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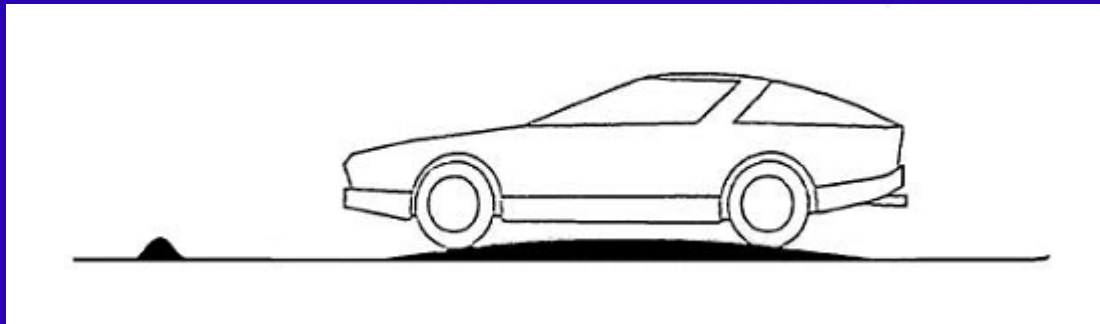
SPEED BUMPS/HUMPS (Speed Calming)

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Traffic Calming

- Definitions of traffic calming vary, but they all share the goal of reducing vehicle speeds, improving safety, and enhancing quality of life.
- Most definitions focus on engineering measures to change driver behavior. Some focus on engineering measures that force drivers to slow down.



SPEED BUMP

SPEED HUMP

vertical-deflection traffic calming devices

Speed Humps

- Speed humps are raised devices, parabolic in shape, placed across the road to slow traffic.
- Generally, speed humps are 12 to 14 feet (3.7 to 4.25 m) in length and span the width of the road. The length and height of the speed humps determine the speed at which traffic will travel over the devices. Shorter lengths and greater heights slow cars most drastically
- Speed humps are typically placed on residential roads and are not used on major roads

- Speed humps have been widely used and can be an effective device for reducing cut-through traffic and vehicle speeds on local and collector roads. A number of studies have shown that speed humps are effective in reducing vehicle speeds especially at the devices.
- A warning sign notifies motorists before humps must be installed and survive. Humps generally have pavement markings to enhance visibility.

- There are no nationally accepted standards or design guidelines for traffic calming devices except for speed humps.
- When designing a speed hump, the construction material to be used, the location and placement of the hump(s), the geometric shape and size of the speed hump(s), and the necessary signs and pavement markings all need to be considered.

Speed Hump



Composition

- Speed humps are constructed of asphalt, concrete, or rubber. While traditionally most humps were constructed of asphalt or concrete, rubber is becoming increasingly common for several reasons. Asphalt and concrete can be difficult to construct precisely while rubber products are pre-shaped to standardized sizes and thus consistently meet industry standards. An additional advantage is ease of installation.

Speed Bumps

- Speed bump reduces vehicle speeds to 2-5 mph. Molded bright reflective tape as well as high-quality cat's-eye reflectors alert drivers well in advance.
- Not to be confused with a speed hump, a speed “bump” is a raised area commonly used in parking lots and on some private roadways, are generally from 3-6 inches in height with a length of 1-3 ft.



Speed bump

When Hump / Bump can be used

- From an operational standpoint, humps and bumps have critically different impacts on vehicles.
- Humps causes some driver discomfort and results in most vehicles slowing to near 15 miles/hr, at high speeds, a humps acts as a bump.
- A bump, causes significant driver discomfort, and generally results in vehicles slowing to 5 mph or less at the bump.
- That means it depends on the required vehicles speed at that device.

Speed Tables

- Speed tables are flat-topped speed humps and are generally long enough for the entire wheelbase of a passenger car to rest on top.



