Some previous models on this idea:

1. <https://nevonprojects.com/traffic-signal-management-control-system/>
2. <https://www.researchgate.net/publication/260833477_Smart_Traffic_Management_System>

# The gist of the above projects:

## Features of the system:

* + Signal light timings for each road
  + Manual Override for particular vehicles
  + Traffic flow GUI
* Disadvantages:
  + Can't identify traffic rule breakers

## Methods for vehicle detection:

## Inductive Loop Detection(not very reliable, prone to damage)

* + Video Analysis(cost of set up is high, gets affected in case of fog or poor lighting
  + Infrared Sensors(may get affected due to fog, requires regular maintenance)

## Relevant Algorithm:

* + Max\_red denotes the maximum time for which the signal can be red.

Max\_green denotes the maximum time for which the signal can be green.

Min\_freq\_count denotes the minimum frequency of vehicles passing per second stored statically in controllers.

Act\_freq\_count denotes the actual frequency of the vehicles passing per second = ∑ vehicles/second

Timer denotes the actual timer count.

* + Algorithm:

1. When the signal turn green.

While (Timer<Max\_green and Timer is not 0) do

If (Act\_freq\_count>Min\_freq\_count)

Keep the signal green.

Decrement timer count by 1.

Else if (Act\_freq\_count<=Min\_freq\_count)

Goto 2.

End

2. Make the signal red. Turn the adjacent signal green. Go To 1

