

## ELECTRIC POWER GENERATION DEVICE THROUGH BUMPS INDUSTRIAL

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### ABSTRACT

*The shortfall in the production of electrical energy has become a problem afflicting most countries, and due to the high prices of solar cells are most of the main streets and dark sub and therefore this problem led to the increase of traffic accidents as a result of poor visibility at night. Also these problems affect the operation of the camera surveillance and billboards. The aim of this study invents a device for generating electrical power through the use of industrial bumps in the streets. Been reached through this innovation to the possibility of generating electricity from industrial bumps day and night and this depends on the number of cars passing on industrial bumps. This device easily linked in the main streets and subsidiary and thus the possibility of providing lighting poles road, traffic lights, surveillance cameras and billboards with electric power, as this device is almost cost him not remember who works day and night compared to a cost of solar cells which operate only during the day.*

**Keywords:** Electric power, industrial bumps

### INTRODUCTION

Bumps are a means of traffic calming in place in towns, and a small rise in the pavement is being implemented in specific areas in order to force drivers to reduce their speed. Bumps are implemented in various forms and is used in its creation asphalt concrete or prefabricated) slabs (of cement concrete, or rubber or plastic components, prefabricated. [1]

#### Forms Bumps

Can implement calming speed bumps in any of the three forms, which are reviewed below:

##### *Short Bumps*

Is a raised area of the road surface transverse height ranges usually between (7.5-10 cm) and a length between (35-100 cm), this form is performed usually on local roads and in attitudes. Cause bumps feeling uncomfortable by drivers and forcing them to reduce the speed to (10 km/hr.). [2]

##### *Bumps Cruise (Hump)*

Is a raised area of the road surface in the transverse direction and is sometimes called the wavy surface, and usually ranges rise of this type usually between (7.5-10 cm) and length usually between. (3.5- 4.5 m) [3]

##### *Upper Surface Bumps Level*

This represents a special model type of bumps cruise, featuring an upper surface with a length at least (2 m), usually reserved for pedestrian traffic at border crossings.

### ***Raised Intersections***

Represents a form of raised bumps flat surface, but the whole area is raised intersection, often used in the paving of this type concrete slab. [4, 5]

### **Traffic Control Devices at Bumps**

Must use appropriate means to alert the presence of bumps .These means include paintings traffic especially bump addition to paint lines or reflectors ground or both. [6]

### **EXPERIMENTAL PART**

Been in this part the creation of the necessary materials needed to complete the manufacture of the device, where the device consists of two parts:

#### **Mechanical Part: Consists Of the Following Parts**

- a. A metal tube with a heart block provider (operating torque) is cylindrical works as a vector for the movement.
- b. Spiral spring device works to raise the car after the trap.
- c. Crowbars serrated (one large and small) clutches with each other to you to provide the necessary speed for the device.
- d. Brkitat (Bolbrainat) numbers two for carrying out the attribution of the device.
- e. Some pieces of iron structure for the purpose of manufacturing the device.

#### **Part Supply: Consists Of the Following Parts**

- a. Power adapter (power generator) which converts kinetic energy into electrical energy.
- b. Battery storage for the purpose of storing electrical energy generated.
- c. Reader voltage or current (Voltmeter).

### **How It Works**

Are initialized above materials are then assembled for the purpose of completing the process of manufacturing the device and becomes, as in Figure (1), where the device is installed after the completion of manufacturing in the down bumps industrial, as in Figure (2), and works through the passage of cars over the bumps and thus power adapter converts mechanical energy (kinetic) into electrical energy.

Electrical energy is stored resulting in a storage battery in the device. To find out how much electrical energy obtained is through voltage reader (Voltmeter).



Figure 1. Electrical power generation device



Figure 2. Industrial bump

## RESULTS AND DISCUSSION

Results that have been reached through the tests that were performed on the device when most industrial bumps in the main and subsidiary streets had been successfully obtained electrical current that can be easily stored in a storage battery.

## CONCLUSIONS

Was reached the following conclusions of this device:

1. The possibility to take advantage of industrial bumps in the generation of electric current.
2. The possibility to take advantage of the power produced in the streetlights, billboards and traffic signals.
3. The cost of electricity generated from this method is low cost compared to electricity generated from solar panels, which are usually cost high.

## REFERENCES

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