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Mathematics Analysis on Economic Loss and Load Traffic Injuries

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ABSTRACT

To estimate the economic loss due to road transport and the relationship between the economic loss and human health System. It has been observed that sand accidental persons on road depend upon P, and B. Whenever pavement A load increases the road accident Over load vehicles and Bad Weather also increases road accident. Agent It is clear that accidental medical Cost increases with the influx.

KEYWORDS: *Oval pavement & road, load vehicles Bad Weather medical cost Insurance of reside*

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INTRODUCTION

Road traffic injury as a major pubic health problem in this country it is mostly affected young population and bool person. India in second largest in road network in the world and having highest number road accident in every year! The availability Social economic loss due to road accident is proving ideation and implementation of the policies.

Due to road accidents in recent times, been a motivating factor to estimate has to economic loss due to road accidents (1, 2, 3, & 4). The road accident a great deal suffering in the terms of social, of human sufferings medical and economic costs. This study is one of the relation to the economic costs.

The literature on the impact of road accidents. On economic growth of the country. The problem of road accidents and injuries which have major implication of the GDP of the country. The higher development path has been linked to investment in infrastructural development of road network. The number of rise vehicles. Have been caused of road accidents. The number of vehicles involved in accidents which confirming the rising tendency every year. The road accidents and injuries impeach on economic growth. Road accidents generate important costs to an economy's. The four main components human costs loss Production, medical cost and administration.

The impact of road accident is felt at the household level. It has to impact on household activity and affecting quality of life. Death of main income earner cost medical treatment and loss of income the social and economic Consequences en household. This situation largely unseen burden on the health sector. The burden on health sector budgets and policies is important formulating health sector budgets and polices not emergency services. The awareness of the debilitating impact of accidents on society.

Vehicle insurance provide a social Safety of road accidents. Many vehicles are not insured. If Vehicles are not properly insure then Compensation payments are low and in sufficient to cover medical treatment the assessment of socio-economy impact on road accident are important factor for safety network.

The purpose of this paper to develop mathematical model to know about the loss of economy and path road accident.

Method

Road accident data was collected published literature. We introduce the general approach of modelling is important tools for decision that can be useful for road accident.

Mathematical formulation of the problems

The details of the model output will be the performed. This method are relevance studies in particularly in the real world. In these model influence of road accident in life of people is dynamic in social economic life of people is dynamic.

Let A (t) be the total road accident person at time t, the rate of change.

$$\frac{dA}{dt} - A(P + V + B) \qquad (1)$$

Similarly, accidental medical cost rate and socio-economic rate of accidental person as

$$\frac{dH}{dt} = H(P + V + B) \qquad (2)$$

And

$$\frac{dS}{dt} = S(I + C + M) \qquad (3)$$

Where A= total road accident person
P= Pavement on road
V= over load vehicle
B= Bad water
H= Accidental medical cost
S= Socio-economic status of accidental person
I= Insurance of vehicle
M= Medical treatment of accidental person

With boundary condition,

$$\left.\begin{array}{l} D - D_0 \text{ at time t = 0} \\ p = p_0 \text{ at time t = 0} \\ R = R_0 \text{ at time t = 0} \end{array}\right\} \qquad (4)$$

Solution of the problem

Integrating equation (1) with boundary condition (4), we get

$$A = A_0 e^{(P+V+B)t} \qquad (5)$$

Similarly integrating equation (2) & (3) with boundary condition (4) we get,

$$H = H_0 e^{(P+V+B)t} \qquad (6)$$

$$S = S_0 e^{(I+C+M)t} \qquad (7)$$

Graph between A and p
When t=1, A_0=1, V=1, B=1,

p	.10	.20	.30	.40	.50	.60
A	2.34	2.59	2.86	3.158	3.49	3.86

Graph between A and V
When t=1, A_0=1, p=1, B=1,

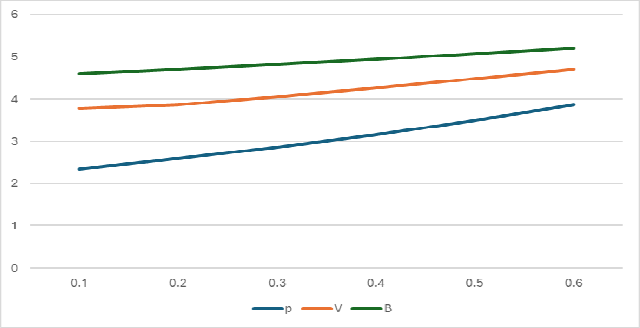
V	.10	.20	.30	.40	.50	.60
A	4.60	4.71	4.83	4.95	5.08	5.21

