**Given Problems:**

1. The average speed of traffic in Dhaka City is very slow.
2. Long queues in public transport.
3. Absence of knowledge of bus routes.
4. Lack of public transport security.

**Features**

**1. Real Time Traffic movement Showing.**

Technology Used:

\*Using WSN

**# What is WSN and how its working to give the solution of traffic problem.**

WSN sensor detect the presence of vehicles and have a memory that can able to store different categories of data format on each road. It also has an intelligent traffic controller that processes the sensor data then employs two algorithms traffic system communication algorithm (TSCA), traffic signal time manipulation algorithm (TSTMA) to route traffic based on the traffic variations of all lanes of the intersections at a particular time and traffic control algorithm on multiple intersections (TCAMI). TSCA main objective is to enable exchange of information between the sensors’ base station (BS) and the controller using a direct routing scheme approach. This means all sensors are within range of the BS and directly communicate with it.

On the other hand, TSTMA main responsibility is to set the traffic signal duration in an efficient and dynamic manner such that traffic flow is maximized while at the same time ensuring minimal average queue length (AQL) and average waiting time (AWT). TSTMA makes use of the traffic information gathered at the traffic BS from the sensors to calculate in intelligent manner, This can also set up a priority based on the current traffic scenario. The expected queue length, for the next traffic cycle, and then schedule efficient time setting for the various traffic signals.

**2. Machine Learning prediction**

As WSN has some memories to collect previous datas So we can make a chatbot for giving us a statistical prediction about next days route. So in that way users can be benefitted by taking the decision for best alternative routes to move faster to his/her destination and thus average traffic speed going to increase.

Example:

The user will ask the chatbot about road condition. The chatbot will collect and compare the previous data and show a prediction. The convo will be like this:

User: “Hey Traffibot, how much packed the roads will be tomorrow at 2pm?

Chatbot: Where do you want to go?

User: I want to go to Mohakhali from my home.

Chatbot: The traffic condition may be light at that time.

**3. Bus Routes Information**

* Users will select destination
* Buses in the same routes will be shown
* Bus fare will be calculated and shown for that distance. Both local and seating services.
* Bus ratings will be shown. Users will give the ratings.

That’s how an user can choose the most suitable bus for their travel.

**4. E-Ticketing System**

We will offer E-ticketing solution for existing bus services.

* User will ride on a bus.
* Open the app and select destination
* Touch the smartphone with the e-ticketing sensor in the bus
* Fare will be cut from the mobile balance/bkash account
* A bus ticket will be printed

A data will be collected that the user has booked a seat for the specific distance. Example: Mohakhali to Savar.

* Users can see bus in the maps and details about seatings.

**5. Public Transport Safety**

Panic Button

* There will be a panic button in the app.
* If user hit the panic button all nearest police stations and other registered bus service operators will be informed.
* Bus identity and location will be shown to police/bus operators.

          [ Bus identity and location will be collected when you purchase through bus e-ticketing    system.