

# Adaptive Real-Time Traffic Management System Using Ultrasonic Sensor

Group 15

Sharaban Tahura 1394744

Rabiul Hasan 1386406

S M Hasnat Samiul 1394760

# Context



Traffic Management is an issue which impacts us almost daily. Use of technology and real time analysis can actually lead to a smooth traffic management.

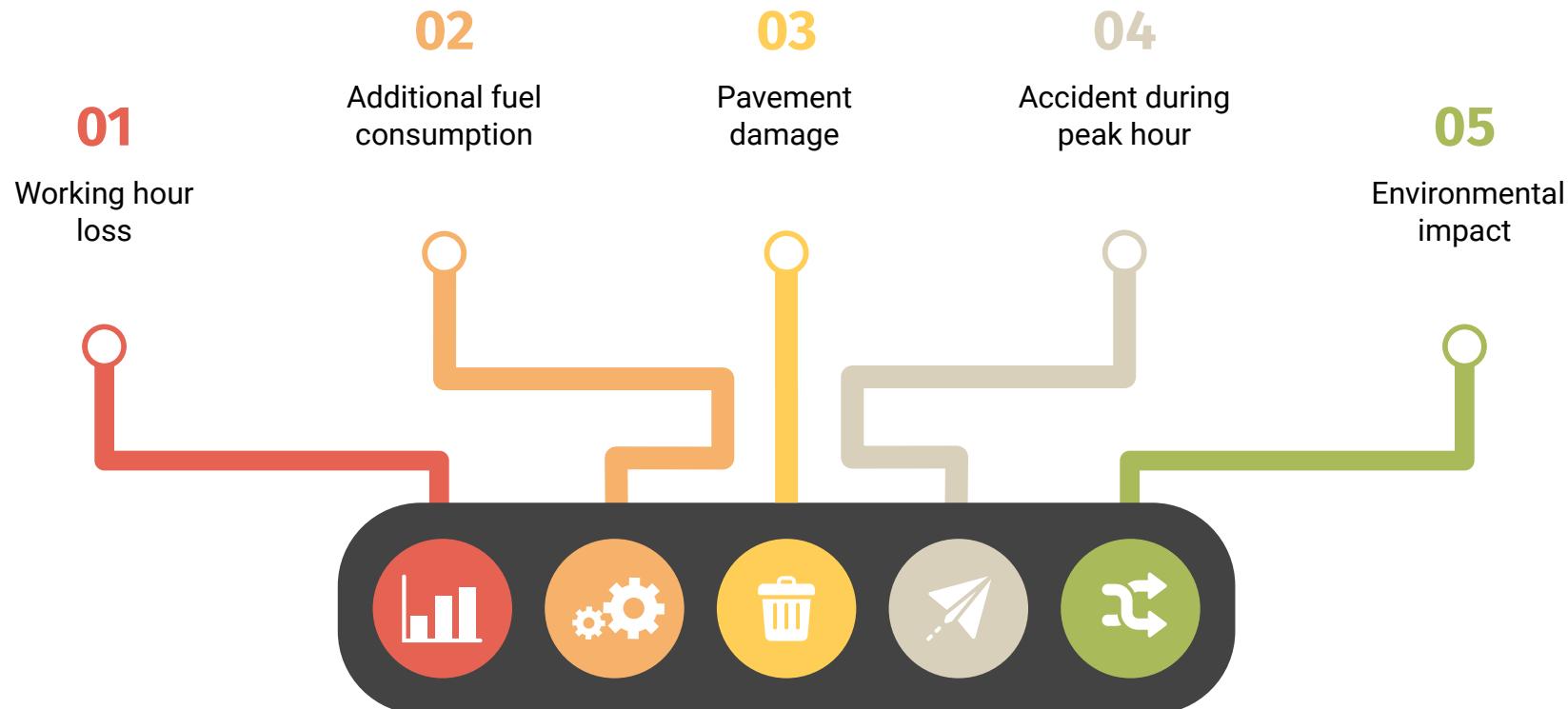


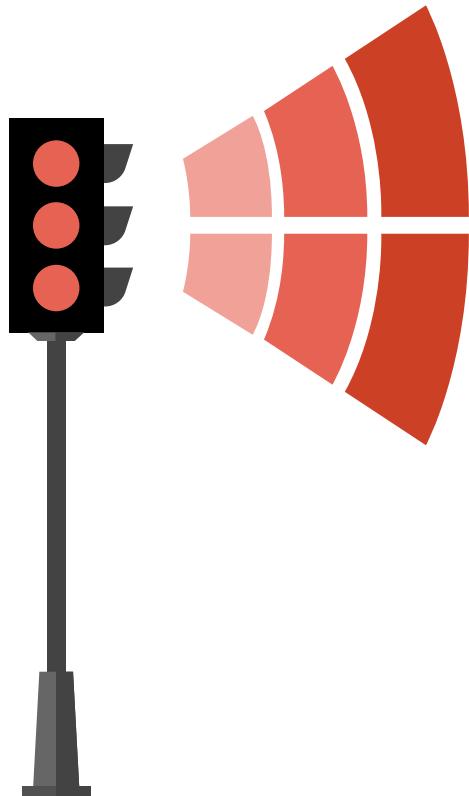
Let us take the scenario of Dhaka. It is the 6th most populated country in the world. While the number of vehicles are increasing at a fast pace, the infrastructure in the city is not being able to match this growth.



However, our solution to this problem is not limited to the Dhaka city only. It can be used for other urban cities as well where traffic jams occurs.