Graph between A and B
When t=1, A_0=1, p=1, V=1

B	.10	.20	.30	.40	.50	.60
A	3.77	3.86	4.05	4.26	4.48	4.71

Values of A

	.10	.20	.30	.40	.50	.60
p	2.34	2.59	2.86	3.158	3.49	3.86
B	3.77	3.86	4.05	4.26	4.48	4.71
V	4.60	4.71	4.83	4.95	5.08	5.21



Graph between A and p, V, B

Graph between H and p
When t=1, H_0=1, V=1, B=1,

p	.10	.20	.30	.40	.50	.60
H	2.34	2.59	2.86	3.158	3.49	3.86

Graph between H and V
When t=1, H_0=1, p=1, B=1,

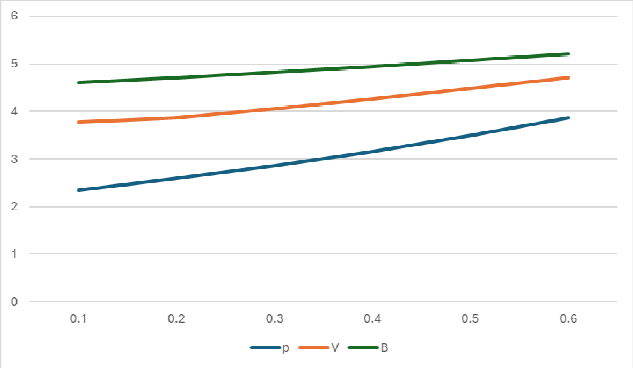
V	.10	.20	.30	.40	.50	.60
H	4.60	4.71	4.83	4.95	5.08	5.21

Graph between H and B
When t=1, H_0=1, p=1, V=1

B	.10	.20	.30	.40	.50	.60
H	3.77	3.86	4.05	4.26	4.48	4.71

Values of H

	.10	.20	.30	.40	.50	.60
p	2.34	2.59	2.86	3.158	3.49	3.86
B	3.77	3.86	4.05	4.26	4.48	4.71
V	4.60	4.71	4.83	4.95	5.08	5.21



Graph between H and p, V, B

Graph between S and I
When t=1, S_0=1, C=1, M=1,

I	.10	.20	.30	.40	.50	.60
S	2.34	2.59	2.86	3.158	3.49	3.86

Graph between S and C
When t=1, S_0=1, I=1, M=1,

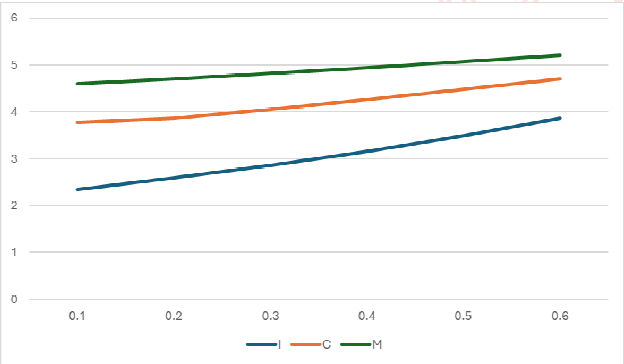
C	.10	.20	.30	.40	.50	.60
S	4.60	4.71	4.83	4.95	5.08	5.21

Graph between S and M
When t=1, S_0=1, I=1, C=1

M	.10	.20	.30	.40	.50	.60
S	3.77	3.86	4.05	4.26	4.48	4.71

Values of S

	.10	.20	.30	.40	.50	.60
I	2.34	2.59	2.86	3.158	3.49	3.86
C	3.77	3.86	4.05	4.26	4.48	4.71
M	4.60	4.71	4.83	4.95	5.08	5.21



Graph between S and I, C, M

Result

The present paper proposes a more realistic model of explaining the number of accident of road by vehicle, pavement and weather. From equation (5), it is clear that total road accident person depends on over load vehicles, weather and pavement of road . The number of road accident person's increase. With the Increases the load pavement. Most of accidents In the road by over load vehicles. The load Bod Accident increases due to weather position. From equation (6) it is clear that accidental Medical cost on dead on toad accident increase by P. V, and BV. Due to bad weather Accident of load increases rapidly. Pavement F road Very lossful for et human And Vehicles From equation Socio, economic system of accidental person increase with the increase The value of I, C and M. it has been observed that the socioeconomic status of accidental person depends on insurance of Vehicle. The socio-economic status increases with increase of value compensation. Compensation save the economic loss of Accidental persons. Finally we say that people Medical treatment serve the life of

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