

- A Study of Speed Breakers in Pune Municipal Corporation Area: Case Study

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ABSTRACT

Most of the speed breakers are not design or constructed according to the IRC, under the area of Pune municipal corporation or other districts. the major reason behind the accident is this. And that's why people are discomforted feel when they are travelling. one of the most careless things is there is no proper navigation on that particular speed breakers before 40 m, and no proper colouring is there.

This above review helping our project to constructed a speed breakers and any reconstruction of any speed breakers according to the IRC standard code.

Keywords- (Speed breakers, Design and types of speed brakers, Heath impact, vehicle impact.)

INTRODUCTION

Analysis of various accident shows that the main causes of accident are driving under influence of alcohol and narcotics and violation of traffic rule but another a major reason of accident is improper design or construction of speed breakers.

According to the Pune municipal corporation record there are 4459 people are death in last three to four years due to improper construction of speed breakers and road. The ineffectiveness of Pune municipal corporation speed breakers committed three years after is inspection shows the civic body in difference toward the commute's safety. but are not find proper result behind that. our main concerned is analysis of speed breakers in specific area of PMC. which are constructed as per IRC :99-1988. Many times, the speed breakers are constructed according to the IRC. but after some time, there is changes is shows like height and width etc. those changes are reconstructed but not using a proper equipment and standard size as per IRC.

SOME DIFFERENT TYPE OF SPEED BREAKERS AND STANDAEED DIMENSION AS PER IRC STANDARD 99-1988

- **SPEED BUMP-**
 - Speed hump are generally used in private roads and private lots. Speed bump are not used in public road way.

- Speed bump are rounded in shape.
- Speed bump are generally used to reduce a speed of verticals up to 5 miles/hr.
- SIZE OF SPEED BUMP-
- Height -7 cm to 15 cm
- Width -30 CM



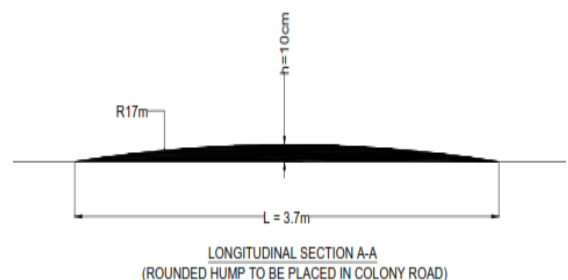
Fig no 1. Speed Bump.

SPEED HUMP

Speed hump are circular or parabolic shape. Speed hump reduced speed up to 15-20 miles/hr. it is most effective type of speed calming device.

SIZE OF SPEED HUMPS -

Height of speed hump-10cm
Width of speed hump- 37cm



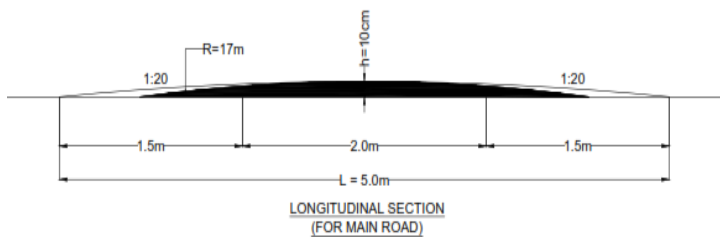


Fig no 2. Speed Hump.

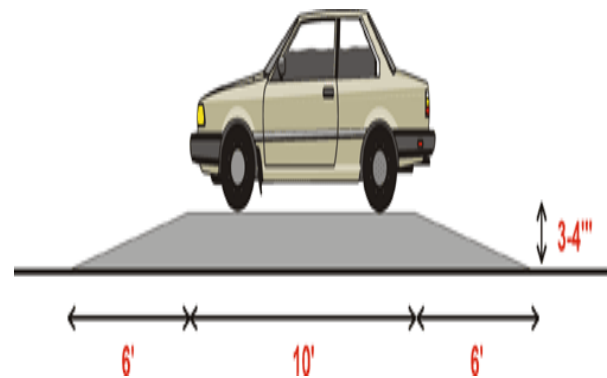


Fig no 4. Speed Table.

