

Accident Study To Analysis the Traffic Conflict Areas of Jaipur City

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ABSTRACT

The Statistical Analysis Of Accident Is Conceded Out From Time To Time At Grave Locations Or Road Stretch Which Will Help To Arrive At Pertinent Actions To Effectively Decrease Accident Rates. It Is The Measure (Or Estimates) Of The Number And Cruelty Of Accident. These Information Reports Are To Be Maintained Zone-Wise. Accident Prone Stretches Of Various Roads May Be Assessed By Ruling The Accident Density Per Meter Of The Road. The Places Of Accidents Are Marked On The Map And The Points Of Their Clustering (BLACK SPOT) Are Determined. With The Help Of Statistical Study Of Accident Happening At A Particular Road Or Location Or Zone Of Study For A Long Period Of Time It Is Realizable To Predict With Logical Exactness The Probability Of Accident Occurrence Per Day Or Relative Safety Of Different Classes Of Road User In That Location. The Explanation Of The Statistical Data Is Very Considerable To Provide Impending To The Problem. The Dilemma Of Accident Is A Very Sensitive In Highway Transportation Due To Compound Flow Model Of Vehicular Traffic, Presence Of Assorted Traffic Along With Pedestrians. Traffic Accident Leads To Thrashing Of Life And Property. Thus The Traffic Engineers Have To Undertake A Big Dependability Of Providing Safe Traffic Schedule To The Road Users And Ensure Their Security. Road Accidents Cannot Be Scrupulously Disallowed But By Proper Traffic Engineering And Supervision The Accident Rate Can Be Reduced To A Assured Amount. For This Cause Ordered Study Of Traffic Accidents Are Obligatory To Be Passed Out. India Is One Such Country, Which Benefited The Most. Increased, Economic Activity Raised The Utilization Levels Of The People Across The Country. This Fashioned Scope For Amplifies In Travel And Transportation Accidents In Jaipur City. India Is Undergoing Major Economic And Demographic Evolution Together With Increasing Urbanization And Motorization. We Believe That Individual Road Safety Audit For This Location Should Be Carried Out By A Multi-Disciplinary Team Of Experts To Suggest Corrective Measures.

Key Words: Road Safety, Road Safety Audit, Road Safety Improvement, Human Factors, Freeway Road Inspection

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I. INTRODUCTION

The Process Of Rapid And Unplanned Urbanization Has Resulted In An Unprecedented Revolution In The Growth Of Motor Vehicles World-Wide. The Alarming Increase In Morbidity And Mortality Owing To Road Traffic Incidents (RTI) Over The Past Few Decades Is A Matter Of Great Concern Globally. At Present Motor Vehicle Accidents Rank Ninth In Order Of Ailment Burden And Are Probable To Be Ranked Third In The Year 2020. India Accounts For More Than 200,000 Deaths Because Of Road Accidents, According To The Global Road Safety Report, 2015 Released On Monday By The World Health Organization (WHO). This Is 46% More Than The National Statistics Released By The National Crime Records Bureau (NCRB) In July. Jaipur, A 290 Year Old City Is The State Capital Of Rajasthan. It Lies On The Arrival

Hills, 431 Meters (1414ft) Above Sea Level, Over An Area Of 484.64 Sq.Km. Jaipur Is Now A Metropolitan Area, Is The Tenth Major City In India, With A Population Of Above 3 Million. Unlike Other Indian Metros It Continues To Attract Considerable Migrant Population Due To Its Strategic Geographical Location, Multilingual And Cosmopolitan Culture, Tremendous Growth Potential And Investment.

The Existing Road Network In The City Is Inadequate. Functionally The Road Do Not Have Any Hierarchy As Every Individual Road Changes Its Characteristics After A Short Distance. At Present 5.84% Of The Total Developed Area Is Belonging To Roads Which Is Much Below The Desired Level. Moreover, The Vehicular Population Growth Is Quite High With Just Registered Motor Vehicles In 4.2million To

12.4 Million Vehicles On 31, March2015, An Increase Of Around 3 Fold In Span Of 10 Years.

Most Of Roads In Jaipur City Are Heavily Encroached By Parked Vehicle, Hawker And By The Person Of Road Side Business. This Thing Result Not Only Increases In The Traffic Volume But Also In The Traffic Accident And Make Our Life At Risk. This Paper Was An Attempt To Analyze The Road Accidents In Jaipur Using Annual Data From 2005 To 2017.



