INVENTION DISCLOSURE FORM

1. Particulars of Inventors

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2. Provide a brief descriptive title of the invention:

RFID based Intelligent Emergency vehicles Navigation Management

3. In 50 words or less, please provide an abstract or summary of the invention:

It is straight forward fact the use of embedded systems in traffic congestion had revolutionized the world that what we see today. The basic idea is to divide the road into 3 parts by making use of 2 redlines running from the 1/3rd width gap from the two(2) side ends of the road and one white running in the middle of the road(the normal line that is currently seen in roads). we have a registered RFID tags on emergency vehicles and a RFID readers and the emergency red lights and alert sound system along the one side end of road. when an RFID reader detects an emergency vehicle with registered tag, it sends a signal to all the red lights and alert sound system that are at a predetermined or dynamically calculated distance ahead of current position of emergency vehicles. All the vehicles in road where the emergency red lights are active somehow must get themselves adjusted to road lying between redline and side ends of road, thus leaving road empty in the middle through which emergency vehicles can go. After the emergency vehicle passes public transport vehicles, cars ,bikes etc. can came back to through normal position.

4. Status of Patent :(if the application already filed, Application No. with Date, Please enclose a copy of Patent Application/ (Provisional/ Complete Specifications) as filed)
Provisional filing with application no—

No previous patent is submitted from my side.

5. State the problem or problems that motivated or required a solution provided by this invention, also list the specific problem which your invention is solving:

1.The existing traffic management system is the one which is not suitable as per the current population of world and not flexible for the present-day traffic. Owing to this reason many emergency service vehicles like ambulance, fire service was prevented from doing their duty at the right time resulting in loss of valuable human life.

2.There are some different solutions proposed so far some of them are using image detection technique which is costlier in terms of money investment and time consuming to take actions immediately .which may not be suitable for many countries.

3.whenever politicians or government officials or famous persons convoys are going there is lot of traffic congestion due to road blocking by the police man. So, in that situations also we can have RFID tags on the required government vehicles. so that roads get freed up in the middle where conveys can go without causing problem for the society.

My invention aims at solving

1. Cost efficient solution
2. In advance traffic congestion clearing in the path of emergency vehicles and politicians convoy vehicles.

In short to all the three(3) problems stated above.

6. Please provide a detailed explanation of how this invention solves the problem(s).
In your description, include links to relevant online documents or figures including at least one drawing, All the description of the drawing with numbering must mentioned in the detail.

Keeping in view of increasing population on can claim that traffic management on the road is becoming a tedious and changeling task, due to these there are many cases recorded where emergency vehicles get strucked in traffic congestion resulting in loss of valuable human life. This traffic congestion can range from few meters to several kilometers in worst cases, so I came up with intelligent solution to reduce traffic congestion to some extent to provide a path for emergency vehicles using IOT and Cloud computing technologies. I tried to provide my solution using drawing models for better understang.Fig-1, Fig-2 showing the images of emergency vehicles strucked in traffic and Fig-3 showing traffic congestion that is being created due to convoys of politicians and government officials. My idea provides solutions to all the problems shown in three figures.

Fig-1.Ambulabce in traffic congestion.

Fig-2.Fire engine in traffic engine

3.Congestion caused due to politician's vehicles convoys.

