

CHALLAN SYSTEM ON POLLUTION

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Abstract : As we know India is the second most populated country in the world, after thinking about this many problems come in our mind. One of which is we face constantly in our day to day routine; Traffic, and to add on that is the pollution emitted by the vehicles. Air pollution in India is a serious issue with the major sources being vehicle emission and traffic congestion. The Air (Prevention and Control of Pollution) Act was passed in 1981 to regulate air pollution and there have been some measurable improvements. However, the 2016 Environmental Performance Index ranked India 141 out of 180 countries. A 2013 study on non-smokers has found that Indians have 30% lower lung function compared to Europeans. This project mainly focuses on over polluting vehicles who roam unfazed and the people who throw garbage outside their vehicles carefreely could be stopped which can certainly benefit the pollution index in our country. People doing so would find not littering a convincing act rather than paying fines unnecessarily.

1. INTRODUCTION

Vehicular pollution has grown at an alarming rate due to growing urbanization in India. The air pollution from vehicles in urban areas, particularly in big cities, has become a serious problem. The pollution from vehicles has begun to tell through symptoms like cough, headache, nausea, irritation of eyes, various bronchial and visibility problems. Our country is facing some serious air pollution issues from the last decade and it is increasing at a frightening rate. Analyzers say that if the pollution level keeps on increasing at the current rate, then the life expectancy can drop massively in some parts of the country by 2022. This is an eye-opener for the government and the people of the country. The new system of E-Challan made a powerful impact on people's approach towards traffic rules. Regarding the same a small survey was been conducted which consisted of a few questions to get the jist of the problems faced by people.

2. DATASET COLLECTION

A survey was been conducted to gather information about people in living in urban areas have pollution related issues or not. There were questions related to their usage of vehicles and them taking any action against others whose vehicles emit a lot of pollution or whom they have seen throwing garbage from their vehicles.

Timestamp	What is your gender?	Do you have a vehicle?	Do you use it regularly?	Do you have any pollution related issues?	Have you ever seen someone littering?	Are they responsible?	How many times have you seen this?	Did you take any action?	If No, why not?	Would you suggest any action?	Do you have any other suggestions?	What are your suggestions to improve our approach towards pollution?
2019/02/2	Male	Yes	Yes	Yes	Yes	No	Rarely	Yes	You didn't	Yes		
2019/02/2	Male	Yes	Yes	Yes	Yes	Yes	Many	Yes	Were You	Yes		
2019/02/2	Male	Yes	Yes	Yes	Yes	Yes	Yes	Rarely	Yes		Maybe	
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Yes	Rarely	Yes			
2019/03/0	Male	Yes	Yes	No	Yes	Yes	Many	Yes	People nc	Yes	Yes	
2019/03/0	Male	Yes	Yes	Yes	Yes	No	Many	Yes	Yes			
2019/03/0	Male	No	No	No	Yes	Yes	Many	Yes	Yes			
2019/03/0	Female	No	No	Yes	Never	Yes	Many	Yes	You didn't	No		
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Many	Yes	Were You	Yes		Use of CNG should be encouraged so as to avoid pollution in a certain limit.
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Rarely	Yes	You didn't	Yes		Miss you tambe
2019/03/0	Female	Yes	Yes	Yes	Yes	Yes	Many	Yes	Yes			
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Many	Yes	Yes			
2019/03/0	Male	Yes	Yes	Yes	Yes	No	Rarely	Yes	You didn't	Yes		
2019/03/0	Female	Yes	Yes	Yes	Yes	Yes	Rarely	No	You didn't	Yes		
2019/03/0	Male	Yes	Yes	Yes	Yes	No	Rarely	Yes	Yes			It's is really annoying to see some one litter and there should be action against
2019/03/0	Male	No	No	No	Yes	Yes	Many	No	You didn't	Yes		People who throw garbage on the streets or anywhere in open places should b
2019/03/0	Female	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Were You	Yes		
2019/03/0	Male	Yes	No	Yes	Yes	Yes	Many	Yes	Maybe			
2019/03/0	Male	No	No	Yes	Yes	Yes	Yes	Yes	You didn't	Yes		
2019/03/0	Male	Yes	Yes	No	Yes	Never	No	Many	Yes	You didn't	No	
2019/03/0	Male	No	No	Yes	Yes	Never	Yes	Rarely	Yes	You didn't	No	
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Yes	Many	Yes			
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Yes	Rarely	Yes			
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Yes	Many	Yes	Were You	Yes	
2019/03/0	Male	Yes	Yes	Yes	Yes	Yes	Yes	Many	Yes	Yes		
2019/03/0	Female	Yes	Yes	Yes	Yes	Yes	Yes	Many	Yes	Yes		
2019/03/0	Female	Yes	Yes	Yes	Yes	Yes	Rarely	No	You didn't	Maybe		