Scope And Study

The Main Scope Of Accident Analysis Is To Determine The Cause Of Accident In Future. And According To This We Can Design The Highway And Bridges To Reduce The Accident Rate In Future.

After Analysis Of Accident We Can Design The Traffic Signal And Also Regulate The Management Of Traffic And Road Safety Precaution.

II. METHODOLOGY

There Exist Numerous Forms Of Accident Analysis Methods. These Can Be Divided Into Three Categories:

Causal Analysis Uses The Principle Of Causality To Find Out The Course Of Events. Though People Casually Speak Of A "Chain Of Events", Results From Causal Analysis Usually Have The Form Of Directed A-Cyclic Graphs The Nodes Being Events And The Edges The Cause-Effect Relations. Methods Of Causal Analysis Are Different In Their Respective Notion Of Causation.

Expert Analysis Relies On The Information And Knowledge Of Field Experts. This Form Of Analysis Usually Lacks A Correct (Formal/Semiformal) Methodological Approach. This Usually Affect Falsify-Ability And Objectivity Of Analysis. This Is Of Importance When Conclusion Is Heavily Unclear Among Experts.

Organizational Analysis Relies On Systemic Theories Of Organization. Most Theories Imply That If A System's Behavior Stayed Within The Bounds Of The Ideal Organization Then No Accidents Can Occur. Organizational Analysis Can Be Falsified And Results From Analyses Can Be Checked For Objectivity. Choosing An

Organizational Theory For Accident Analysis Comes From The Assumption That The System To Be Analyzed Conforms To That

III. ACCIDENT DATA

Data Of Road Accidents Were Collected In Two Steps. In The Initial Stage, Data On Road Accidents Of Jaipur City Were Collected From Police Stations (East Zone Police Station Near Gandhi Circle) In The City For Three Years. The Data Included Accident Date, Accident Time, Location Of The Accident, Collision Type, Number Of Vehicles Involved, Number Of Deaths, Injury, Cost Of Property Damage, Detail Of Driver And Some More Information Regarding How Accident Occurred. It Was Found That More Than Thousand Accidents Occurred In Jaipur In Last Year.

After Analyzing The Accident Data, The Road Intersection And Mid-Block Having Maximum Occurrence Of Accident Is Identified. Also For Determine The Present Type Of Accident And Traffic Pattern We Are Taking Data By Self-Examining At The Places.

SN.	EAST ZONE
1	B2 By Pass
2	Gaushala Tonk Raod
3	Front Of India Gate Tonk Road
4	In front Of Saras Parlour
5	Trimurti Circle
6	In front Of M.N.I.T Gate
7	Bajaj Nagar

Table -1

2.1 Field Investigation Of Accident Data

S. No.	Description	No. Accident
1	Total number of notifications received	750
2	Number of cases investigated by JPRI	78
3	Number of cases not investigated by JPRI	666

Table -2

Note: The Above Status Is Based On Accident Notifications Received From October 2016 To March 2017.

2.2 Accident Cases Registered By Police

Month	Cases registered by police	Percentage of registered cases notified
October	45	20%
November	57	19%
December	30	23%
January	50	18%

Table-3

Note: The Above Status Is Based On Accident Notifications Received From October 2016 To March 2017

