



ROAD SAFETY SEMINAR BY BRO
ON 06 SEP 2021





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COUNTER MEASURES AGAINST OVER SPEEDING



AIM

TO SUGGEST THE COUNTER MEASURES TO BE ADOPTED AGAINST OVERSPEEDING TO ENHANCE THE ROAD SAFETY POTENTIAL OF ROADS



COUNTER MEASURES AGAINST OVER SPEEDING



SPEED LIMIT

PARAMETERS	SPEED LIMITS KPH
Expressways	120
National Highways	100
Urban Roads	70

PARAMETERS	SPEED LIMITS KPH
PLAIN TERRAIN	80-100
MOUNTAINS TERRAIN	40-50
STEEP TERRAIN	30-40

Terrain classification as per Para 4.1 of IRC 73-1980



COUNTER MEASURES AGAINST OVER SPEEDING



❖ INTRODUCTION

- 1.35 million deaths in road accident.
- 93% death in low & middle income countries with 60 % of vehicle.
- Economic cost in most countries around 03% of their GDP.
- Majority of deaths among vulnerable road users: Pedestrians, cyclist and motorcyclist.
- Loss of 1.54 lacs lives in 2019.
- Majority victims vulnerable road users.
- Victim Predominantly from productive age group 15-34 year.
- Enormous economic loss.
- Not much awareness among policy maker and Engineers.
- Road safety conference Brasilia (2015) – to reduce Road accident fatalities by 50% by 2020 (SDG).



COUNTER MEASURES AGAINST OVER SPEEDING



❖ Causes of road accident

- Fault of Driver/ Pedestrian/Cyclist
- Defect in vehicle
- Improper Road condition
- Unsafe Road Geometrics and maintenance
- Improper junction and uneven Road width
- Lack of traffic signage & road marking
- Adverse weather conditions causing poor visibility such as heavy rains & foggy condition
- Slides/Shooting boulders in mountains
- Drunken driving
- Use of Mobile during driving





COUNTER MEASURES AGAINST OVER SPEEDING



SPEED BREAKER/ HUMPS

Hump shape speed breaker surface across the roadway.





COUNTER MEASURES AGAINST OVER SPEEDING



RUBBER/RUMBLE STRIP

A strip of corrugated pavement that causes rumbling and vibration. It can be used on all High ways





COUNTER MEASURES AGAINST OVER SPEEDING



SPEED CUSHION

Speed cushions are either speed humps or speed tables that include wheel **cutouts** to allow large vehicles to pass unaffected, while reducing passenger car speeds.





COUNTER MEASURES AGAINST OVER SPEEDING



SPEED TABLE

Speed tables are midblock traffic calming devices that raise the entire wheelbase of a vehicle to reduce its traffic speed. Speed tables are longer than speed humps and flat-topped, with a height of 3–3.5 inches and a length of 22 feet.





COUNTER MEASURES AGAINST OVER SPEEDING



RAISED INTERSECTION

Raised intersections **create a safe, slow-speed crossing and public space at intersections.** Similar to speed humps and other vertical speed control elements.





COUNTER MEASURES AGAINST OVER SPEEDING



CHOKER

Chokers are curb extensions that narrow a street by widening the sidewalks or planting strips, effectively creating a pinch point along the street. Chokers can have a dramatic effect by reducing a two-lane street to one lane at the choke point.