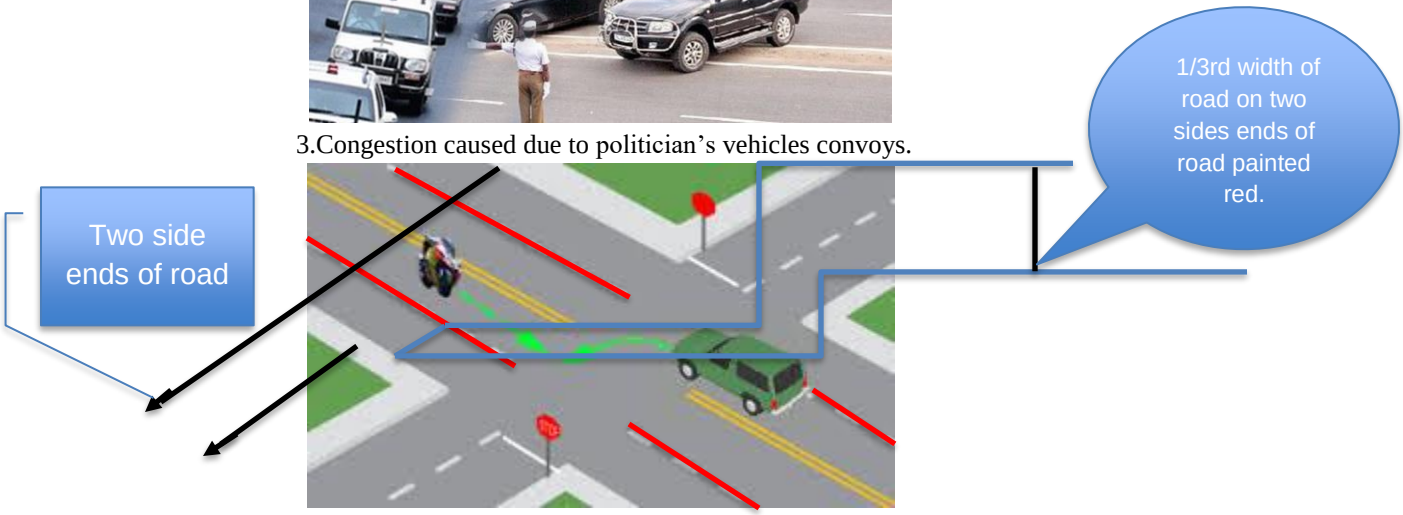

Fig -4.The above diagram shows how my idea of dividing road into 3 parts.

