**CHAPTER 1: INTRODUCTION**

1. **Purpose:-**

Now a days, traffic congestion problem is serious concern in many mega cities like Ahmedabad, Surat, Mumbai, Delhi, Chennai, Kolkata etc. In most of case car drivers do not turn off their car’s engine, which leads to lots of car emissions to cause environmental damage due to pollution.

Current traffic signal allocates equal time to all junctions which in many case is not sufficient as some junction may have more dense traffic than another one.

To overcome such type of problems we have decided to create this project which will sense the density of traffic at particular junction and will automatically allocate time at that junction.

1. **Scope:-**

This project not only sense the traffic density but it will also allocate/update time according to traffic congestion at particular junction.

1. **Definitions, Acronyms and abbreviation:-**

**Definition:-**

* Density Based Traffic Control System using ARDUINO­ is a system by which we can sense level or density of traffic for each lane/junction.
* This system is quite useful to reduce the traffic congestion problem at traffic signal.
  1. **References:-**

The books and websites used for the pre development of this project include:-

**Web References:-**

* https://www.​**arduino​**.cc/en/Tutorial/HomePage →​[www.robotshop.com/.../](http://www.robotshop.com/.../arduino-5-minute-tutorials-lesson-2-basic-code-..--)​[**arduino**](http://www.robotshop.com/.../arduino-5-minute-tutorials-lesson-2-basic-code-..--)**​**[­5­minute­tutorials­lesson­2­basic­code­..](http://www.robotshop.com/.../arduino-5-minute-tutorials-lesson-2-basic-code-..--)→​[www.ladyada.net/​**learn**​/**arduino**](http://www.ladyada.net/​learn​/arduino)
* [**http://www.instructables.com/id/WATER-LEVEL-INDICATOR-USING-ARDUINO/**](http://www.instructables.com/id/WATER-LEVEL-INDICATOR-USING-ARDUINO/)
* **http://www.electroschematics.com/9964/arduino-water-level-indicator-controller/**

**Textual References:-**

* Getting started with Arduino­Bred Kendall
* Software Engineering by Roger Pressman.

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* 1. **Overview:-**

This system works on ARDUINO­-UNO and Ultrasonic Sensor. The overall description regarding the designing and interfacing of the system will be discussed in the later chapters.