Fig1. Snapshot of the Dataset

3. DATA VISUALIZATION

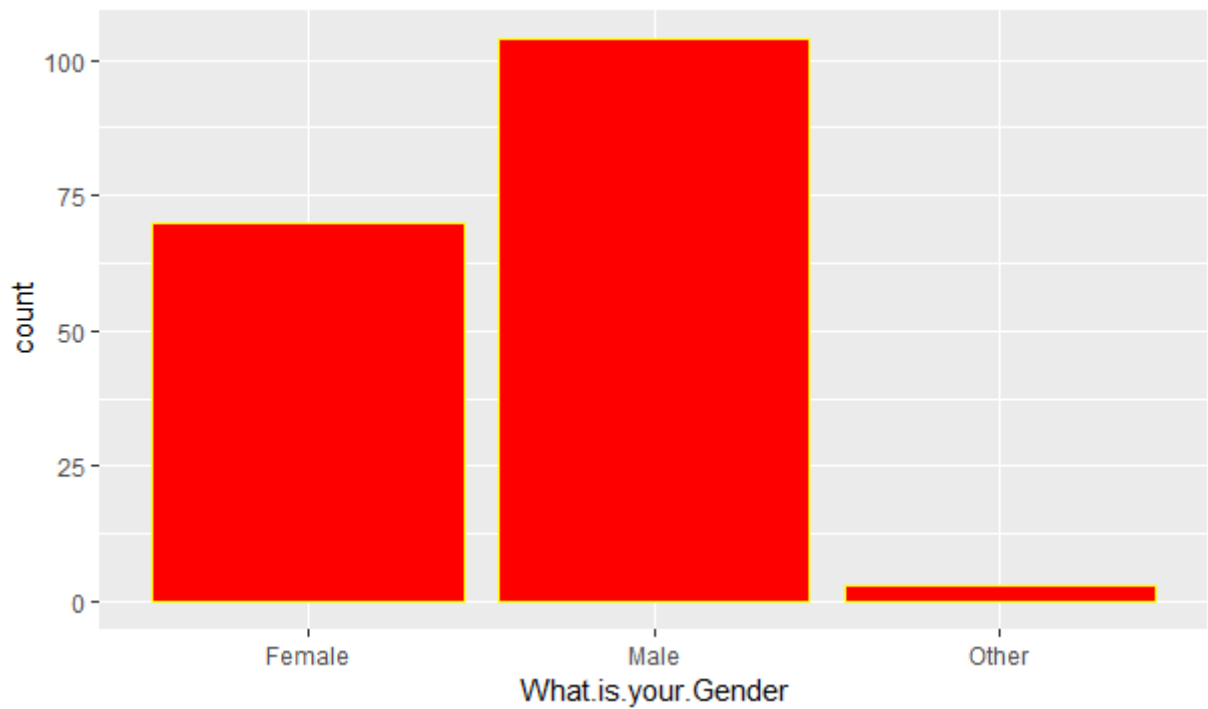


Fig3.1
The above visualization is a bar graph. It shows the count of responses according to their gender

