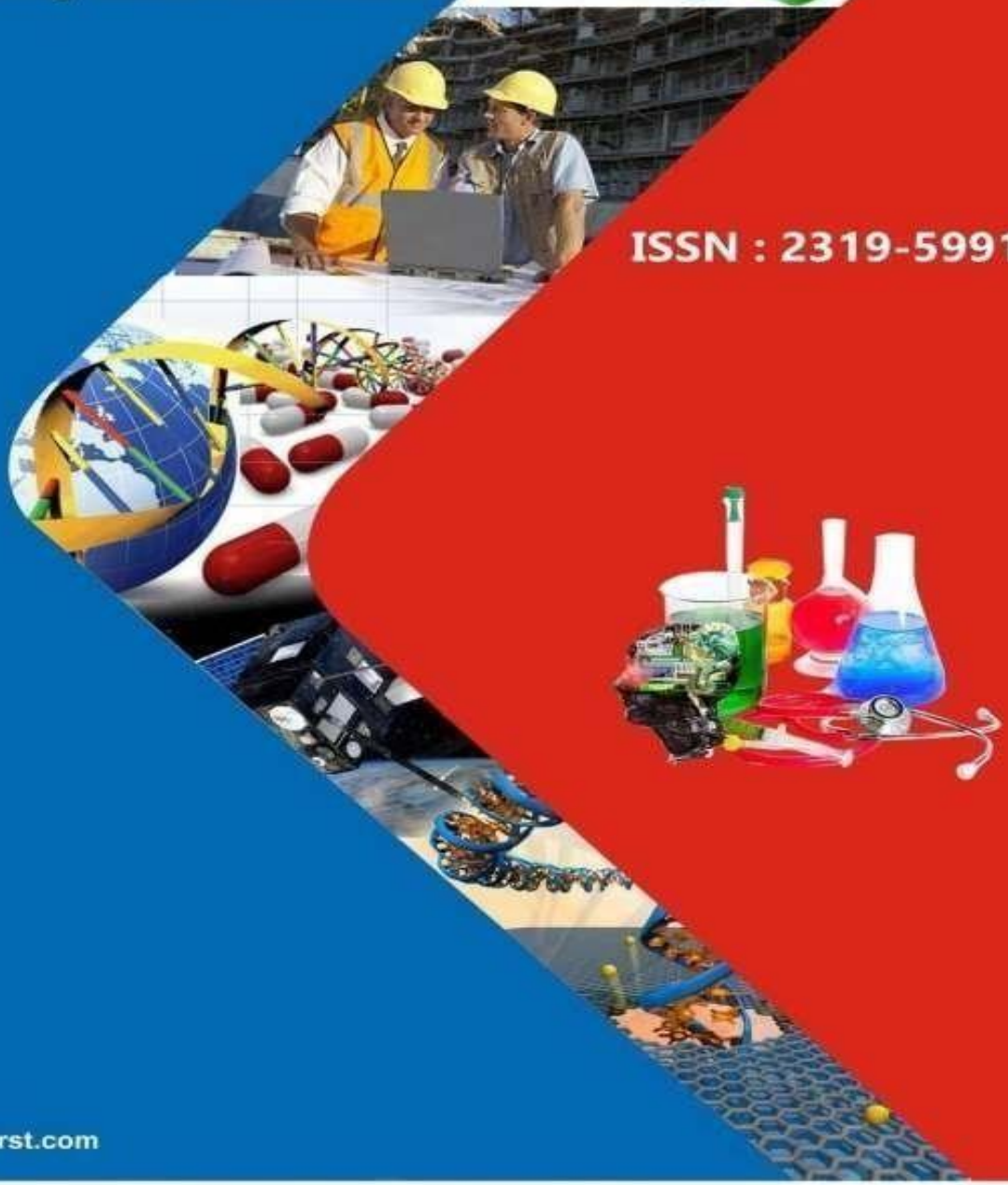
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A DEEP LEVEL INVESTIGATION OF ROAD ACCIDENTS ON PHAGWARA TO JALANDHAR NH-1

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ABSTACT:

The road mishaps are the major problem for the pathetic countries like India, Pakistan and Bangladesh due to ignorance and now becoming a mass health problem. India is suffering from huge loss of deaths specially youth in the age frame of 16-30 due to road accidents .road accidents are the major human error issue. It is involvement of different causes like human physiological or psychological ,vehicular characteristics, environmental effects and road characteristics ahead or following accident or even during the road accidents, several modified and modern techniques and methodologies are important for minimizing the accidents upto large certain degree. The Administration single-handedly cannot block road misfortunes difficulties. There is necessity of energetic participants to endorse execution of road wellbeing measures. The association of different organizations like traffic police, health sectors and other government and private agencies for giving attention to road safety is necessary. The valuable data is used which is taken from different agencies like hospitals, police sources and other shopkeepers those who act as eye witness during the accidents in this region of 23 km of Jalandhar –Phagwara.), Once accumulating the records, the deep level investigation of blackspots (where extreme road accidents occur) and other imperfections like unevenness, lack of rumble strips and dreadful conditions in road superficials and deficiency of engineering in design parameters of public road highway from that we can interpret the reason of accidents. The region on which the investigation is done is from Phagwara to Jalandhar that is of having distance of 23.1 km with high traffic volume all time with great number of accidents as it is corridor to Indian state Jammu and Kashmir and rest of Punjab.

Keywords: Accidents, Asphalt Pavement, Investigation, Vehicle, Fatal, Non-fatal

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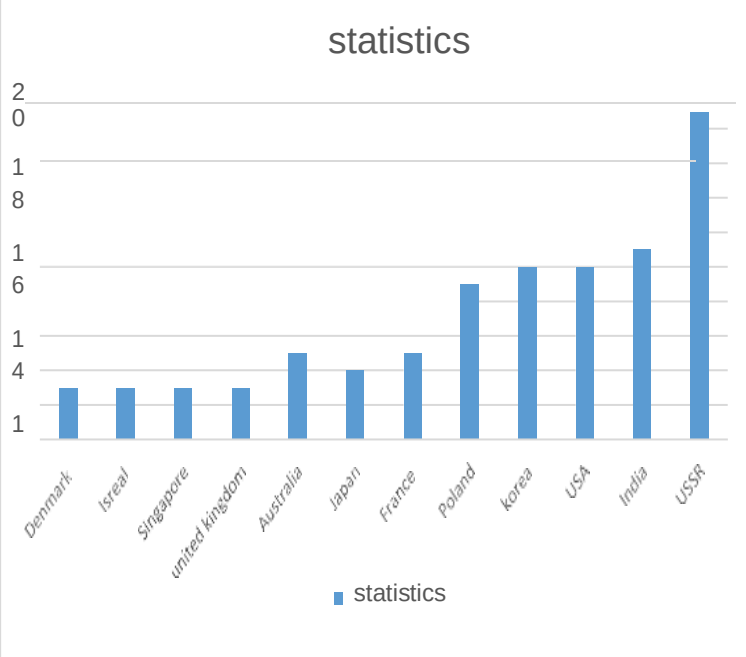
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1. INTRODUCTION:

In India the vehicle registration rate is very fast as compared to other countries in the world it is not only because India is developing country it is due to the reason that India is highly populated country ranks at second in the world with the population of 1.34 billion as on 30 April 2017. Every day the new vehicles hit the road the number is huge near about 54000 per day and in overall upto2015 it was almost 1.96 crores that is all time high. It was seen that the annual registration was less than 10 lacs in 1993 but suddenly it is going on high rate in 2014 that is 1.94 crore and still increasing. It has been also observed the two-wheeler registrations are more than others as it fits the common man's pocket as it also gives good mileage It is noted that in lone 2015-year witness highest number of accidents in India approximately 6 lack which cost 1.5 lack people to be killed and 4.5lack injured that is record. India signs a pact to Brasilia declaration that India will try to reduce 50%of the accidents by 2020.since the 2000 in India the vehicles increase by 158% and the road lengthy 39% which is of great difference of ratio between these two. The national highways and state highways compromise only 5% of the total road network.

ACCIDENT SCENARIO IN INDIA

As per records of World Road Statistics 2015 issued by Worldwide Road Federation, Geneva, there is lesser rate of demises per one lack in the countries developed countries like USAfrica, Portugal, Australia, Japan, Canada, Germany, Republic of Korea Japan, Republic of Korea, Poland, etc. except Russian while linking it with republic of India. Occurrence of accident linked deaths were greater in Russian as in assessment to India during the calendar year 2013.



Country-wise Figure of Personnel Exterminated for each 100,000 Population

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It is assessed that in the U.S.S.R, about 45000 persons are fatal and 3 million non-fatal every year. This amount is shocking. The accident circumstances are graver in India because of the speedy development of automobiles in the previous years and insufficiency of several of our roads to manage with this road traffic volume. The heterogeneous traffic environment in India makes the problem much inferior.

