

MDR Specification
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MDR Specification

Adaptive Traffic Control System

Overall Project Goals:

To demonstrate the feasibility of a traffic control system that can react to various traffic scenarios. To optimize for traffic throughput for the intersection while not delaying any particular road access to the intersection for an unnecessary amount of time.

MDR Specification:

1. To evaluate various presence sensing technologies for the purposes of vehicle detection. The feasibility of said sensors will be determined and the technology that satisfies the system specification the best will be used for the remainder of the project.
2. A prototype version of the selected sensor will be constructed into an array of sensors that is suitable for in-lab testing. This sensor array will be able to detect the speed of an object passing through its field. This array will be integrated with an embedded microprocessor, whose sole purpose is to demonstrate the functionality of the sensor field.
3. The schematics for the transmitter/receiver will be selected, designed, and simulated.
4. Traffic information will be gathered from various authorities to form a baseline for comparison to our adaptive traffic control algorithm. Basic mathematical modeling will be developed to generate the base algorithm and the parameters for the hardware requirements of the digital sub-system.