.8 kilometers from Panthachowk to Shalteng, will be the city's jugular vein. The Poloview Crossroads is the most significant intersection along the 17.8-kilometer stretch of the NH1A Bypass. It is a four-armed at-grade junction located 7,752 meters from the start of the NH1A Bypass in Athwajan and 10,048 metres from the end of the NH1A Bypass in Shalteng. It may be thought of as the meeting point for all of Kashmir. The first side of the intersection reaches South Kashmir from Athwajan, while the second side approaches from the north. Approaches North Kashmir through Hyderpora-Shalteng, with the Central Business District LalChowk on the third side and the Army Airport (Old Airport) on the fourth.

1.1 Understanding The Problem :

The monitoring and study of flow, whether in the form of motorists, cyclists, passengers, or pedestrians, is of fundamental importance in Transportation Engineering. A good estimate is required for a facility to operate efficiently and produce the desired outcomes. Overestimation results in resource waste. Underestimation causes a decrease in L.O.S., congestion, and other side effects.

1.2 Need :

- Engineering, Education, Enforcement, and Emergency Response are the four basic E's of transportation engineering. Except for education, all of the other E's require Flow Measurement and Analysis as a prerequisite. Flow Characteristics influence the level and type of education to some extent.

WHY!!??

- It is the foundation of Transportation Engineering and acts as a benchmark for future examination.
- The creation of a new city's transportation network is solely based on this.
- A Traffic Census is the only way to find an intelligent solution to a traffic problem, whether it's congestion, a lack of amenities, time savings, or diversion.
- All traffic management activities, such as entry restrictions and loading restrictions, are based solely on this.
- All Traffic Management activities are based solely on this, such as entry restrictions, loading and unloading restrictions, and parking restrictions, as well as the hiring of a large number of enforcement officers.
- Existing facilities are being upgraded.
- Used to determine critical flow times, the impact of big vehicles or people on vehicular traffic flow, and to monitor traffic volume trends.
- The length of the sample period is determined by the type of count and the planned use of the data collected.

1.3 Conflict at Poloview Intersection :

Any point where two cars are merging, diverging, or crossing is a possible Conflict Point.

These are extremely unwanted since they generate traffic congestion and are a primary cause of all accidents. The fundamental goal of junction control is to resolve these conflicts in order to provide safe and efficient traffic circulation for both vehicles and pedestrians.

Fig 1: Drawing of Polo View Intersection.

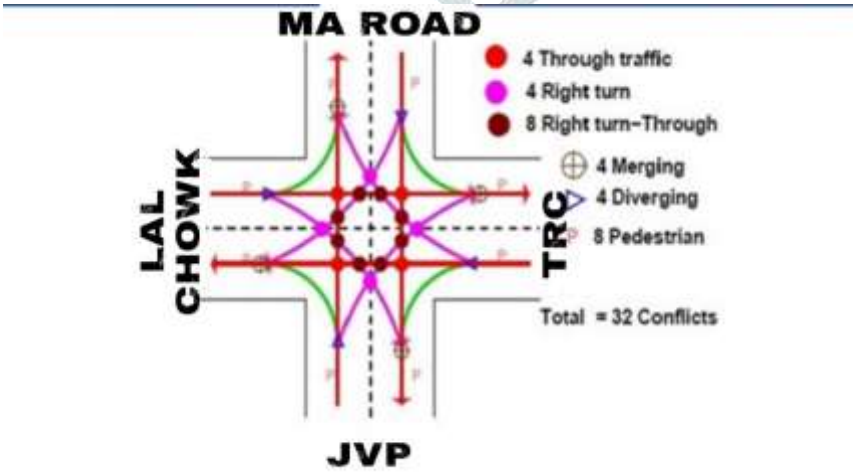

Fig 2: Conflicts at Polo view Intersection.

In the current scenario, there are four conflicts for through traffic and four conflicts for right turns. The number of right turn through and diverging conflicts is four, whereas the number of Pedestrian Conflicts is one. As a result, there are 32 Conflicts in total.