2.3 Distribution Of Police Registered Accident

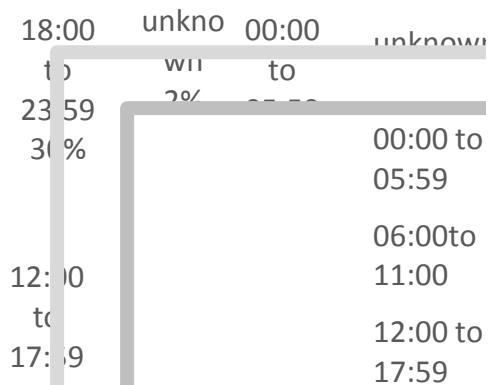


Fig-2 Accident By Time

2.4 Distribution Of Police Registered Accident By Injury Severity

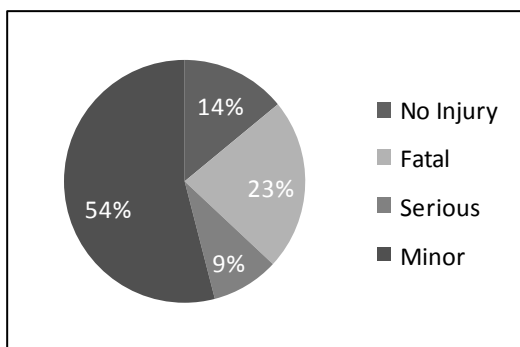


Fig-3 54% Of Accidents Involved Minor Injury To Occupants.

2.5 Percentage Distribution Of Road Accident By Road User Type Involved

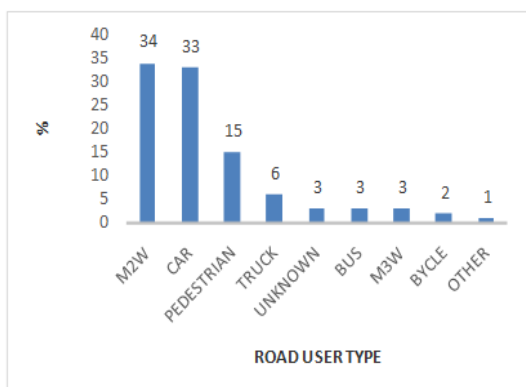


Table-4

2.6 Distribution Of Accidents Registered By Police

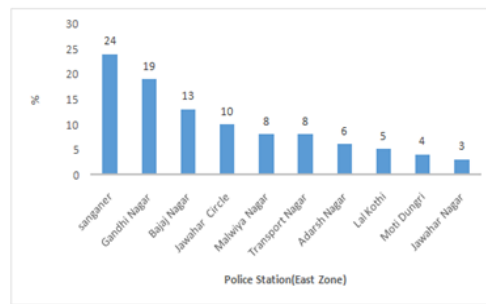


Table-5

IV. ACCIDENT ANALYSES

As We Know That Jaipur Is One Of The Best Examples Of Suitable And Well-Designed Transportation System And Also Provide Well Regulated Traffic Management. From Report Analysis The Rate Of Accident And Death Parameter Both Are Reduced Simultaneously Up To 2015 But Slightly Increase In Session Year Of 2016-17. It Is A Not A Good News For Human Being.

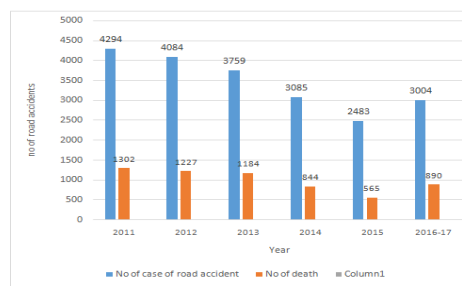


Table-6

V. CONCLUSION

The Problem Of Deaths And Injuries As A Result Of Road Accidents In Jaipur City Is Serious Enough To Demand Attention Of Respective Administrative Authorities. Apart From The Humanitarian Aspects Of Reducing Road Deaths And Injuries, A Strong Case Can Be Made Of Reducing Road Crash Deaths Or Economic Grounds Alone. It Is Estimated 60% Of All Registered Accidents Occurred Between 06:00 To 17:59 Hrs (Daylight Hours) And 54% Of All Registered Accidents Involved Minor Injury Accidents. The Most Involved Road Users In An Accident Are M2Ws (34%) Followed By Cars (33%). The Most Affected Road Users In An Accident Are M2Ws (52%) Followed By Pedestrians (33%). From The Data Of Recent Year, The Rate Of Accident In Jaipur Has Been Increased.

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