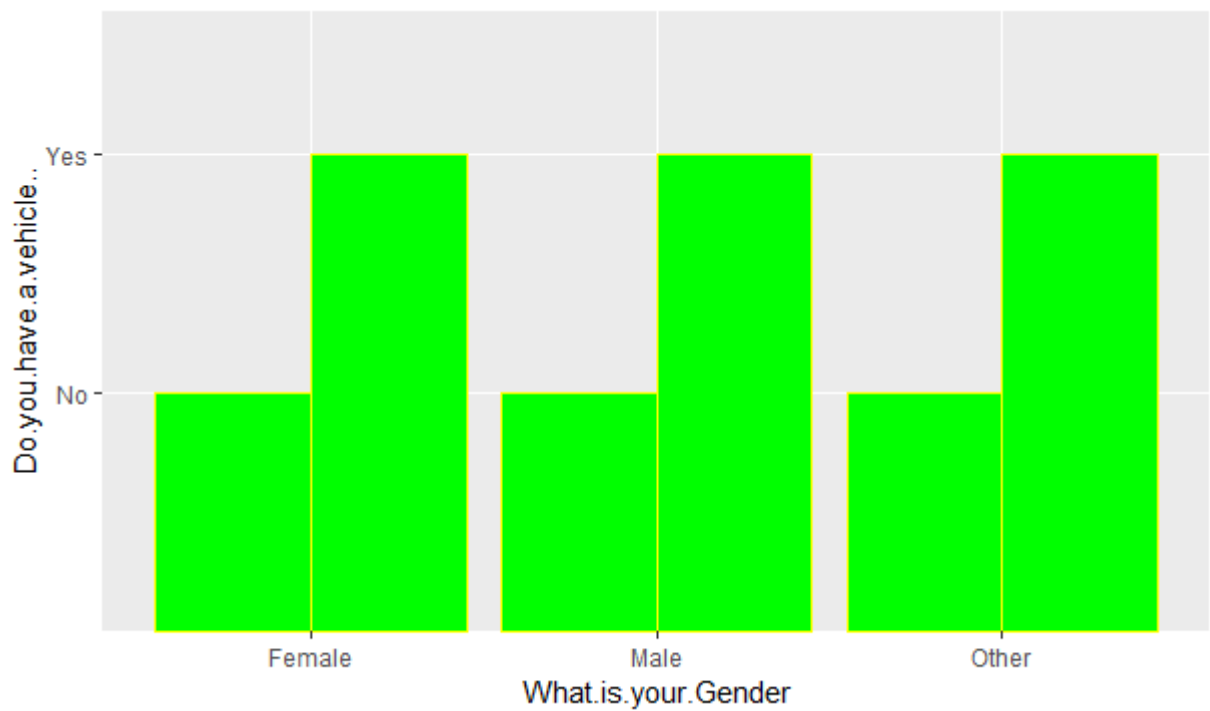


Fig3.2
The above figure is a visualization shown of people owning vehicles versus their gender which is shown through grouping bars