2. Identifying Major Conflict Problem

The major source of gridlock at each Leg is through traffic, right turns, and diverging traffic that all combine at the same place, causing huge lines to build and impeding traffic movement in all directions.

3. METHODS OF TRAFFIC CENSUS :

3.1 Manual Method [1]

Field personnel are used in manual procedures to count and classify traffic moving through a fixed point (Section). The number of enumerators required to count the car is determined by the number of lanes on the highway to be counted, as well as the type and accuracy of information required. [2] Internet Relay Chat Data should be recorded individually in each direction of travel, and observers should be stationed in each direction. It is preferable to have literate enumerators with a medium or matriculation level of education. The job is carried out in order to preserve accuracy and precision. shifts, with enough time allotted to each surveyor for rest, food, and drink.

Method

The data is typically put into a five-dash system, in which vertical strokes are entered for the first four cars, followed by an oblique stroke for the fifth, for a total of five vehicles. When an observer becomes comfortable with a system, he tends to follow it for a short period of time. It makes assessment straightforward, hassle-free, and error-free.

Traffic entering a four-legged intersection, for example, is often divided into three categories: left turning, right turning, and straight ahead traffic. If the traffic circumstances are such that there is a substantial percentage of U-turns, these are also computed. Each arm of the Intersection has a traffic enumerator. For such flows, the IRC has mandated the field data sheet [2].

3.2 Automatic Methods :

Portable counters perform the same function as manual counters, but with the added benefit of automated counting. The time it takes to gather data using this approach is generally longer than it takes to collect data using manual counts. Automatic Methods must be utilised for 24-hour censuses.

3.2.1 Mechanism :

Automatic techniques comprise of equipment that serves the goal of traffic measurement in two steps:

1. Detecting the passing or presence of a vehicle, referred to as a Detector or Sensor.
2. Keeping track of the number of people.

Sensors work on diverse principles, therefore the sorts of censors are determined only by their operations: -

1. Tube for the Road: - A flexible tube with one end sealed and clamped to the road surface at right angles to the pavement, and the other end linked to a diaphragm actuated switch is known as a pneumatic tube. When a vehicle axle traverses the tube, a volume of air is displaced, which transmits an electric signal instantly. When two of these connections are activated, the vehicle is counted once.
2. The Sensor equipment consists of a pair of steel strips enclosed in a rubber strip buried beneath the surface. Steel strips come into touch with each other when forced by the weight of a moving axle, producing in an electric current flow. It has the benefit of being able to discriminate between distinct streams of traffic flow; aside from the mechanism, there is no difference between a road tube and an electric tube.
3. Photo-electric: One end of the road is set with a light source that emits a beam across the road, while the other end has a fixed Photo-cell that can differentiate between the presence of light and its absence. The passage of traffic causes an obstacle, which is detected by a photo-cell. It also can't tell the difference between different flow lanes.
4. Magnetic: A magnetic disturbance generated by the passage of a vehicle is employed as the foundation of sensing in this situation. A coil placed beneath the road surface generates a magnetic field.

The recording mechanism is the second element of an automated Traffic Counting Device once the traffic is identified by a Sensor. The following are some of the most frequent types:

1. Counting Register: - It is an accumulator counter that immediately indicates the number of cars on a metre, exactly as an electric/water metre established by the government depicts the number of electric or water units utilised by a consumer. Before and after the counting time, readings must be taken. Readings on these intervals must be taken in order to divide the counting period into desirable intervals such as hours, minutes, and so on.
2. Printed Output: - This gadget prints the total count on a roll of paper at regular intervals. At the start of a counting period, the counter is reset to zero. The local clock is directly related to time. The time of day and the number of cars are printed next to each other. This system is set up to deliver the count when a predetermined amount of time has passed.

3. Electronic System: This is a contemporary system that uses electronic data logging on electronic storage devices like Compact Discs and mass storage systems. Advanced systems are now available that can be directly connected to PCs via a port built into the system.