OBJECTIVE:

Possible surface maintenance measures for some pavement failures are as under:

- Corrugation: Scarification of elevated part by use of mechanical blades and rolling.
- Rutting: Milling of protruded portion and profile corrective course laying.
- Rehabilitation measures needed to be implemented to increase the service life of particular pavement (Jalandhar to Phagwara), so that it gets resistant to early deterioration.
- Quantifying its structural and functional distresses through appropriate indices.
- Prioritization and maintenance needs to particular stretch as compared to the rest.
- The future performance of the road under consideration will be assessed and forecasted.

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not regular but they are human errors' is a common saying. Accordingly, if the mishaps are caused by some deficiencies, confidently remedial procedures can be settled and applied to the cover the feasible. Investigation Of earlier accidents data spectacles that 67% of accidents occur due to human mistake and 33% happen due to road considerations such as road and vehicle dealings, other road handler and surroundings factors.

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C. Vigneshkumar(1971):

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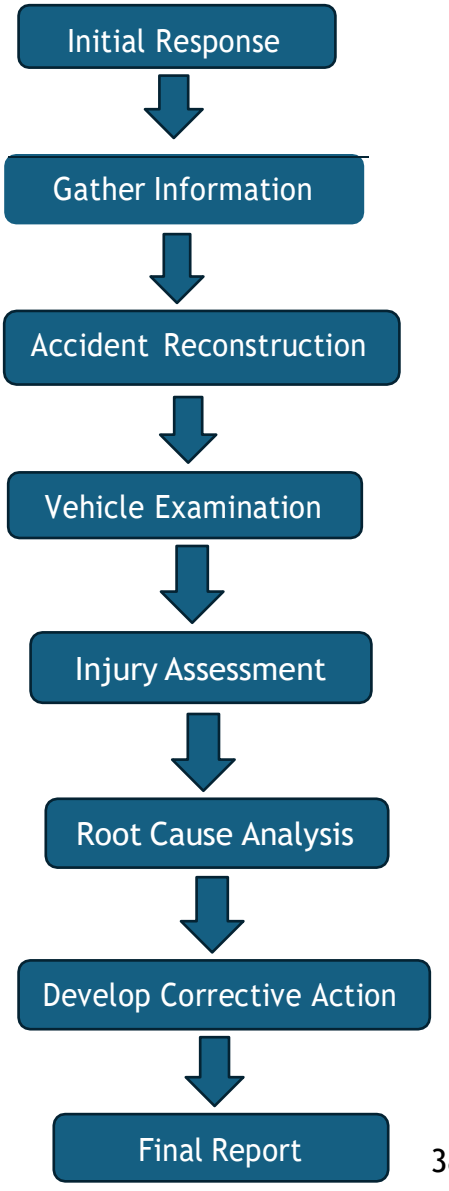
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The high volume of vehicles, particular on high travel days, leads to excessive delays, especially for vehicles attempting to turn into the major highways for minor approaches. This congestion is not merely on inconvenience it also posses a safety risks

METHODOLOGY:



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CAUSES OF PAVEMENT FAILURE :



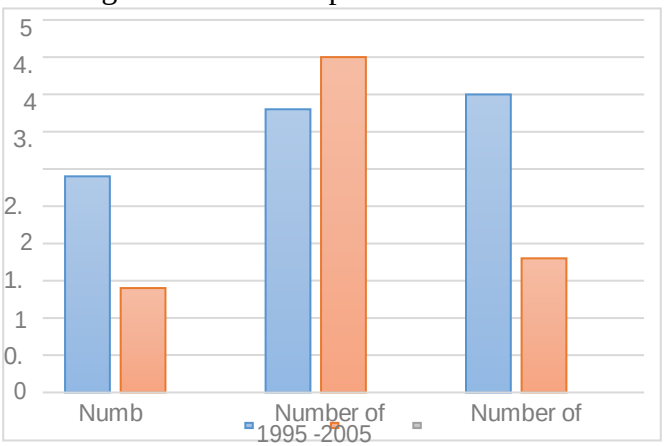
POTHOLES

- At the point when the material breaks down locally bowl molded openings of unpredictable dimensions on the pavement are made generally mentioned as Pot holes
- Potholes occur due to some of the following reasons
- Poor quality of material used during construction
- Entry of liquid water like rain,dew,snow
- Reveling and aging



CORRUGATION

The formation of ripples or waves on the flexible pavement generally perpendicular to the traffic flow is called corrugation or wash boarding. It occurs at the points where traffic starts and stops.



