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REVIEW ON TRAVEL TIME AND DELAY STUDIES

ROHAN SONI¹, SATHVARA KEYUR¹, KANSARA KAUSHAL¹, MITTAL PATEL²

1. U. G. Student, Civil Department, SVBIT, Gandhinagar, Gujarat – 382650
2. Assistant Professor, Civil Department, SVBIT, Gandhinagar, Gujarat – 382650

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Abstract: Designing and construction of road involves estimation of traffic volume and setting up ideal speed for vehicles to travel in comfortable way. Way days due to rapid increase in volume of traffic the designed speed on high ways could not be maintained resulting a delay in reaching target point. Our project also involves survey of travel time and Delay studies near a study area. This help use to recommend changes to the existing system. The conclusion to the problem by checking personally and talking speed back of public using the study area. Now days, due to rapid increase in volume of traffic the designed speed on high ways could not be maintained resulting a delay in reaching target point. Our project is to study the traffic volume and check the time to reach the target in off-peak and peak timings on a high way stretch and coming up with both analytical and practical solution.

Keywords: Delay, Time, Vehicle, Signal, Area, Speed breaker



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Corresponding Author: ROHAN SONI

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1. INTRODUCTION

Travel time study determines the amount of time required to travel from one point to another on a given route. In conducting such studies information on locations, durations, and causes of delay be collected. When this is done the study is known as a travel time and delay study. The data obtained give a good indication of the level of service on the study section. The data also aid traffic engineers in identifying problem locations which may require special attention in order to improve the overall flow of traffic on the route.

The purpose of a Travel Time and Delay Study is to evaluate the quality of traffic movement along a route and determine the locations, types, and extent of traffic delays by using a test vehicle, vehicle observation or probe vehicle. This study can be used to compare and evaluate operational conditions before and after roadway or intersection improvements have been made.

Determines the amount of time required to travel from one point to another on a given route. Often, information may also be collected on the locations, durations, and causes of delays.

1. Indicate the level of service
2. Identify problem locations

Travel times are good indicators of the level of service being provided and can be used as a relative measure to know efficiency of traffic flow. Space mean speeds are determined by conducting a travel time and delay study, as we measure travel time of several trip, over the section .A delay study measure stopped time delay at specific location such as intersections, crossings etc. Travel time and delay data are used in many phases of traffic planning, operation and control. Delay-this is the time while traffic is depended by some element over which the driver has no control. The delay may be fixed delay or operational delay. Fixed delay-this delay caused by traffic control devices. It is delay to which vehicle is subjected to regardless of amount of traffic volume and interference. It may be caused by traffic signal, stop signs, rail-road crossing. Operational delay-this delay is caused by interference between component of traffic such as turning vehicles, parking or un parking vehicles, crossing traffic pedestrians etc.

Stopped time delay-this is the time period that a vehicle is actually standing still, due to any factor. Travel time delay-this is the delay caused by acceleration and deceleration and deceleration, in addition to stopped time delay A Delay Study measure with Stopped time delay at Specific Locations such as intersection, crossings etc. Travel time and delay study data are used in many Phase of traffic Planning, operation and control.

2. LITERATURE REVIEW

1. Title: Travel demand forecasting for urban transportation planning

Author: Arun Chatterjee and Mohan M. Venigalla (2001)

This author gives the Speed studies of traffic flow on urban roads using a two-lane one-way traffic imitation model. The justification of the model, based on development sharing and speeds of the different categories of vehicles, indicates that the model can satisfactorily replicate mixed traffic flow on roads where vehicles move about without lane restraint.

2. Title: Traffic Delay Studies at Signalized Intersections with Global Positioning System Devices (2012)

Author: Y yijiang, Shu O li and karen qin zhu:AQ

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These authors concluded that as one of the new technology in transportation engineering, worldwide position systems have been utilized as an effective tool for measure various types of travel data. GPS strategy have been used to behaviour work zone studies, jamming organization studies and car subsequent analysis.1–3 To additional the request of GPS in transportation engineering, a study was perform with GPS data to examine various types of traffic delays at intersection.

In this study, vehicle position data were record with a GPS device at select intersections on several road sections in Indiana. At the same time, stopped-time delays were deliberate physically by observers at some of the intersections conventional procedures, so that stopped time delays deliberate both by GPS and physically by observers could be compare.