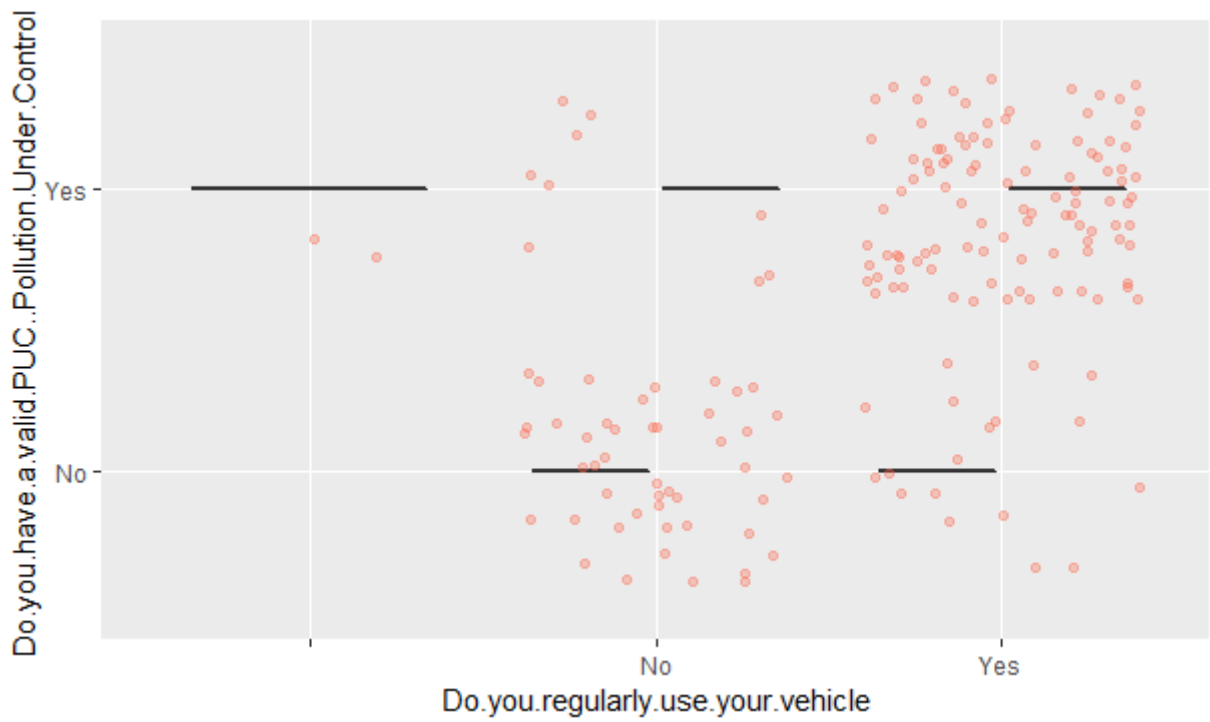


Fig3.3

The above visualization is the box plot visualization. This shows us the usage of vehicles on daily basis vs people having a valid PUC of their vehicle

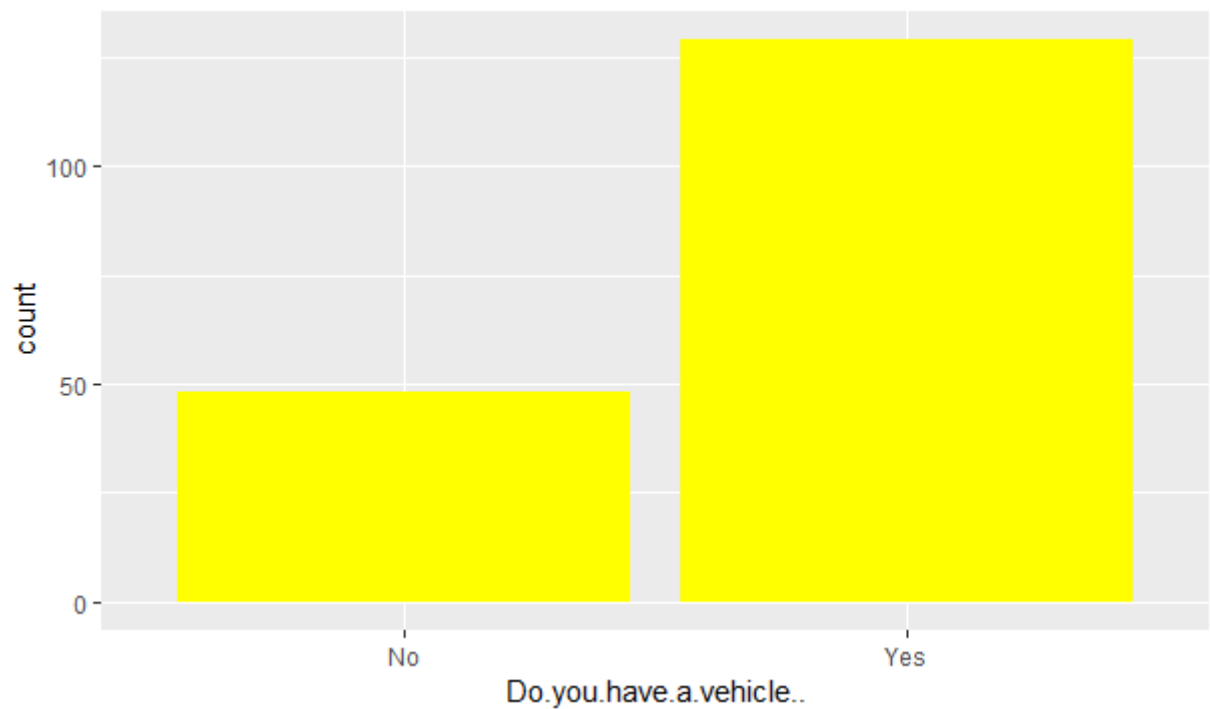


Fig3.4

This is the histogram plot visualization showing the count of people who own vehicles