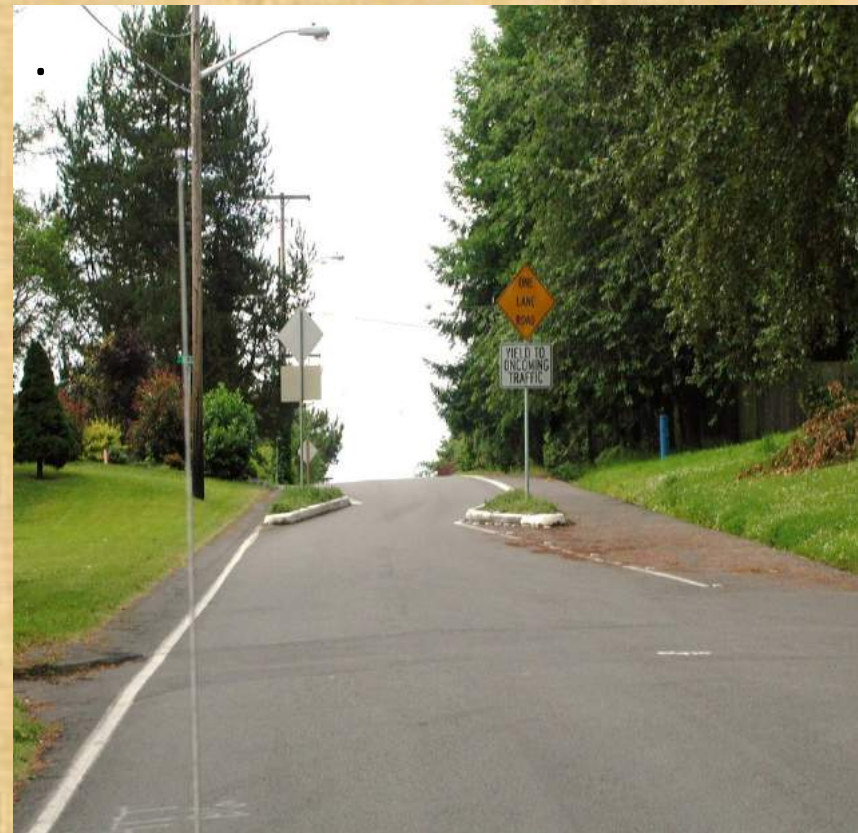


COUNTER MEASURES AGAINST OVER SPEEDING



CHICANES

A chicane is a series of alternating mid-block curb extensions or islands that narrow the roadway and require vehicles to follow a curving, S-shaped path, discouraging speeding.





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NECK DOWN

A narrowing of a roadway, as at an intersection in a residential neighborhood, intended to slow vehicular traffic and to increase the safety of pedestrians.





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TRANSVERSE RUMBLE STRIP

▪ Transverse rumble strips are grooves cut into the pavement that act as a warning device



- When driven over, the strips a sound and vibrations is created to warn drivers to slow down their speed.



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OPTICAL SPEED BAR

Optical Speed Bars are transverse stripes spaced at gradually decreasing distances. The rationale for using them is to increase drivers' perception of speed and cause them to reduce speed.





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“SLOW” LEGENDS ON PAVEMENT

A pavement marking legend painted on road surface to indicate to reduce speed.





COUNTER MEASURES AGAINST OVER SPEEDING



SPEED LIMIT SIGN WITH LED (SPEED FEEDBACK SIGN)

SFS is dynamic speed display which shows the speed of vehicle in relationship to the given speed limit permitted on that road.





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CURVE DELINEATION

- Edge delineation help drivers to judge their position on the road, in relation to the curve or sharp bend ahead.
- It is more helpful during night driving.





COUNTER MEASURES AGAINST OVER SPEEDING



Measures Recommended to be adopted against over speeding

- ❖ Speed Limits and Vehicle Control Sign – Setting Speed limits is Primary tool to counter Over Speeding.
- ❖ Factors to be considered for speed setting limits.
 - Traffic mix
 - Crash History
 - Road shoulder width
 - Road delineation
 - Road and Lane width
 - Degree of Development along the Roads
 - Volume of Traffic Flow
 - Sight Distance for Over taking safety
- ❖ Advisory speed warning sign.



COUNTER MEASURES AGAINST OVER SPEEDING



❖ Engineering Measures of Road

- Fixing of crash barrier
- Edge Marking and Centerline Marking
- Fixing of Cat Eyes
- Fixing of Delineator
- Rubber/Rumble Strips
- Speed Breaker/Humps on other than highways
- Raised Intersection
- “Slow” Legends on Pavements with Fluorescent paint
- Digital Speed Feedback Sign
- Curve Delineation
- Improve Night Vision

❖ Changing behavior by Public Education

- By Changing Drivers Speed behavior
- Conducting Road Safety Campaigns.
- Public figure as a Role Models

❖ Creation of data base for Accident Prone Area's of all roads

❖ Identification of Black Spots due to over speeding coupled with Road Layout

❖ Speed compliance incentives

❖ Legislative measures



COUNTER MEASURES AGAINST OVER SPEEDING



❖ ROAD SAFETY AUDIT

- Road Safety Audit (RSA) is defined as the systematic process of examining the planning, design ,construction of road project and of the features and operation of an existing road by independent and qualified auditors to determine any potential hazard of road.
- Objective of safety audit should be to maintain a safe place of work through hazard recognition and removal, to verify employees are following the most effective safety procedures, to make certain facility, equipments and operations meet the required local, state and National, health and safety requirements.