3.3 Combination of Manual and Mechanical Methods :

Automatic techniques are ineffective due to specific restrictions, such as in the instance of Heterogeneous Flow of Traffic in India. A mix of both approaches might be utilised to improve Census efficacy while also making it less inconvenient. The assembly is made up of a chart that moves at predetermined intervals. When a switch/pen indicating a certain class of vehicle is pressed, the pen on the channel on the chart corresponds to the arrival of that type of vehicle.

3.4 Photographic Methods :

In 1927, photographic methods were employed for the first time for a traffic study between Baltimore and Washington [9]. Photographic approaches were advocated by Green shield, who is considered as one of the first pioneers in traffic engineering. He advocated the use of photography to study traffic behavior in 1933 [10].

Photographic techniques can help with a variety of elements of traffic engineering and provide several advantages. It is a strong instrument that can be used for both research and practical investigations, and it has nearly infinite potential. There are several advantages to using these: -

• Use of labor is limited .

• Highly accurate data .

• A permanent record of traffic conditions .

• A variety of conditions on which analysis will be done without the need to return to the field .

• The study had no impact on driver behavior.

(The Iowa Department of Transportation strongly encourages the use of a survey method that does not harm road users, particularly motorcycle riders.)

• Analysis may be done quickly at the workplace by playing the recorded analysis on the monitor, and there are additional indirect advantages. It can also be used to track out offenders.

Big Screens are accessible in modern countries with powerful traffic engineering systems, allowing minute details to be easily examined and serving as a standard document for the enforcement of rules and regulations.

4. METHODS OF TRAFFIC ANALYSIS :

4.1 Indian Practice

The methodology/approach is based on an average of two weeks of traffic surveying, one during the Lean Season and the other during the Harvesting Season, as recommended by IRC. The survey will be recorded hourly on the field data sheet using the Five Dash system, which includes Vertical Strokes for the first four cars and an Oblique Stroke for the fifth vehicle, for a total of five vehicles. Once the census has been completed, assessed, and analysed, it becomes the standard document for future analysis. As a result, Peak Hour Traffic is computed, and the required facility is evaluated in relation to this Peak Hour Traffic.

4.1.1 Traffic Volume Study

In accordance with IRC [1,] a traffic volume study must be conducted twice for a total of seven days in all directions of traffic movement. Because the traffic in India is heterogeneous in nature, the IRC-recommended equivalence factors should be utilised to achieve the necessary PCUs.

The Traffic Census will be conducted for a total of 12 hours at a time, with appropriate time allotted to each Surveyor in rotation for rest and food. If an abnormal traffic condition is observed at any point throughout the survey, the study should be terminated immediately. Abnormal conditions may arise as a result of a diversion from or to the Control point, as a result of a state vacation, or as a result of any other occurrence.

Data recording: - A field data sheet, as specified by IRC, should be created for hourly data recording.

Data compilation: Data should be compiled as soon as possible following the survey, with care given to avoid mistakes and omissions.

4.2 Practice in the United Kingdom [6]

In the month of August, the UK standard is to measure the 7-day average flow for 16 hours (6am-10pm). According to many studies and historical patterns, the month of August has continuously had the highest average travel demand. Average Adjustment variables are used to adjust observations obtained in any other month to their August Equivalent

4.3 Practice in the United States of America [7]

Control Points Station: Counts are conducted for 24 hours.

-Counts on a large number of Control points are repeated to acquire Seasonal and Daily Traffic Characteristics, as well as variables to convert these counts into daily average values. There are Major and Minor Control Points, depending on the significance of a Control Point. [Ref No.] There are two sorts of counts that are approved.

• Control Points of Major Importance:

- The count on these Control points is done 12 times a year, or once a month. Three weekdays, one Saturday, and one Sunday are included in each count.

• Minor Control Points: These Control Points are counted four to six times a year, in alternating months, with each count lasting at least 48 hours on weekdays.