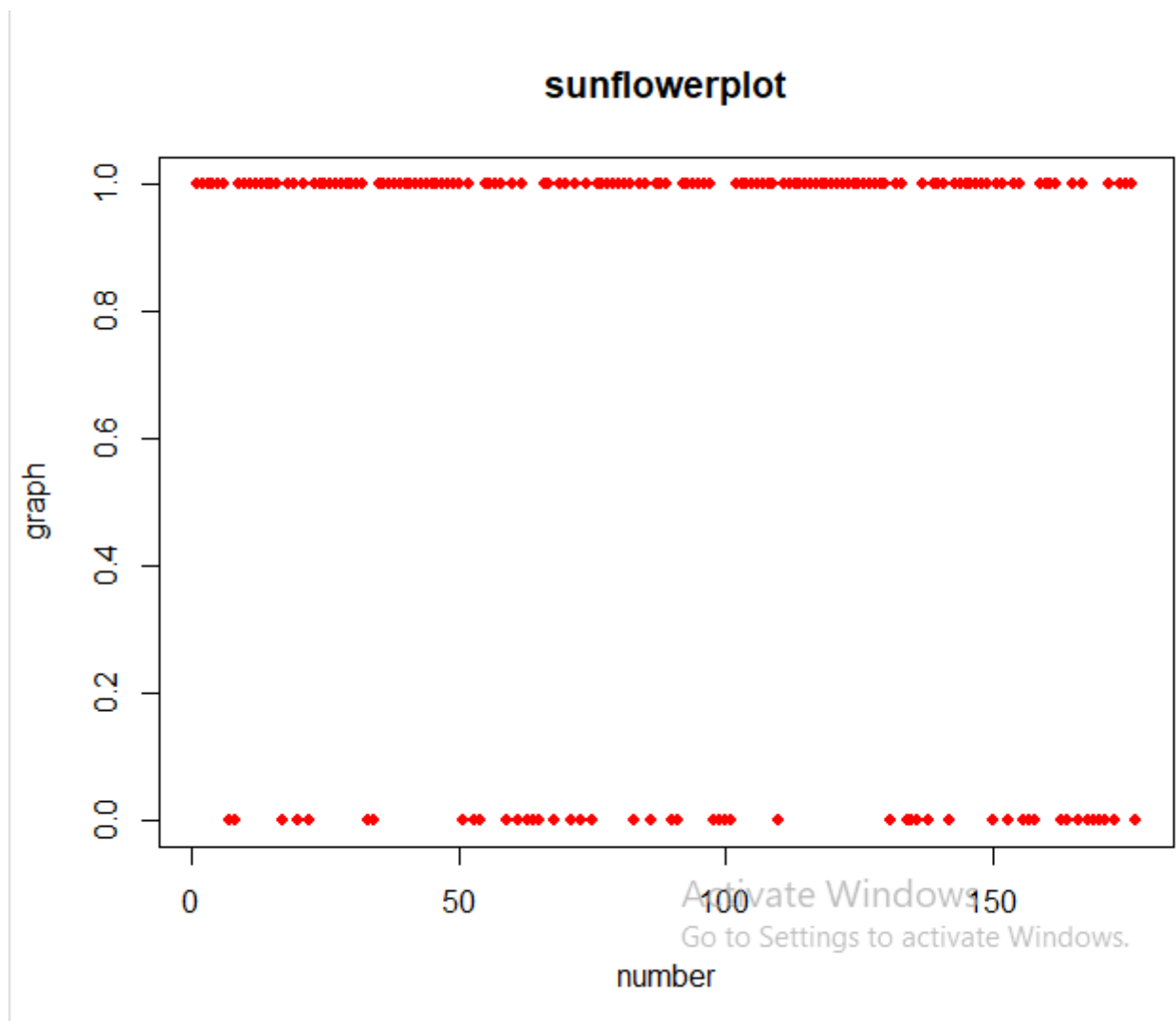


Fig3.5

This is a sunflower plot visualization of people's opinion for whether they are comfortable to complain anonymously, where 1 is Yes and 0 is No

Questions Taken

1. What is your Gender
2. Do you have a vehicle ?
3. Do you regularly use your vehicle
4. Do you have a valid PUC (Pollution Under Control)
5. Do you have a camera phone
6. Have you ever come across a vehicle emitting too much pollution
7. Are they mostly Public transport vehicles (Bus,rickshaw,etc)
8. How many times have you noticed people throwing garbage outside their vehicle
9. Did you ever stop them or took any strict action against them
10. If No, what was the reason ?
11. Would you like a system where you can complain against them anonymously
12. Do you think the Government should take any steps for this cause
13. What are your suggestions to improve our approach towards pollution

There were a few suggestions which were recorded, like:

Use of CNG should be encouraged so as to avoid pollution in a certain limit.