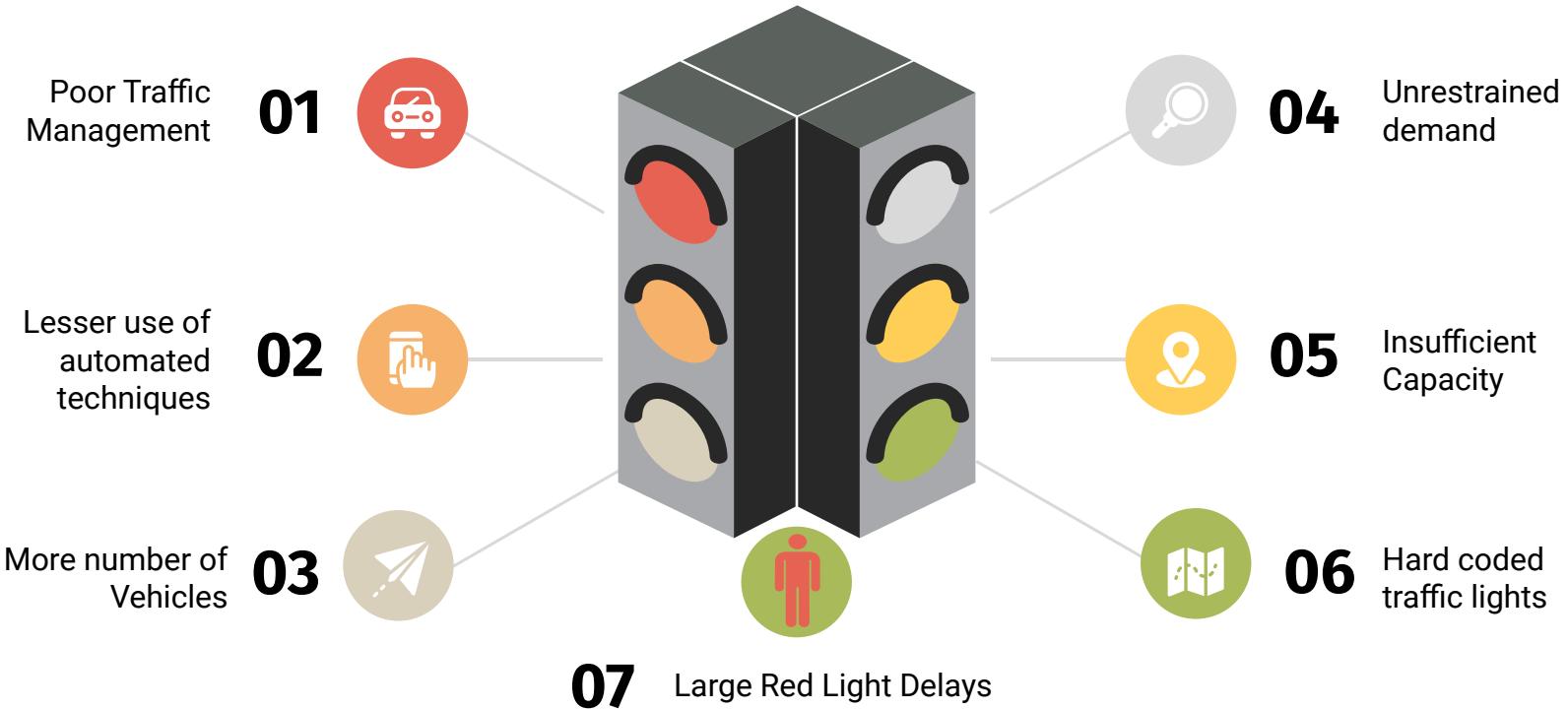
# Problem Description





Thus causing a daily loss of  
around 17 Million USD

# ANALYSIS/ RESEARCH ON WHY PROBLEM EXISTS

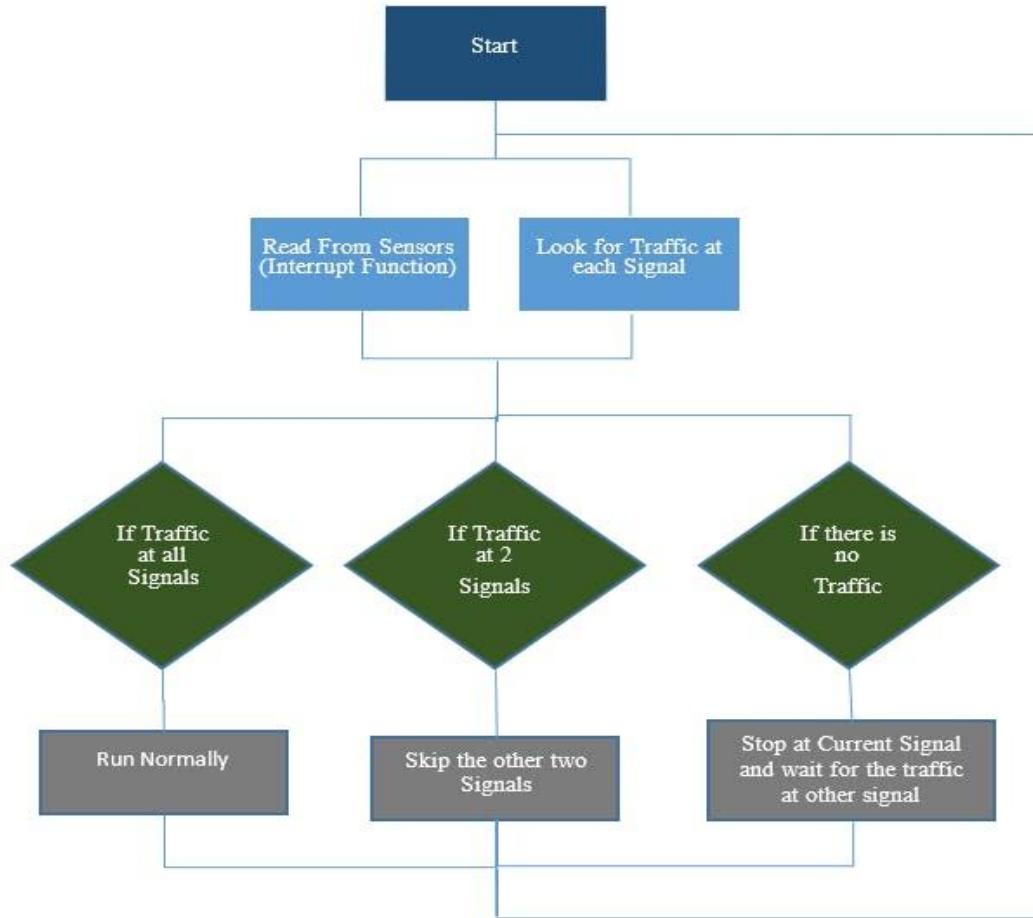


# Ariel View



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# Workflow Diagram



# How it Works



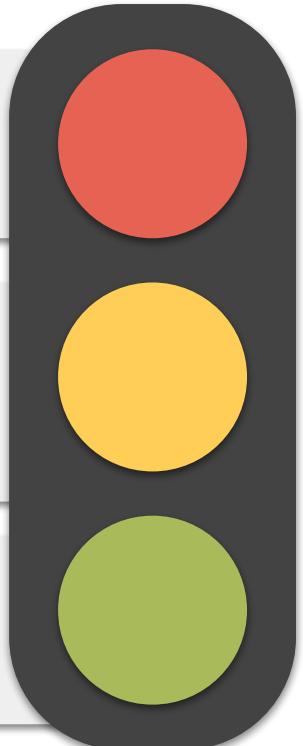
If there is traffic at all the signals, then the system will work normally by controlling the signals one by one.



If there is no traffic near a signal, then the system will skip this signal and will move on to the next one.



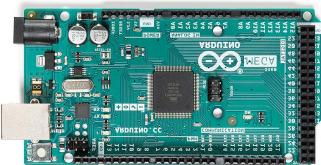
If there is no traffic at all the 4 signals, system will stop at the current signal and will only move on the next signal if there will be traffic at any other signal.