4.4 Iowa Department of Transport Practice [3] .

This allows us a simple technique of calculating congestion. There are many different forms and descriptions of traffic congestion.

intersections are involved The kind of delay discussed in this section is stopped-time delay, also known as stopped delay, which refers to the amount of time that cars wait in line on their way to a junction. The Percent of Vehicles Stopped, which is a valuable indication of signalized junction performance, is provided in this research.

4.4.1 Procedure

The four highest consecutive fifteen-minute intervals are included in the field survey component of the study. The study was done under typical settings, which included the weather, the schedule of local traffic generators, and so on. On each leg, two observers will be stationed, one to count and record the stopped cars at 15-second intervals, and the other to count and record the number of approaching vehicles at 15-second intervals. The approach assumes that each car will be halted for the full fifteen-second period.

The observers should be placed in such a way that they can watch the entire approach. The observers' position and conduct should not distract or affect the behaviour of road users, particularly motorists.

Observers must count cars that have locked wheels as well as vehicles that have been halted and are moving forward in a queue that is not discharging.

4.4.2 Method :

On the Intersection Delay Research Field Sheet, one observer will tally the number of stopped cars in each fifteen-second period of time for each minute of the study duration. The other observer will count the number of cars that stopped and those that did not stop and hand them over to the first observer in 15-minute intervals for recording. To avoid the need for a team member to read a watch at each interval, a timing device with an audio indication at 15-second intervals will be utilised.

5. POLOVIEW INTERSECTION RESULTS :

A comprehensive traffic survey and analysis was conducted at the Poloview Intersection, as shown below:

Intersection Approach Delay Study

TRAFFIC ON JVP LEG		TRAFFIC ON MA ROAD LEG	
AVERAGE DELAY PER STOPPED VEHICLE	15 seconds	AVERAGE DELAY PER STOPPED VEHICLE	15 seconds
TOTAL DELAY	6960 vehicle seconds	TOTAL DELAY	7816 vehicle seconds
AVERAGE DELAY PER APROACH VEHICLE	12.04152249	AVERAGE DELAY PER APROACH VEHICLE	12.864
PERCENTAGE OF VEHICLE STOPPED	80.27%	PERCENTAGE OF VEHICLE STOPPED	85.556149%

TRAFFIC ON LAL CHOWK LEG		TRAFFIC ON TRC LEG	
AVERAGE DELAY PER STOPPED VEHICLE	**15 seconds**	**AVERAGE DELAY PER STOPPED VEHICLE**	**15 seconds**

TOTAL DELAY	8436 vehicle seconds	TOTAL DELAY	12547 vehicle seconds
AVERAGE DELAY PER APROACH VEHICLE	12.7289	AVERAGE DELAY PER APROACH VEHICLE	14.98
PERCENTAGE OF VEHICLE STOPPED	84.86%	PERCENTAGE OF VEHICLE TOPPED	99.93%

AVERAGE TRAFFIC	
AVERAGE DELAY PER STOPPED VEHICLE	RESULT
AVERAGE DELAY	8939.75 vehicle seconds
AVERAGE DELAY PER APROA H VEHICLE	13.1536
PERCENTAGE OF VEHICLE STOPPED	87.654%

The whole data is combined as the Average of the Surveys Conducted in both the Lean and Harvesting Seasons, and the Peak Hour is calculated as a result of this data. To be in a position to build Intelligent Design of the junction, the composition of all lanes as well as turning actions is established and illustrated.