3. Title: A Comparative Study of Speed Humps, Speed Slots and Speed Cushions (2003)

Author: LaToya Johnson and A.J. Nedzesky:

Newer traffic reassuring devices that are ahead status in the US, the speed hole and speed cushion. Journey speed and driver performance were deliberate at chosen traffic reassuring devices on roadways in the Washington DC urban during the summer of 2003. The subject these authors' gives the primary object of this study was to difference speed humps with two devices include:

- 12-ft and 22-ft tarmac speed humps;
- 14-ft prefabricate speed humps;
- 22-ft speed slot; and
- 10-ft speed cushion.

All range from 2.5 to 4.0 inches in height. Video examination skill was used to collect data, Counting vehicle journey speed, sideways assignment and brake incidence.

4. Title: Transit Speed and Delay Study(2006)

Author: Jacksonville, Florida

The FDOT currently sponsors speed and delay studies for the auto mode for the purpose of calibrate local transport planning models. The together data are used to legalize these models, so that the model link speeds more directly replicate offered conditions. In contrast, transit vehicle speeds typically have not been straight model

5. Title: A Study on Travel Time and Delay Survey and Traffic Data Analysis and Visualization Methodology (2011)

Author: 1Reigna Jewel Ritz M. MACABABBAD 2. Jose Regin F. REGIDOR

The study presents a GPS-based travel time and delay survey and data analysis methodology that is being developed to gather reliable travel time and delay data of a road corridor. It presents the development and application of a methodological framework and also data analysis and presentation through the use of digital maps. The proposed methodology demonstrates an efficient method using tools for travel time and delay survey and data analysis.

6. Title: Travel time delay survey (2011)

Author: 1. Shah Sapna Jayesh Kumar 2. Bhasker Vijay Kumar Bhatt

Discussed in the paper

It is need of present time ICT empowerment in urban management .conventional method of traffic survey consuming and become obsolete very soon as the urbanization its self is very dynamic.

7. Title: Estimating Delay Time at Signalized Intersections by Probe Vehicles

Author: Kai Liu, Toshiyuki Yamamoto, and Taka Morikawa:

This authors gives the Delay times at intersections are one of the most central types of in order for ATIS (advanced traveller information systems). Still although probe vehicles have previously been used to directly measure delay times, the continuing collection of real-time delay in order on a large scale depends on sinking broadcast costs to a rational level. Dropping the GPS transmission rate is one effective means of lowering costs. This paper attempts to assess the sensitivity of delay measurements to conflicting data transmission intervals. Two delay dimension algorithms are urbanized equivalent to high-frequency probe information (at 5 second intervals in this paper) and lower-frequency data (from 10 to 60 seconds). Consequences show that delay exposure and measurement compassion reduce quickly with increasing broadcast interval. Delays measured from data transmit at 10-second interval match the 5-second values in about 74% of cases. The relation correctness drop to 37% for data transmit at 60-second interval.

8. Title: Assessment of Traffic Delay Problems and Characteristics at Urban Road Intersections: A Case Study of Ilorin, Nigeria.
Author: Tolu Isaac Atomode (2013) :

The author concludes the Traffic delay problems are manifest in many of the major urban centres in Nigeria. The paper examine traffic delay problem and its causes at selected road intersection in Ilorin, Nigeria. The individuality of the intersection that predisposes them to delay problem and the spatial prototype of traffic delay at the road intersection were also recognized. In accumulation, traffic volume and delay individuality were estimated. Data were collect through direct field surveys on intersection characteristics, traffic volume, composition, delay causes and land use actions. The study of data collected discovered that variation exist in traffic flows and delays at the studied intersections. Also, traffic delays are discovered to be associated with the traffic volumes at the various junctions which eventually translate to traffic congestion. Also, traffic warden and parking troubles were found to be the best causes of delays at the road intersections in the city. The study then recommends that the road intersections be signalized and vehicle parking be strictly forbidden to decrease traffic congestion and delays at road intersections in the city between two reach in target points.

9. Title: "Speed and Delay Study on Study Area" (2015)

Author: Milan Trivedi and Abhijit Singh Parmar

This research gives additional information at stopping intersections, roundabout and for parked Vehicles, etc. For determining spot of congestion and in arriving vehicles during a peak and off peak timings. To establish the speed limit and also provide zebra crossing, speed breakers near a school zone at kadi sarva vidhyalaya sankul, Gandhinagar.

CONCLUSION

From above the research papers we concluding delay the vehicles by many reasons. In this research papers time is delay by the speed breakers, heavy traffic flow, peak hour time, accident and many other problems like weather effects. In these research papers are for reduce the delay time and less time require to reach from origin to destination.

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