WELCOME

TRAFFIC LIGHT CONTROL SYSTEM

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INTRODUCTION

- Traffic jam is the major problems in densely populated city like Mumbai cities. where as its population and number of running vehicle are much more than it’s copacity

- The normal function of traffic system is to control coordination to ensure that traffic moves as smoothly and safely as possible

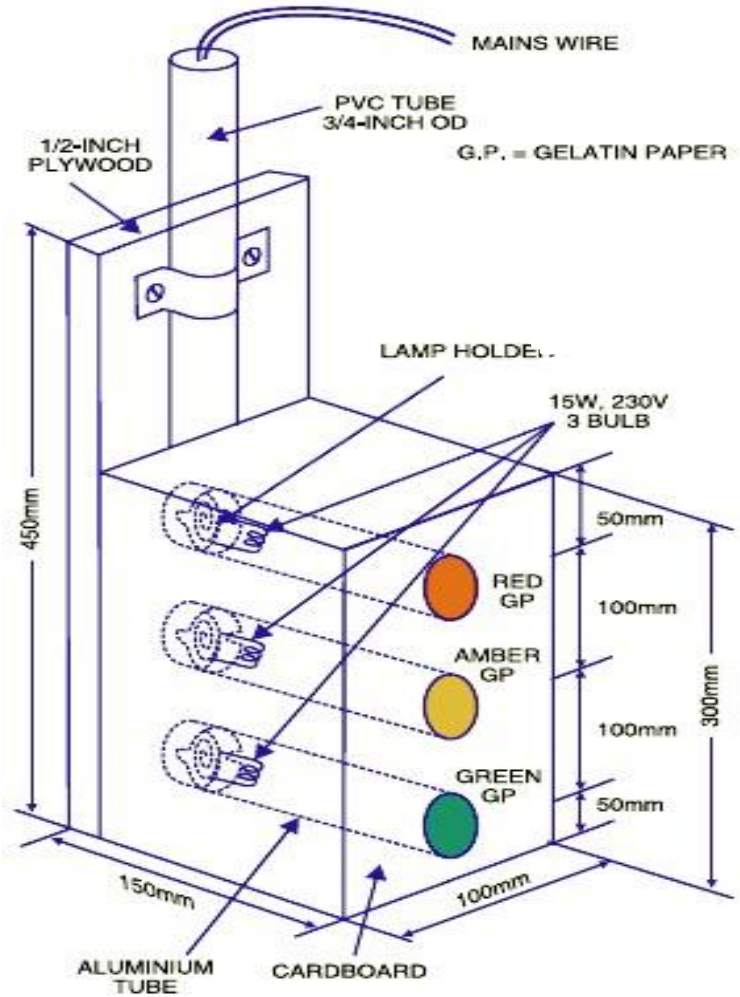
- Traffic lights are the signaling device that are placed on the intersection points and used to control the flow of traffic on the road

HISTORY OF TRAFFIC LIGHT CONTROL SYSTEM

- The world’s first electric traffic signal was put into place on the corner of Euclid avenue and east 105th street in Cleveland,ohio, on august 5,1914

COLOURS OF TRAFFIC CONTROL SIGNAL

- Have three coloured light facing each direction of traffic flow
- Red light - STOP
- Yellow light - WAIT
- Green light - GO or PROCEED


MAINS WIRE
PVC TUBE
3/4-INCH OD
G.P. = GELATIN PAPER
1/2-INCH
PLYWOOD
LAMP HOLDE
15W, 230V
3 BULB
450mm
50mm
RED
GP
100mm
AMBER
GP
300mm
100mm
GREEN
GP
50mm
150mm
100mm
ALUMINIUM
TUBE
CARDBOARD

TYPES OF TRAFFIC LIGHTS

1.FIXED TIME SIGNAL

- Set to repeat regularly a cycle of red ,amber and green light
- Timing of each phase of cycle is predetermined based on traffic studies
- Simplest type
- Limitation ; inflexible-may cause unavoidable delay
- Require careful setting

2.TRAFFIC ACTUATED SIGNAL

- Timing of each signal phase according to traffic demand
- Detector and computer assign right of away for traffic based on demand based on predetermined programing

ADVANTAGES :