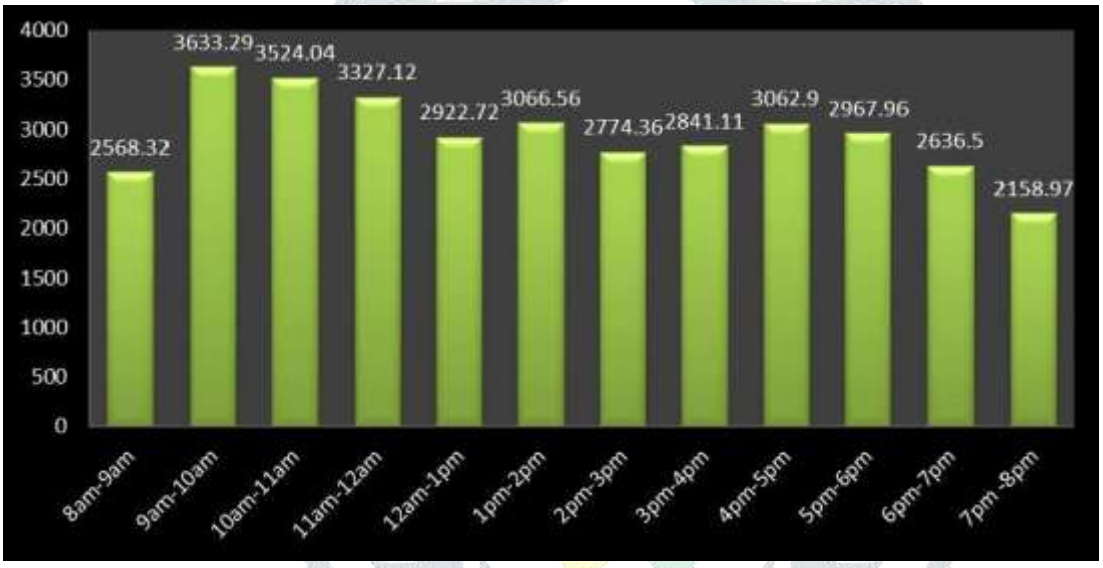

Chart 1: Average Daily incoming Traffic Flow in Passenger Car Units

INTERSECTION DESIGN DATA								
Peak Hour Design Traffic :	Peak Hour 9 a.m Hrs to 10 a.m Hrs.							
Name & Location of Intersection: Poloview Intersection								
	From			Leg A* TRC				
Entering	Leg B* M.A Road			Leg C* Lal Chowk		Leg D* JVP		Remarks
Type	Nos	PCU Equivalency	PCU	Nos	PCU Equivalency	Nos	PCU Equivalency	
	1	2	3=1x2	1	2	1	2	
Fast Vehicles								
1. Passenger Cars,Tempos,AutoRickshaw,Tractor,Pick up vans	50.34	1	50.34	240.1	240.1	230.41	230.41	
2. Motor Cycles , Scooters	17.13	0.5	8.565	30.21	15.105	29.6	14.8	
3. Agriculture Tractor Light Commercail vehciles		1.5	0		0		0	
4. Trucks, Buses	32.14	3	96.42	200.3	600.9	17.6	52.8	
5. tractor-Trailer, Truck, trailer Units	3.54	4.5	15.93	18.65	83.925	20.32	91.44	
			0		0		0	
Slow Vehicles			0		0		0	
6. Cycles	3.15	0.5	1.575	5.4	2.7	1.07	0.535	
7. Cycle Rickshaws		1.5	0		0		0	
8. Hand Cart		3	0		0		0	
9. horse Drawn		4	0		0		0	
10. Bullock- Carts		8	0		0		0	
	106.3		172.83	494.66	942.73	299	389.985	
Total Vehicles =	899.96				**Total PCU's =**		**1505.545**	

Chart 1: Intersection Design Data for TRC Leg Leg as recommended by IRC [2]