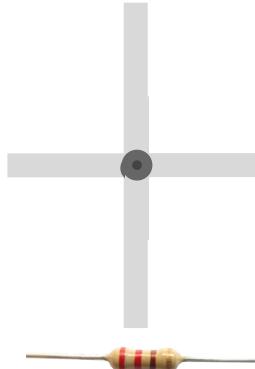
# EQUIPMENTS



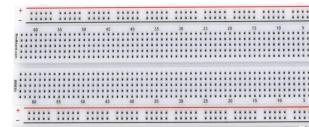
Ultrasonic Sensor  
(HC-SR04)



Arduino  
Mega2560

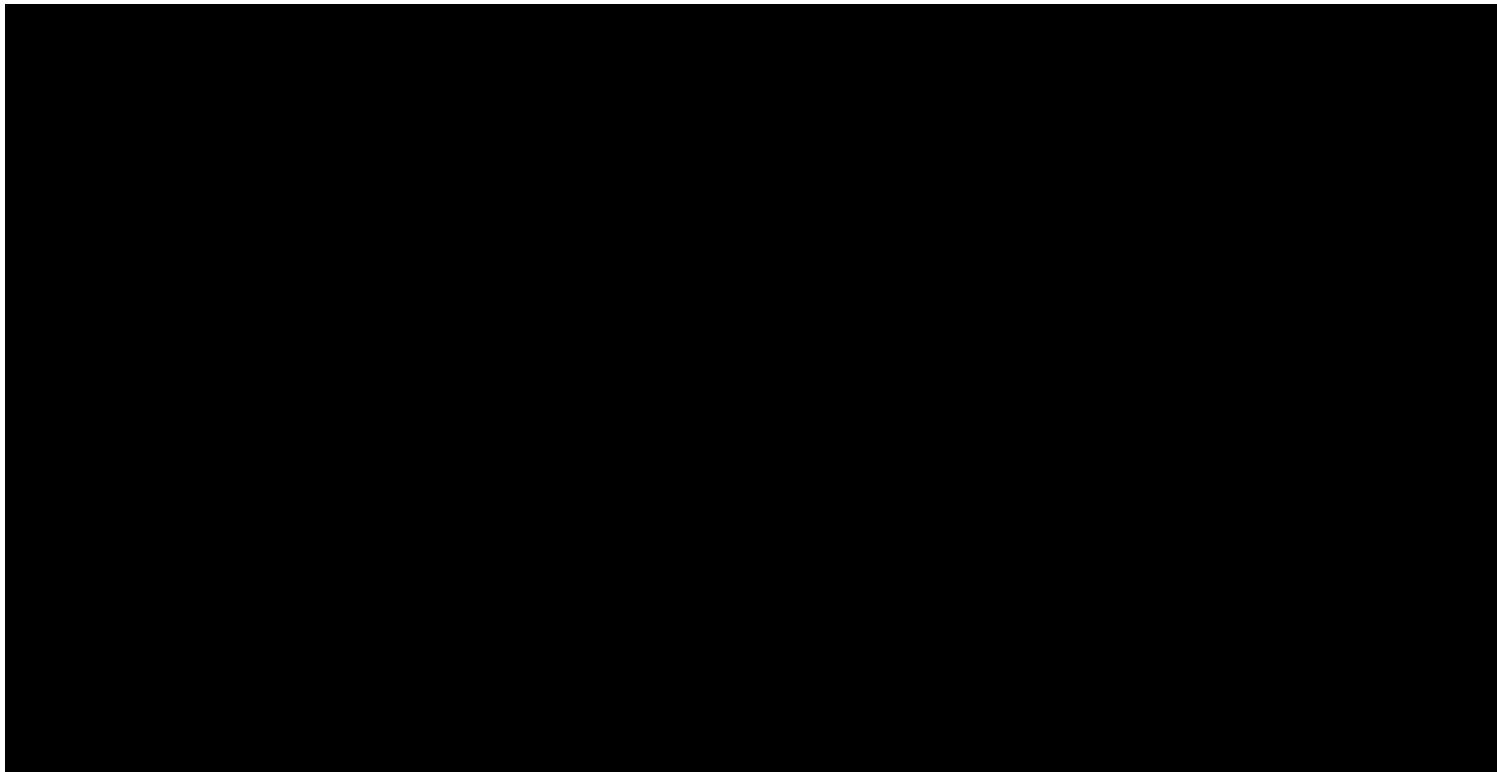


Breadboard

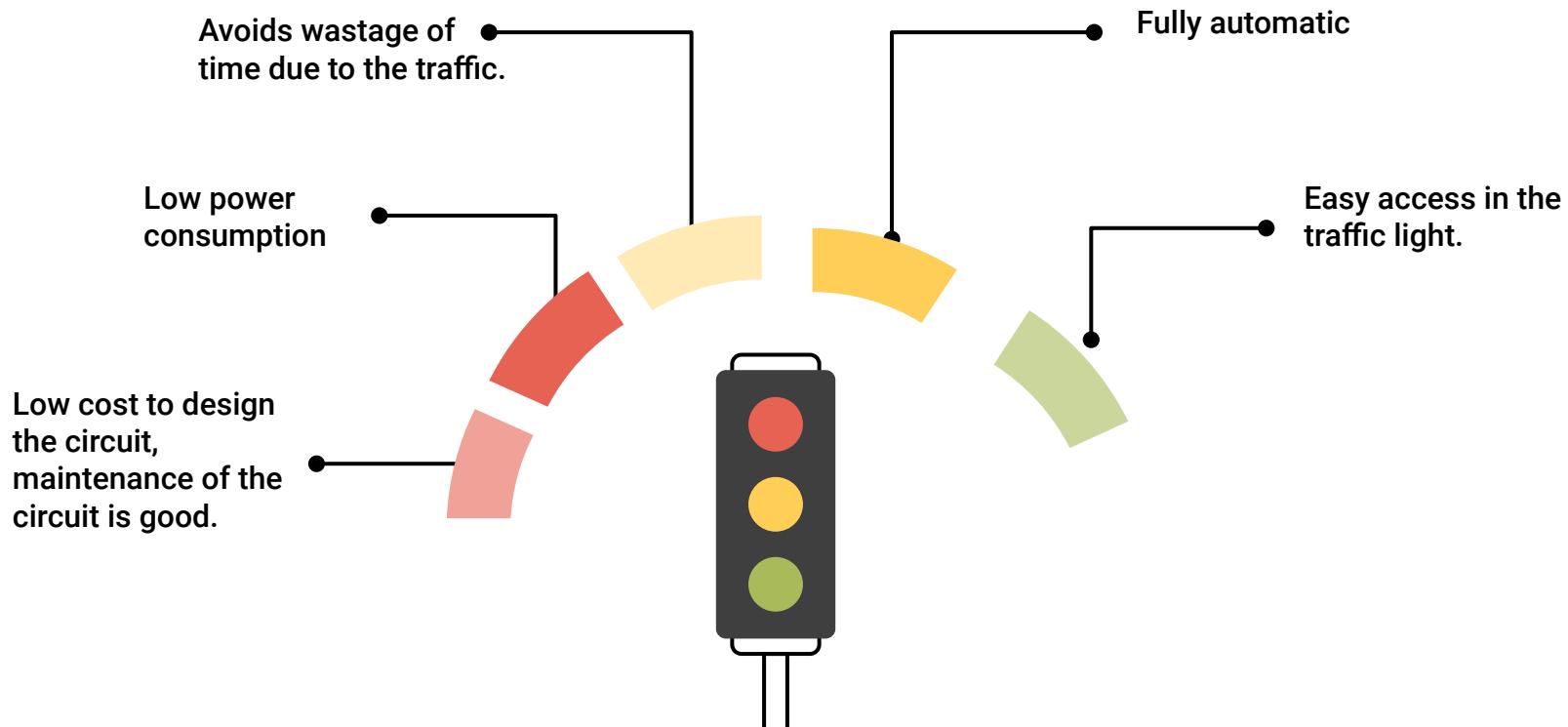


Resistor

# **Demonstration**



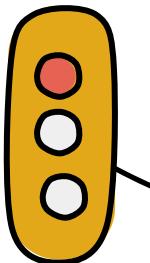
# Advantage



# Future Work

01

Turn on an alarm to warn the driver of the vehicle



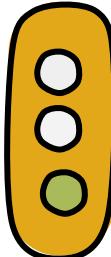
02

Can introduce WIFI technology and Cloud Based Data storing



03

It Can also be Possible to Detect and File case to any certain rule breakers



# References

1. [https://www.granthaalayahpublication.org/journals-html-galley/34\\_IJRG\\_20\\_B05\\_3326.html](https://www.granthaalayahpublication.org/journals-html-galley/34_IJRG_20_B05_3326.html)
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4. <https://www.ijitee.org/wp-content/uploads/papers/v9i5/E2263039520.pdf>

# Thank You