It's is really annoying to see someone litter and there should be action against it.

People who throw garbage on the streets or anywhere in open places should be punished by charging them money. About the vehicles government has already taken initiative by introducing CNG vehicles in Public Transport.

Easy and lite app which has direct function of clicking a picture of vehicle or people polluting and directly upload to a government portal who can take action.

There should be at least one garbage bag available in every vehicle

We should add challan to vehicles those are increasing pollution. There should be system to add photos or videos for against it for public like us.

Stricter policy, fines, marketing to create stigma.

4. OBSERVATION

There was a positive response obtained by the survey and the answers were certainly expected to be similar. The maximum responses recorded were given by Males. There are many people who don't have a valid PUC of their vehicle but this issue might be solved once the proposed system is been implied. There were a few suggestions by people which had common keywords like usage of CNG vehicles and usage of vehicles should be decreased.

There is a majority of people who would like to take action in a more efficient way without revealing their identity

5. PROPOSED SYSTEM

There are few rules which were introduced earlier by the government but they seemed inefficient. After the responses of the survey was been analyzed, there were a majority of people who are ready to accept e-challan for pollution. The solution for this problem is to build an application in which photos of vehicles emitting pollution or people throwing garbage outside their vehicles can be uploaded on that and that application only, which will ensure there is no modification of the image. Sometimes, when people are in a hurry or due to some other reasons they weren't able to capture a photo then the number of the vehicle would also work. The application will have the data whether or not the vehicle has its valid PUC(Pollution Under Control) been removed or not. People will have no choice other than uploading a proof of their valid PUC, if not then they may face the consequences. If the vehicle number is noted and a complaint against it is been filed then there must be a total of three complaints against that specific vehicle which will then be checked with the data of the PUC and if the PUC is shown not to be valid then the owner of the vehicle will have to pay a fine regarding the same. If the fine is not been paid in a specific time interval then they will be charged late fee charge. A notification will be sent to the person who has filed a complaint about the success of their complaint.

6. LITERATURE SURVEY

Rana [1].In the present time there is paper wastage of issuing the contamination and protection declaration. Traffic police used to check the archives which cause congested driving conditions out and about. This paper proposes utilization of Information innovation to spare the use of paper; defilement and it decrease plausibility of abuse of intensity by appropriate observing by presenting shrewd chips in the number plates of the vehicles which will give important subtleties required to checking. Everything will be done naturally just by getting the number plate of the vehicle this will diminish the issue of car influx just as utilization of paper.

Rushikesh [2].At monitor location, the RFID (radio-frequency identification) reader, wireless gas sensors are integrated along with microcontroller. This entire system is placed in either of the road. Whenever the vehicles equipped with RFID tags passed through the sensor node, RFID reader presented in the monitoring system detects the vehicles and the sensors measures quality of the air produced by that vehicle. The sensed continuous data is sent to the microcontroller for verification of the pollution level of the vehicle. The microcontroller verifies the levels of the pollutants of the air produced by the vehicle. If the pollutants levels are beyond the threshold levels, then it sends the warning message to the vehicle owner. The same data is displayed on the Liquid Crystal Display (LCD). The information about the levels of CO₂ and SO, vehicular number, RFID of the vehicle and time and date of vehicle are also sent to the server of the authorized agencies. This information is stored in the server database for future analysis.

Goel[3].Government of INDIA (GOI) has a fantasy to make each association and exchange digitized. Government has started such huge numbers of ventures to digitize the associations and constrained the natives to utilize digitized mode in their everyday life. As indicated by the W.H.O. Street mishaps are not a little issue now a days, it is recorded in their best wellbeing motivation now a days. As indicated by the insights street mishaps are the main source of death in 15– 29 years age gathering. In this digitized nation there ought to be some arrangement which can upheld programmed punishment on the traffic decide violator so they will stop themselves to do the street wellbeing offenses. Government ought to likewise proceed to check such street guilty parties by punish them persuasively from their AADHAR connected records naturally. In this paper an answer is proposed which can coordinate effectively with the current techniques for punishment in INDIA to punish the violators naturally.

7. REFERENCES

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