- Delay minimum
- Maximum copacity achieved

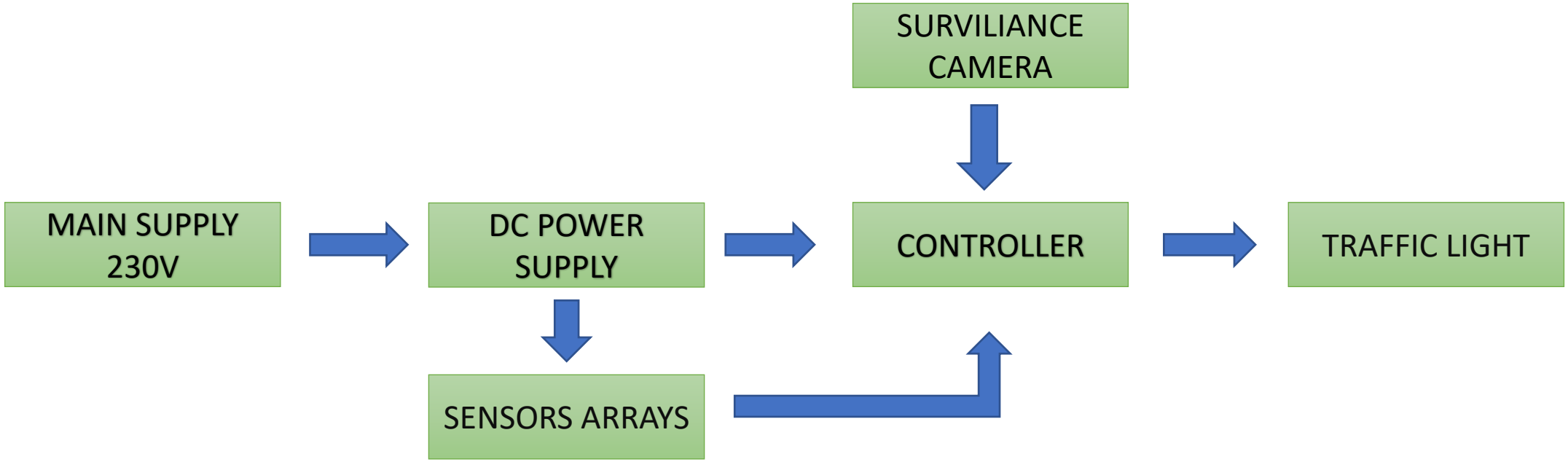
DISADVANTAGES :

- Require costly equipment such as detectors

3.MANUAL OPERATED SIGNAL

- Traffic police watches traffic demand and varies,timing of phases and cycles according