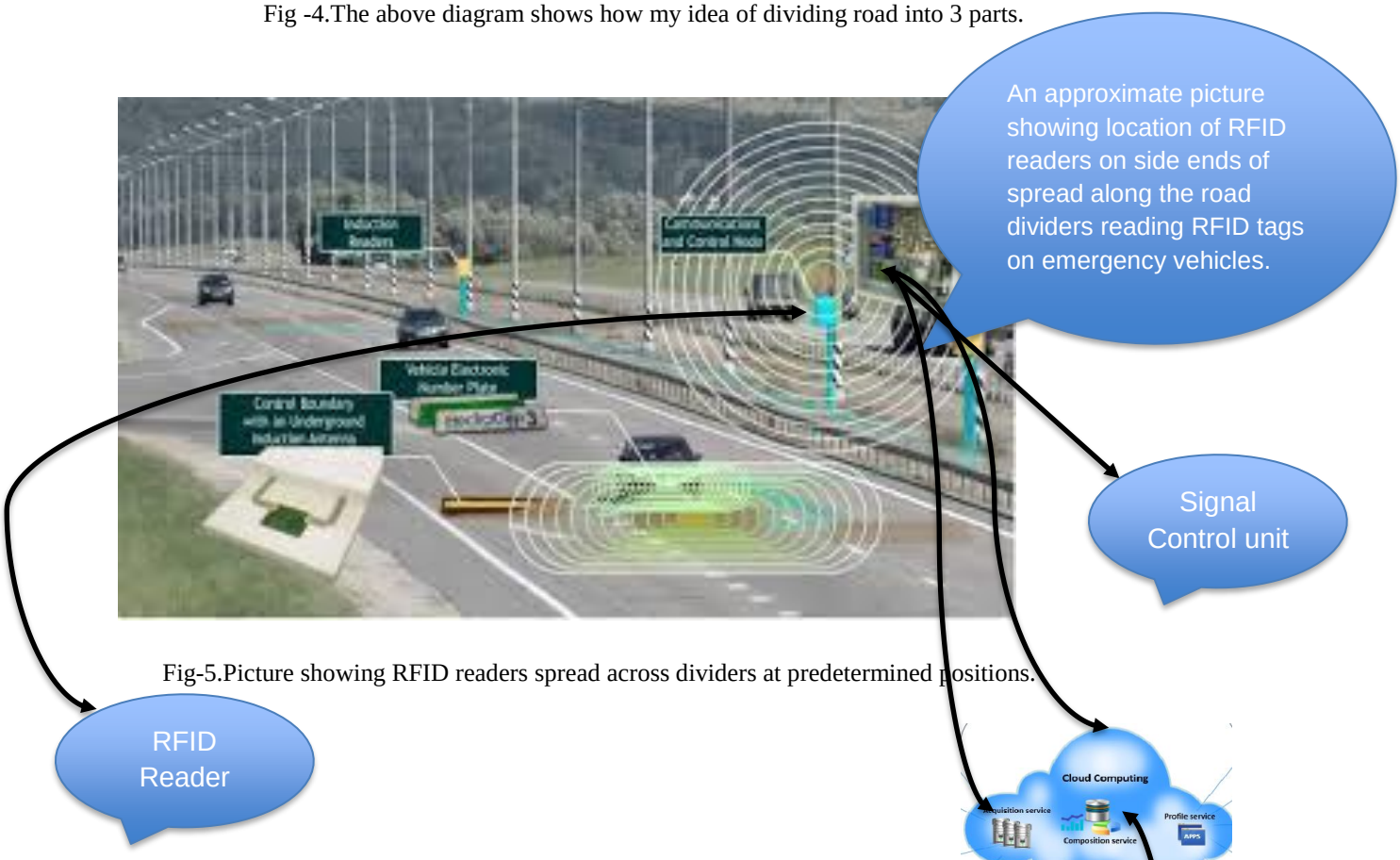

Fig-5.Picture showing RFID readers spread across dividers at predetermined positions.

Fig-6.Cloud architecture receiving signals from control unit.

Fig-7.vehicle moving to left and right of red line when red alert light activates there by leaving space in middle for the emergency vehicles to pass without traffic congestion.

Here is in detail description of idea.

To all the emergency vehicles and politicians convoy vehicles we attach a RFID tag and we also arrange a series of RFID readers, emergency lights and alert sound systems at predetermined positions along one side of road. when a RFID reader detects a registered RFID tag it immediately sends a signal consisting of vehicle details and location of vehicle to cloud for taking necessary action then immediately cloud process the data based on customizable algorithms and send signals to the emergency light and alert sound system to be activated that are ahead of the current position of emergency vehicle ,then immediately all the vehicles must start moving to the left and right of redline leaving road empty in middle, so that emergency vehicles and politicians convoy vehicles can go easily without any traffic congestion, the strategy to be adopted for systematically getting vehicles to sides of redline can be decided by discussing with traffic control board for arriving at efficient strategy. After the emergency vehicles passes public transport vehicles, cars ,bikes etc. can came back to through normal position and move in normal way. At the traffic signals junction, we can adopt already existing solution or current solution that I had proposed. This system can be turned off at nights and at times when the traffic control board feels that traffic is not so heavy, this can be decided based on past data sets available about traffic in particular region.

I had provided detailed working of my idea in diagrammatic form including all sort of technologies.

7. Have you conducted Primary Patent Search? Yes / No (if yes, attach the patent search report)

Yes , I had conducted a primary patent search and explored open sourced IEEE documents that are somehow related to my idea of Intelligent Emergency vehicle management System, but I could not find any document matching my idea for handling theses problem.

8. Existing state-of-the-art: (Brief background of the existing knowledge.)

The present solution provided to same problem by another individual aims to resetting the timer [signal board] to green signal whenever ambulance has in path which got the traffic load and making the opposite signal board to red signal This process is controlled by the ambulance and IoT. That is ambulance driver will send the request to signal point by using GPS location and by using cloud user connecting to the cloud server by GSM technology when the request was sent to the signal board it automatically sends the received acknowledgement.

Whatever the present solution that exists today to this problem aims at reducing traffic congestion at traffic signal but with varying technologies to provide similar kind of solution.

But my idea seems to be unique as it clears traffic in advance in the path of emergency vehicles along with traffic congestion at traffic signals.

9. List out the known ways about how others have tried to solve the same or similar problems? Indicate the disadvantages of these approaches. In addition, please identify any prior art documentation or other material that explains or provides examples of such prior art efforts.

