Tom Dale

CS-273

PropertyDescription.doc

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Traffic Junction Simulation

**Traffic Property Description:**

Four-way traffic junctures are extremely common in modern life and although roundabouts are said to be faster, safer, and cheaper by the Department of Motor Vehicles, it seems that traffic lights are still far more common. Traffic intersections vary and often cars are more likely to enter from some roads rather than others. This simulation will analyze the differences in efficiency between the two systems based on total amount of cars and the directions they commonly enter from. The efficiency of both types will be shown on graphs showing average car through time vs. vehicles per hour. Data will be run with 500, 750, 1000, 1250, 1500, 1750, and 2000 cars per hour. Three sets of data will be performed for each testing, 100% from one direction, 50% from two opposing directions, and 25% from all four directions. This data will show how traffic lights and roundabouts perform with different amounts of people, as well with some roads being used more frequently than others.

The Washington State Department of Motor Vehicles reports that roundabouts are “more efficient for drivers”. The results are expected to prefer roundabouts, but traffic junctures with a high percentage of one way or two way traffic will probably report traffic lights as more efficient. A car can travel faster through a green lighted intersection then a roundabout, but once traffic picks up roundabouts can handle traffic more seamlessly then lighted intersections. I think that this data will show traffic lights to be more efficient that roundabouts when total traffic is small, and less efficient when traffic is more evenly distributed among roads.

Source:

"How to Drive a Roundabout." *WSDOT*. Washington State Department of Motor Vehicles, n.d. Web. 18 July 2016.