INTERSECTION DESIGN DATA								
Peak Hour Design Traffic :	Peak Hour 9 a.m Hrs to 10 a.m Hrs.							
Name & Location of Intersection: Poloview Intersection								
	From			Leg A* Lal Chowk				
Entering	Leg B* M.A Road			Leg C* TRC		Leg D* JVP		Remarks
Type	Nos	PCU Equivalency	PCU	Nos	PCU Equivalency	Nos	PCU Equivalency	
	1	2	3=1x2	1	2	1	2	
Fast Vehicles								
1. Passenger Cars,Tempos,AutoRickshaw,Tractor,Pick up vans	70.15	1	70.15	204.02	204.02	52.65	52.65	
2. Motor Cycles , Scooters	12.93	0.5	6.465	40.37	20.185	4.028	2.014	
3. Agriculture Tractor Light Commercail vehciles		1.5	0		0		0	
4. Trucks, Buses	29.24	3	87.72	180.52	541.56	4.92	14.76	
5. tractor-Trailer, Truck, trailer Units	8.325	4.5	37.4625	47.96	215.82	2.9	13.05	
			0		0		0	
Slow Vehicles			0		0		0	
6. Cycles	2.55	0.5	1.275	5.23	2.615	3.5	1.75	
7. Cycle Rickshaws		1.5	0		0		0	
8. Hand Cart		3	0		0		0	
9. horse Drawn		4	0		0		0	
10. Bullock- Carts	0.65	8	5.2	0.23	1.84	0.3	2.4	
	123.845		208.2725	478.33	986.04	68.298	86.624	
Total Vehicles =	670.473				**Total PCU's =**		**1280.9365**	

Chart 2: Intersection Design Data for Lal Chowk Leg as recommended by IRC [2]

INTERSECTION DESIGN DATA								
Peak Hour Design Traffic :	Peak Hour 9 a.m Hrs to 10 a.m Hrs.							
Name & Location of Intersection: Poloview Intersection								
	From			Leg A* M.A Road				
Entering	Leg B* Lal Chowk			Leg C* TRC		Leg D* JVP		Remarks
Type	Nos	PCU Equivalency	PCU	Nos	PCU Equivalency	Nos	PCU Equivalency	
	1	2	3=1x2	1	2	1	2	
Fast Vehicles								
1. Passenger Cars,Tempos,AutoRickshaw,Tractor,Pick up vans	132.54	1	132.54	51.526	51.526	330.52	330.52	
2. Motor Cycles , Scooters	40.25	0.5	20.125	4.258	2.129	75.425	37.7125	
3. Agriculture Tractor Light Commercail vehciles		1.5	0		0		0	
4. Trucks, Buses	14.562	3	43.686	49.652	148.956	27.025	81.075	
5. tractor-Trailer, Truck, trailer Units	10.32	4.5	46.44	2.74	12.33	35.56	160.02	
			0		0		0	
Slow Vehicles			0		0		0	
6. Cycles	18.205	0.5	9.1025	0	0	17.235	8.6175	
7. Cycle Rickshaws		1.5	0		0		0	
8. Hand Cart		3	0		0		0	
9. horse Drawn		4	0		0		0	
10. Bullock- Carts		8	0	0	0	0	0	
	215.877		251.8935	108.176	214.941	485.765	617.945	
Total Vehicles =	809.818				**Total PCU's =**		**1084.7795**	

Chart 3: Intersection Design Data for M.A Leg as recommended by IRC [2]

INTERSECTION DESIGN DATA								
Peak Hour Design Traffic :	Peak Hour 9 a.m Hrs to 10 a.m Hrs.							
Name & Location of Intersection: Poloview Intersection								
	From			Leg A* JVP				
Entering	Leg B* Lal Chowk			Leg C* TRC		Leg D* M./A Road		Remarks
Type	Nos	PCU Equivalency	PCU	Nos	PCU Equivalency	Nos	PCU Equivalency	
	1	2	3=1x2	1	2	1	2	
Fast Vehicles								
1. Passenger Cars,Tempos,AutoRickshaw,Tractor,Pick up vans	59.144	1	59.144	100.3	100.3	28	28	
2. Motor Cycles , Scooters	88.654	0.5	44.327	8.95	4.475	1.7	0.85	
3. Agriculture Tractor Light Commercail vehciles		1.5	0		0		0	
4. Trucks, Buses	6.8	3	20.4	14.3	42.9	3.52	10.56	
5. tractor-Trailer, Truck, trailer Units	5.94	4.5	26.73	3.5	15.75	1.8	8.1	
			0		0		0	
Slow Vehicles			0		0		0	
6. Cycles	0.4	0.5	0.2	1.7	0.85	0.27	0.135	
7. Cycle Rickshaws		1.5	0		0		0	
8. Hand Cart		3	0		0		0	
9. horse Drawn		4	0		0		0	
10. Bullock- Carts		8	0		0		0	
	160.938		150.801	128.75	164.275	35.29	47.645	
Total Vehicles =	324.978				**Total PCU's =**		**362.721**	