S. No.	Existing state of art	Drawbacks in existing state of art	Overcome
1	Other mainly concentrate on reducing traffic congestion at the intersection of roads(i.e at the traffic signals).The technology used is GSM, vehicle detector and image processing.	No traffic congestion management along the path of the emergency vehicles. They are using the vehicle detection at the traffic signal which can be time consuming for further processing data and taking necessary action.	I overcomed this problem by cleaning the traffic congestion in advance.
2.	This technology is also concentrating on reducing traffic congestion at the intersection of roads(i.e at the traffic signals) but the technology used by them is entirely different from other. They are using Tshop sensor and sound sensor for detecting the emergency vehicles siren.	No traffic congestion management along the path of the emergency vehicles.	I overcomed this problem by cleaning the traffic congestion in advance.

1.Link for the document describing solution to similar problem for the serial no 1.

1.https://www.researchgate.net/publication/313841738_An_Approach_to_Make_Way_for_Intelligent_Ambulance_Using_IoT

2. Link for the document describing solution to similar problem for the serial no 2.

1.https://www.irjet.net/archives/V4/i4/IRJET-V4I4261.pdf

10. List the Technical features and Elements of the invention.

1.RFID tags and readers.
2.Secure operating systems.
3.Secure Storage.
4.Physical Security of network.
5.Cloud architecture.
6.IOT based technology(Sensors, Arduino boards etc.).
7.Big data handling technologies.

11. List out the features of your invention which are believed to be new and distinguish them over the closest technology.

1.In advance clearing traffic congestion in the predetermined path of emergency vehicle.
2.Most technologies that I had came across solves the traffic congestion problem at the intersection of roads (traffic lights), but my idea clears the traffic congestion along the path of emergency vehicle and at traffic signals, thus being more efficient and faster transportation of emergency vehicle.

12. Are there alternative ways of implementing your invention that is different from what you have disclosed? Specifically, if someone knew of your solution to the problem you solved (Question 3), would it be easy for them to come up with an alternative solution to the same problem that did not include your invention?
Please explain:

According to me the only thing some one can change is technology behind the implementation (Like different types sensors, cloud and IOT architecture and physical network and data analysis part all related to technology can somehow be changed.) but the thing that I feel there could be no way of changing the idea of dividing the road into 3 parts, but in some cases they may adopt the idea of clearing the road on one side instead of middle.

13. Has the invention been built or tested or implemented? If so, please provide the particulars of the first time it was successfully built or implemented (when, where, by whom, and evidence of this event including written or on-line pointers to documentary evidence):

No, I did not implement it to full extent but planned to implement it as my IOT and Cloud Computing course project. Very little progress.

14. Briefly state when and how you first conceived this idea?

Its very common to see that emergency vehicles(Ambulance, fire engines, life rescue teams, police vehicles during emergency etc.) get blocked in traffic due to congestion in very large cities. Once I was travelling to Delhi and found an innovative idea near tollgate that is being currently in execution by the NHAI which is fasttag, which lets you pass through the toll plaza without stopping for the cash transaction thus reducing traffic congestion to greater extent. The tag employs Radio-frequency Identification (RFID) technology and is affixed on the vehicle's windscreen after the tag account is active. I am not going in detail what fasttag is all about, but it is the base to arrive at my solution. soon I realized that it would be beneficial to have RFID tags for the emergency vehicles and

somehow formulated some idea for efficient management of emergency vehicles to get rid of traffic congestion to some extent.

15. Please provide the names of products that the invention is, or will be used in
(if any): 1. Primary product invention is used in; 2. Other products invention may be used in:

1.This invention if feasible to implement can be used by the Traffic control board of state/country government who wish to transform their state or country towards digitalization and for enhanced life of individuals.
2.Can be used by hospitals for real time monitoring of the location of the ambulance and take necessary arrangements in advance.

16. Have you sold, offered for sale, publicly used or published anything related to this invention? If yes, please briefly explain the dates and circumstances. List those individuals to whom you have revealed your invention. Were non-discloser documents signed prior to discloser in each case? Please state any deadlines of which you may be aware for filing an application on this invention.

No, I did not disclose my idea with any one. I have no idea about any deadline in regard this kind of invention.

17. Additional comments by inventor:

There are different kinds of solution provided to this problem you can find them in internet ,most of them are having same strategy for clearing traffic congestion only a traffic signals, but I feel my idea is some way unique.

Please read complete document for better understanding of idea.

I tried my level best to convey my idea in most appropriate manner. I am so happy if you feel free to reach out to me for any sort of clarification.