Raised Crosswalks

- Raised crosswalks are Speed Tables outfitted with crosswalk markings and signage to channelize pedestrian crossings, providing pedestrians with a level street crossing. Also, by raising the level of the crossing, pedestrians are more visible to approaching motorists.
- Raised crosswalks are good for locations where pedestrian crossings occur at haphazard locations and vehicle speeds are excessive.
- This raised crosswalk uses asphalt and highly-visible paint.

Speed Cushions

- Speed Cushions have several distinct advantages. Designed as three small speed humps, speed cushions effectively slow cars down. However, the wider axle of emergency vehicles allows them to pass without slowing down.



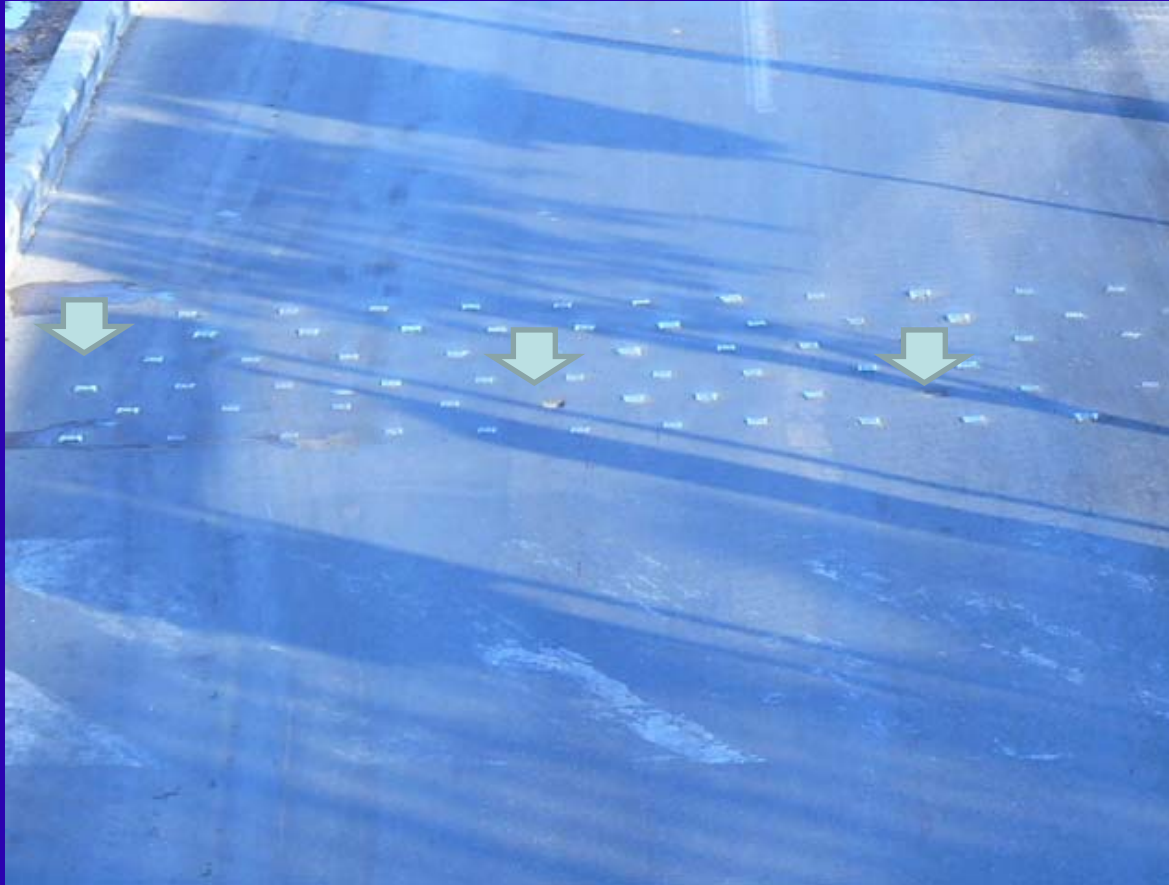
Reflectors (Reflective Road Studs)

- Reflectors are common used in both local roads and Highways in Egypt



New and Old Constructed Reflectors





It is embedded & take off with time



With time it became dirty and not work as reflector

Traffic Calming Benefits

- Traffic calming is a self-enforcing traffic management method relying on the laws of physics. Unlike non-physical measures such as stop signs or radar detection, traffic calming solutions leave the driver with no alternative other than to reduce vehicular speed.