Chart 4: Intersection Design Data for JVP as recommended by IRC [2]

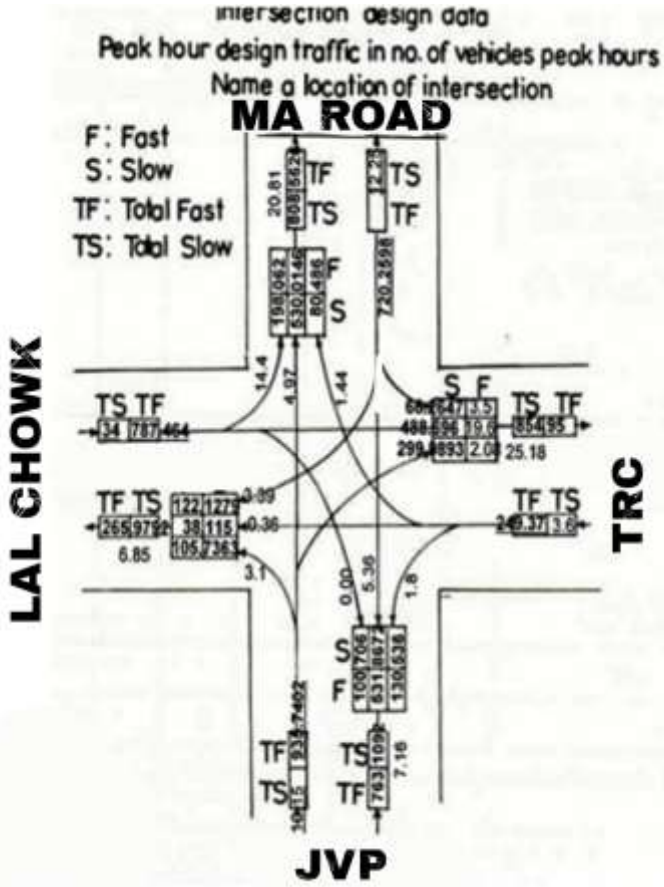

Chart 6: Intersection Design Data Peak Hour DesignVehicle as recommended by IRC [2]

6. THE DISCUSSION :

Because these video recordings are studied calmly and with reasonable ease in the office, photographic methods are the most appropriate for maintaining high accuracy. This cassettes can be analysed several times, so if there is an error, it can be quickly corrected, and reconnaissance of previous work may be done at any time. When a vehicle with more than one axle travels over the specified portion of road, the automatic techniques offer the most incorrect data, as when a vehicle with more than one axle passes over the selected section of road, the wrong result is recorded. This is only relevant when there are a high number of vehicles with more than two axles in the traffic flow. It is unable to distinguish between distinct vehicle lanes or their associated movements. Furthermore, crawler tractors, tyre chains, snow ploughs, and other similar equipment are likely to cause damage. In the case of photoelectric censors, blockage may be produced by a pedestrian or by the presence of several vehicles in separate traffic lanes that are all positioned in the line of beam at the same time, resulting in incorrect data collection. Manual Counts offer the poorest results in terms of accuracy if skilled professionals are not hired or if a smaller number of individuals are employed, however this seldom occurs in practise. When manual and automated techniques are combined, the flaws of automatic methods are solved by the hassle-free mechanism of automaticity, but accuracy is not on par with photographic methods. Automatic techniques are the easiest in terms of data tabulation since the count is either immediately supplied in the form of output (either soft copy of the hard copy). Automatic is followed by Manual and Automatic Combination. Manual tabulation may take longer if not done in the five-dash system, but it is still time consuming in comparison to the former. Photographic techniques are difficult to tabulate since they need counting in the office (Census is done by recording of traffic volume on video tapes, then counting the same in the office will be regarded as tabulation). Photographic methods are the most adaptable since they may be utilised in any terrain, flow conditions (heterogeneous or homogeneous), distance between control locations, and topography. Because automatic techniques cannot be utilised for diverse data, they are the least flexible. Other factors, such as magnetism, may alter flow conditions or mechanism. Damage from crawler tractors, tyre chains, snow ploughs, and other similar equipment may also occur. If there is a considerable variance in various classes of cars, the combination of manual and automatic techniques may be influenced. When the control point is at two junctions that are very close to each other, disturbing the line of sight, manual methods are not practical, although this is an uncommon occurrence. Photographic equipment is the most expensive to buy and maintain, followed by Automatic Methods and a mix of the two. Manual techniques are the most cost-effective, but they require monitoring.

