Mechanical/Environmental Sustainability Project

Smart Traffic Controls

Mission Statement

Simulate and analyze the existing traffic control system on Albany Avenue (RT 44) in order to develop alternatives for minimizing traffic delays, fuel consumption and pollutant emissions.

Synopsis

Due to continuous traffic congestion along RT 44, the Smart Traffic Control team investigated a network comprised of 15 intersections to analyze travel time and most critical (oversaturated) bottlenecks. In addition, investigation and research was done into an adaptive smart traffic control system and progression analysis, both being considered as viable solutions to decrease traffic delays.

An engineering study was applied to simulate current traffic conditions using an advanced computer program named CORidor SIMulation (CORSIM). The purpose of this simulation was to help provide insight into the development of a sustainable and smart traffic signal control system to minimize vehicle delays, pollutant emission, and fuel consumption.

The team members examined the existing field conditions, interviewed the city traffic engineer, conducted data collection, simulated the network, researched different alternatives to congestion and recommended a cost effective and short implementing solution.

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