TRAFFIC MANAGEMENT SYSTEM

INTRODUCTION

1.1 Hypothesis

A smart traffic management system utilizing sensor data, communication and automated algorithms is to be developed to keep traffic flowing more smoothly. The aimis to optimally control the duration of green or red light for a specific traffic lightat an intersection. The traffic signals should not flash the same stretch of green orred all the time, but should depend on the number of cars present. When trafficis heavy in one direction, the green lights should stay on longer; less traffic shouldmean the red lights should be on for longer time interval. This solution is expectedto eliminate inefficiencies at intersections and minimize the cost of commuting andpollution.

1.2 Motivation

In 2014, 54% of the total global population was urban residents. The prediction wasa growth of nearly 2% each year until 2020 leading to more pressure on the transportation system of cities. Additionally, the high cost of accommodation in businessdistricts lead to urban employees living far away from their place of work/educationand therefore having to commute back and forth between their place of residenceand their place of work. More vehicles moving need to be accommodated over afixed number of roads and transportation infrastructure. Often, when dealing withincreased traffic, the reaction is just widen the lanes or increase the road levels.However, cities should be making their streets run smarter instead of just makingthem bigger or building more roads. This leads to the proposed system which willuse a micro controller and sensors for tracking the number of vehicles leading totime based monitoring of the system.(Babu, 2016)(Zantout, 2017)