OBEY THE RULES OF THE ROAD AND ROAD MARKINGS

ARRIVE ALIVE

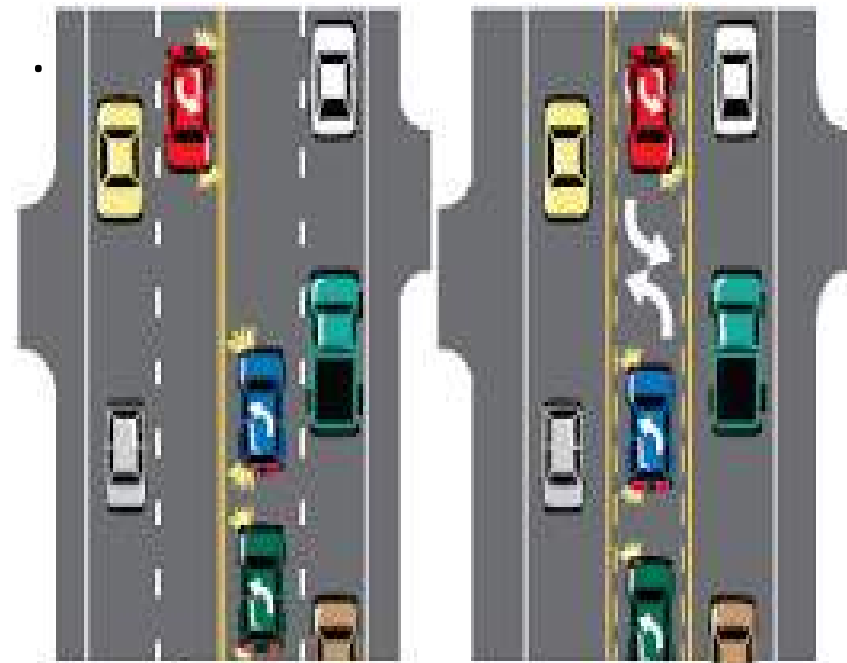
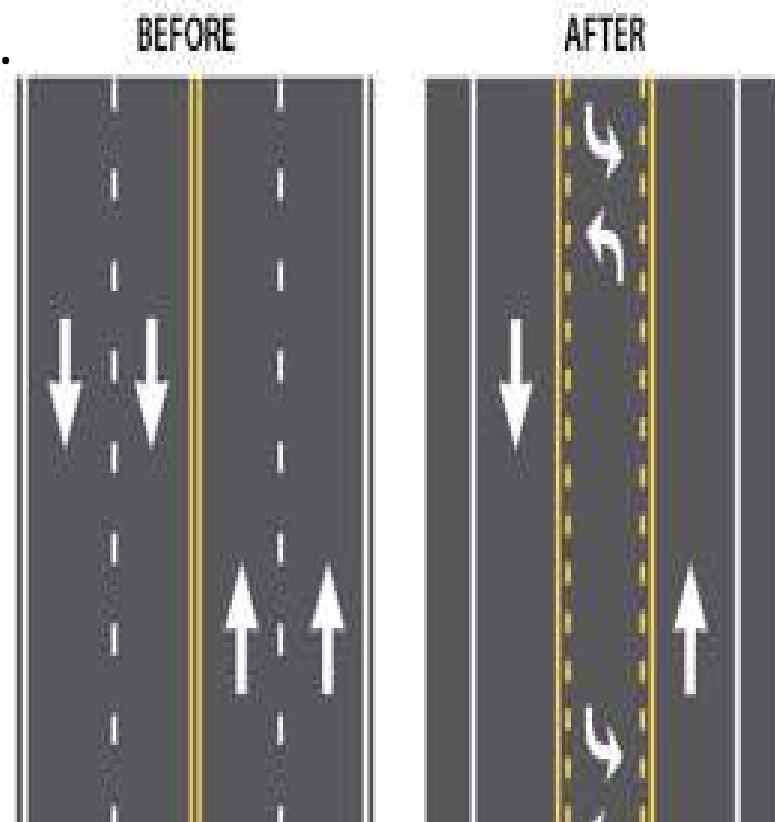
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JAI HIND

ROAD DIET

A “Road Diet” is **roadway reconfiguration that involves narrowing or eliminating travel lanes to calm traffic and increase safety of all roadway users.** A classic road diet converts a four-lane undivided roadway to a three-lane roadway with a center two-way turn lane.



Before
A four-lane road behaving
like a three-lane road.

After
A Road Diet providing a
two-way left-turn lane.

ROUNDBABOUTS

A **roundabout** is a type of round (about) intersection or junction in which **road** traffic is permitted to flow in one direction around a central island. Converting junctions to roundabouts improves road safety. Fatal accidents are reduced by 60%.



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COUNTER MEASURES AGAINST OVER SPEEDING



❖ Emphasizing Road Safety by BRO

➤ Existing practice

- Accident prone areas are detailed mostly in paper format leading to reduce visibility to general public.

➤ Problem

- Lack of records/data for accident – Prone area/Hotspots

➤ Proposed practice

- Digitization of accident - Prone area/Hotspots
- Collection of Data for road accidents on the basis following classification
 - Accident Data transposed against road features e.g. Over speeding, Wrong side driving, Use of Mobile, Drunken driving
 - Accident for type of collision e.g. Hit from side, Hit and Run, Pedestrian, Head on collision etc.

➤ Benefits

- Help in identify accident prone area/black spots
- Bring in public safety by reduction in road accidents
- Improve awareness of road safety for the road users