The British approach is to construct a facility for the greatest flow that occurs in a year, but the Indian norm is to design a facility for the average flow that occurs in a year, which is calculated by averaging the highest and lowest flows that occur in the year. As a result, the facility is able to self-sufficiency for the bulk of the year, while taking into account the economics, as India is a developing country with a lower standard of living than the United Kingdom or the United States of America. The United States of America For major sites, it is customary to assess traffic flow once a month, whereas lesser roads are measured 4-6 times per year. Seasonal fluctuation is reliably assessed in this manner, and the results are then utilised to build the specific facility. The techniques of the United States of America and the United Kingdom are thus the finest ways for the purpose of design, better

L.O.S, and thus evolution of design that will suffice via the greatest incoming flow. The method used in the United States of America provides more data that can be used for all Traffic Management operations, such as the time period for maintenance, the time period for diversion to or from, the percentage of different classes of vehicles using a particular section at various times, and the necessary measures to be taken. Many accidents (both fatal and non-fatal) have occurred at the Poloview Intersection between the hours of 8 p.m. and 8 a.m., during which time no survey was conducted. In a country like India, where urban regions are transitioning from developing to developed, an examination of standards (methods) is now unavoidable.

7. CONCLUSION AND SUMMARY :

The census technique is based on the level of accuracy, cost, and manner of evaluating a specific location.

Various techniques of analysis with regard to economic considerations, L.O.S necessary, people's standard of life, local practise, and flow type. The following are the many techniques of traffic census mentioned, in order of accuracy: 1. Photographic Method

2. Manual and automated methods combined

3. Using the Manual Method

4. Automated Procedure

However, in terms of tabulation and documentation, the following is the order:

1. Automatic Method

2. Manual and automated methods combined .

3. Using the Manual Method .

4.Photographic Techniques .

The IOWA Department of Transportation guidelines simplify the measurement of congestion, indicating the level of analysis to be performed as well as the priority of analysis. They also give us an idea of the economic loss suffered, whether in the form of time lost, increased vehicle operating costs, or fuel costs, as all of these are directly related to the level of congestion. It may also be used as a scale to demonstrate the need for upgrading or to demonstrate the advantages of upgrading by comparing the degree of congestion before and after using the IOWA Department of Transportation Scale. According to IRC[1], a full 24-hour survey should be conducted on seven consecutive days for 12 hours, one weekday and one off day, to get a sense of the flow throughout the day and then the necessary Traffic Management activities may be carried out based on this. Maintenance decisions include the practicality of time (through the year or even within a 24-hour interval) and the necessary actions to be done. For the sort of repair activities to be permitted while the current highway is operational, complete flow data for the whole 24 hour period must be provided. When the number of cars utilising the facility or the flow is unusually large, appropriate diversion routes must be identified. In rare circumstances, the substitute facility to which traffic is redirected may be unable to meet demand, resulting in traffic congestion.

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