In general, speed humps may:

- 1. Reduce traffic speeds in the immediate place of the speed humps,
- 2. Decrease traffic volume,

- 3. Reduce accidents in some areas.
- 4. Prevention/reduce of crime.

However, speed humps may also have the following detrimental effects:

- 1. Divert traffic to other neighborhood streets thereby moving the problem rather than solving it.
- 2. Increase vehicle emissions due to deceleration and acceleration.
- 3. Increase response time of emergency vehicles.

What about Traffic calming in Egypt

- In most of Egyptian roadway network you may find speed calming, it has different shapes, and most of that speed calming affect the operation and safety on the roadways.
- part of speed calming constructed by normal people (random), for example after road accidents you may find new speed humps/calming suddenly (no warning) without supporting signs and markings for the road users.

- Other part constructed by city council (local roads and streets).
- The Other part of speed calming/humps constructed under the responsibilities of the General Authority for Roads, Bridges, and Land Transport (GARBLT) , such as cat eyes, parabolic humps, etc.
- The main problem is the random speed calming devices which have no specifications and not compatible with any international standards. That leads to serious problems and damages (accidents, delays, discomfort, etc.)

What about Speed Calming Standard in Egypt

- I think there are some standard for speed humps in Egypt but not all humps execute under the supervision of General Authority for Roads, Bridges, and Land Transport.
- You can find reflector used as speed calming device inside the city and on highways.
- Drivers have 2 choices to overcome the negative effect of reflectors on their vehicles:
- To reduce their speed to about 20/25 km/hr, that is the purpose from using speed calming/reflectors.

- To increase their speed to over 80 km/hr, that cause negative effect (increase the rate of accidents)
- With time the reflectors imbedded inside the road surface / some of them disappear / became dirty and not work as reflectors.

How to control speed calming problems

- There is argent need for a policy to provide standards for design and application of traffic calming devices.
- Until there are guidelines for appropriate traffic calming device, the selection of the suitable calming device and its location should be made on the basis of Engineering study.
- Random construction of speed calming must be forbidden.

- Signs, reflector, and marking must be installed before the calming device with enough distance.
- Maintaining and evaluation of all constructed speed calming devices is necessary.
- Using Metal reflectors inside the city is effective in reducing the speed.
- Using metal reflectors on main roads as speed calming device not the ideal solution because some drivers reduce their speed to 20/25 km/hr , However, other drivers increase their speed over 80km/hr to overcome the negative effect of the metal reflector on their vehicles.

- On main roadways part of metal reflector will take off from its places, imbedded inside road surface under the effect of heavy vehicles and high speed of the vehicles, and with time it became dirty which make it difficult to be noticed by the drivers. It is recommended not to use reflector as speed calming device on main roads.
- It is recommended to use rubber products as speed calming device because it has pre-shaped to standardized sizes and thus consistently meet industry standards

- Some humps damage cars because they are too high (25 cm or more). some are Constructed at unsuitable locations. The need to procedures for follow-up, evaluations, and removal if necessary.
- Use standard type/s of speed calming which have been approved and associated signs and marking.
- At police inspection on the roadways, they use speed calming devices to control the traffic, most of the vehicles stop at that locations, that cause damage to the roadway (rutting, shoving , etc.) at such locations rigid pavement must be used.

- speed humps seem to be everywhere and even on highways. Speed bumps make roads MORE dangerous in case of not well designed.
- Traffic calming involves identifying the nature of traffic problems on a given street or in a given area and then selecting traffic calming measures capable of solving identified problems.



- **THANK YOU VERY MUCH FOR YOUR
ATTENTION**