Compound Annual Growth Rate 1995 - 2005 and 2006-2016



DAMAGEIN LOSS OF AGGREGATE

The loss of aggregate is that type of imperfections for the most part happen resulting to shedding and raveling or aging of pavement. The conceivable explanations

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behind loss of totals from the asphalt are as under

- When the top layer Surface dressing is improperly designed.
- When the design mix is not perfectly done.
- Gently sloping in other words rolling is poor.
- Movement of traffic is endorsed to ply on road before the pavement sets.



DIVIDER CUTS

The main and important is the divider cuts people used to cut the divider in between the highway we have observer this not only at one place it has been observed at Wahid sugar mill, viva collage near lovely professional university and many more places where the rickshaw men and biker cross the highway from these divider to join the traffic of that side this is the most critical way for accidents sometimes it has been observed during survey and investigation that bikers ply bikes on dividers to reach the spot which is destroyed by the people .



Frost Heaving

Ice hurls are generally misjudged with shear and other kind of disappointments. In shear disappointment the change of asphalt is taken after with a sorrow and shear disappointments are related with inalienable shortcoming of asphalt blends. In ice hurling generally a confined hurling up asphalt divide is there relying on the atmosphere and ground water conditions.

HIGHWAY AND ITS EFFECTS ON ROAD ACCIDENTS PAVEMENT CHARACTERISTICS

Accidents remain utmost common in this period of time due to outstanding growth of transportation and carriageways are unable meet the burden of this heavy traffic, Taking the note of all characteristics for the investigation of road mishaps are carry throughout on the Section from (Phagwara to

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Number of Road Accidents and Number of Persons affected: 2006-2016					
Year	Number of Accidents		Number of Persons		
	total	Fatal	Killed	Injured	A
2006	4,39,257	83,491 (19.0)	92,968	466,982	21.6
2007	4,60,980	93,917 (20.4)	105,759	487,781	22.9
2008	4,89,216	1,01,161 (21.1)	114,544	513,340	23.5
2009	4,84,804	1,06,591 (22.0)	119,860	522,993	24.7
2010	4,86,784	1,10,993 (22.8)	125,760	515,458	25.6
2011	4,99,728	1,19,558 (23.9)	134,513	527,512	26.3
2012	4,97,986	1,21,618 (24.4)	1,42,795	5,16,494	29.6
2013	4,90,389	1,23,093 (25.1)	1,38,378	5,09,667	28.6
2014	4,86,478	1,22,589(25.2)	1,37,682	495,993	28.4
2015	4,99,400	1,25,828(25.7)	1,39,781	4,92,774	28.1
2016	5,01,463	1,31,726(26.3)	1,46,253	5,00,279	29.8

Jalandhar highway on NH1), in addition to it before beginning our work we concentration on the Road surface and revision the imperfections and then testing the material

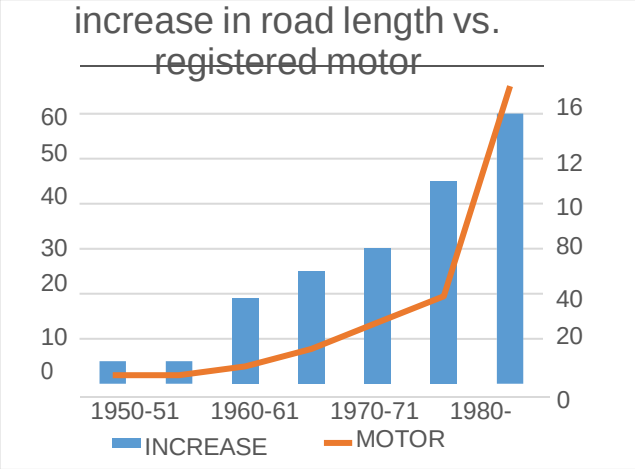
Used in this pavement, Following below mentioned defects were found and analyzed ,further the Outcomes and Consultations were done on this for future better of road.

- Development of Potholes
- Damage of Aggregates
- Depressions
- Fatigue Cracking due tostress
- Fatty surface or Bleeding
- Stripping
- Reflection Cracking
- Frost Heaving
- Divider cuts

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Increase in road length vs. registered motor vehicle

CONCLUSION:

- This research aims to contribute to the body of knowledge on road safety by conducting a comprehensive investigation into road accidents on the Phagwara to Jalandhar NH1.
- By identifying key contributing factors and proposing evidence-based interventions, this study seeks to enhance road safety and mitigate the risks associated with travel on this critical transportation corridor.
- Through collaboration with stakeholders and the application of rigorous research methods, this research endeavors to make meaningful strides towards reducing road accidents and improving overall road safety.

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