BLOCK DIAGRAM OF TRAFFIC LIGHT CONTROL

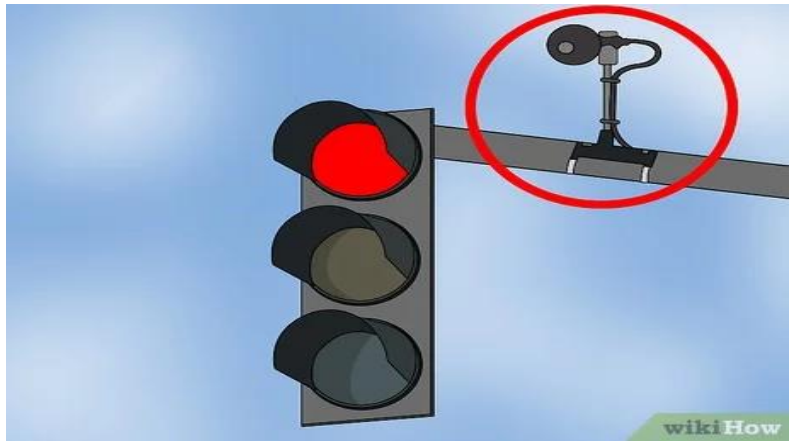


TYPES OF SENSORS USED IN TRAFFIC LIGHT CONTROL SYSTEM

- Active Infrared sensor
- Inductive-loop sensor

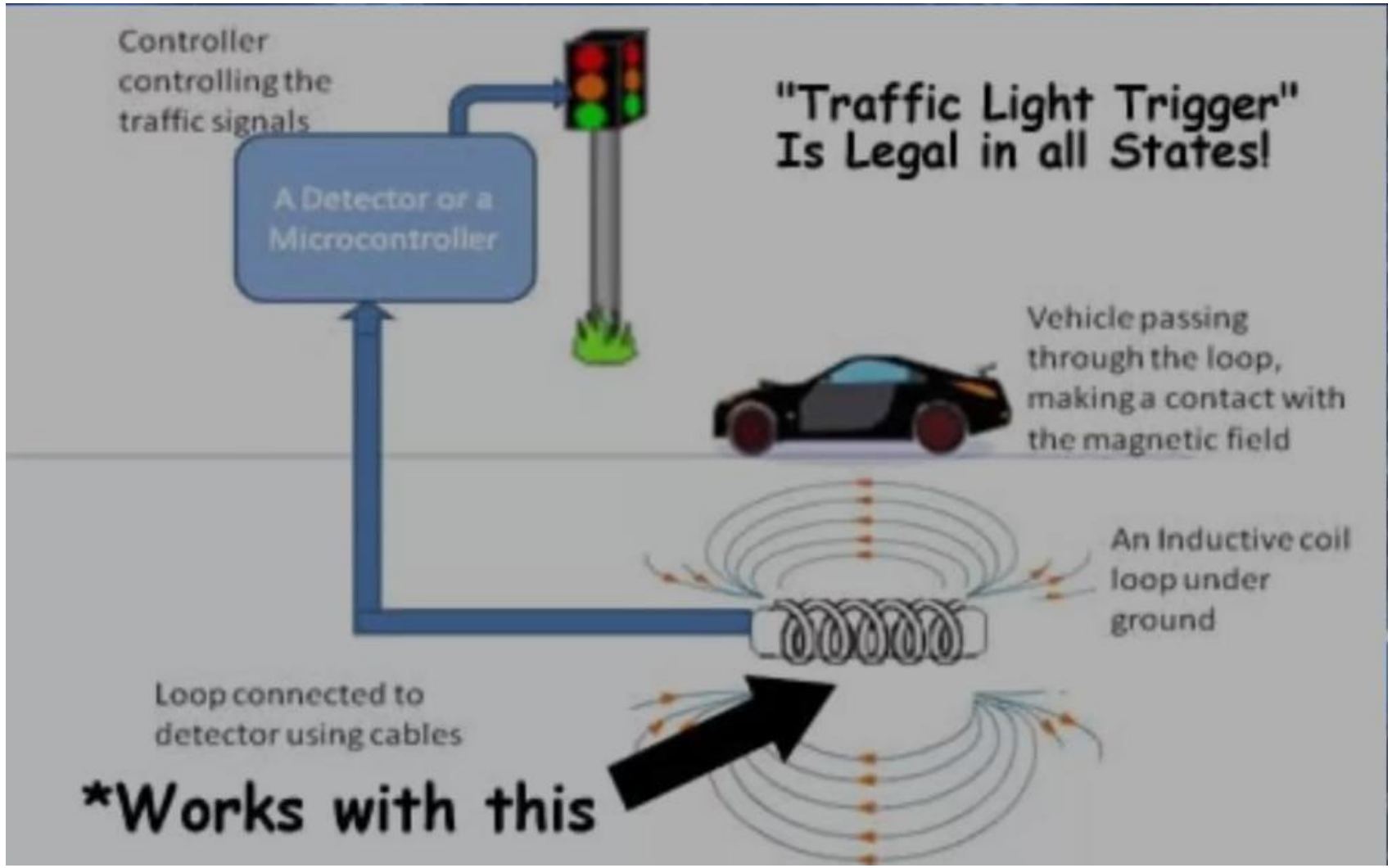
ACTIVE INFRARED SENSORS

Active infrared sensors emit low-level infrared energy into a specific zone to detect vehicles. When that energy is interrupted by the presence of a vehicle, the sensor sends a pulse to the traffic signal to change the light



INDUCTIVE-LOOP SENSORS

- Inductive-loop traffic detectors **use an electrically conducting loop embedded in the pavement to send a signal to the traffic control system to indicate the presence of a vehicle**.


Controller controlling the traffic signals
A Detector or a Microcontroller
"Traffic Light Trigger" Is Legal in all States!
Vehicle passing through the loop, making a contact with the magnetic field
An Inductive coil loop under ground
Loop connected to detector using cables
*Works with this

ADVANTAGES

- Avoid accident
- Control traffic on road
- Low maintenance
- Pedestrians cross the road safely
- Automatic control

DISADVANTAGES

- Rear and collision may increase
- They may cause a delay in the quick movement of traffic
- Failure of signal due to electrical power failure or any other cause confusion to road users
- Improper design and location of signal lead to violation of control system

FUTURE ADAPTATION AND DEVELOPMENT

- We can increase the efficiency by using microprocessors (8086)
- We can use this remote traffic controller

APPLICATIONS

- Railway station
- Bridge construction
- Road transportation

CONCLUTION

The controller can control the traffic movement and detect a busy and non busy road. The overall of this project is ok but certain condition the traffic signals is not function properly. The critical problem is about the timing

REFERENCES

- https://youtu.be/DP62ogEZgkI
- https://youtu.be/b-9vBtwrBwM

THANKS