SPEED CUSHION-

A speed cushion is a short, raised, rounded device, normally in the centre of a road lane. speed cushion is designed slightly wider than car, so car drivers need to show down and drive over the centre of the speed cushion to reduce discomfort.

SIZE OF SPEED CUSHION -

- Width of speed cushion - 150cm to 210 cm
- Length of speed cushion - 170 cm to 475 cm
- Height of speed cushion - 6 cm to 10cm



Fig No 3. Speed Cushion.

SPEED TABLE

- Speed table are mid-block traffic clamming devices that raise the entire wheelbase of a vehicle to reduced its traffic speed
- Speed table are longer than speed humps it is also used to divert the traffic towards the other non-traffic route.

SIZE OF SPEED TABLE-

- Height of speed table - 7 cm to 10 cm
- Width of speed table - 670 cm to 731 cm

ADVANTAGES OF SPEED BREAKERS -

- 1) Prevent over speeding, thus minimising accident to an extent.
- 2) Gives a chance for pedestrians to cross the road.
- 3) At crossroads, speed breakers are made a to allow vehicle on other roads to move straight.

DISADVANTAGES OF SPEED BREAKERS -

- 1) Every vehicle is supported to break their speed to cross the speed breakers safely. this is a major disadvantage for emergency vehicles like ambulance, fire brigades etc.
- 2) If the speed breakers are not painted then it might not paint then it might not be visible in night, at running over it blindly may injure the motorists.
- 3) Slows emergencies vehicles.
- 4) Vehicular damage are major disadvantages of speed breakers.

DATA COLLECTION AND ANALYSIS-

“SUMMARY”

Solving the problem on depending the speed breakers first we have to done get the permission of Pune municipal corporation office. that’s why our team had been got this permission to conducting the survey from Pune municipal corporation office.

Then we have selected the different location where accident is happened regularly, then we collect all the data and calculate the all the error regarding the accident and public safety Purposed. All the data and its solution send to Pune municipal corporation office and this definitely used in future project.

RESULT AND DISCUSSION-

- Survey was done on 22 km path.
- Observation was taken for type, size, dimension and other properties of speed breakers.
- It is notice that almost 85 % of the speed breakers are not design according to speculation is given as per IRC :99-1988.
- Height greater than 10 cm, there are 55 % are speed breakers are found.
- Height less than 10 cm, there are 30 % are speed breakers are found.
- % of sign board before 40 M is 13 %.
- Only 15 % of speed breakers are constructed as per IRC code.
- Most of the speed breakers are not painted, 75% speed breakers are painted.

REMEDIAL MEASURE ASSOCIATED WITH SPEED BREAKERS –

- Mainly speed breakers are constructed are per IRC :99-1988. it should be provided with proper road marking and proper signage should be properly located and maintained.
- Providing lifting barriers lifting barriers should be provided in preference to gates to quickly clear road traffic.
- The speed breakers that have properly designed profile causes a reduction in the discomfort. this encourages the road users to reduce their speed approached of speed breakers.

HUMAN IMPACT ASSOCIATED WITH SPEED BREAKERS

- Back pain is the major impact when crossing the speed breakers.
- Stomach problem.
- Neck problem are majorly found in old people.
- Leg and knee problems.

VEHICLE IMPACT ASSOCIATED WITH SPEED BREAKERS –

- Tyres impact.
- Shopkeeper problem.
- Impact all vehicle when crossing the speed breakers.

CONCLUSIONS –

Many time's reconstruction of speed breakers in not a proper manner and that's why speed breakers are irregular in size and people are discomfort feel when they are travelling on the road. our conclusion is that reconstruction of speed breakers as per IRC.

From result of data analysis, the main causes of accident are,

- 1) Over speeding
- 2) Not giving priority for pedestrian
- 3) Not giving priority for vehicles
- 4) Driving too close
- 5) Not keeping right side
- 6) Poor pedestrian and driver behaviour

However, the above factors are not the sole causes of traffic accident, by nature traffic accident result from a combination of factors.

The main causes of accident like-

- The road side environment.
- Lane width with no proper dimension and navigation.
- Road surface.
- Road infrastructure.
- Vehicle condition.

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BIOGRAPHIES



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