Intersection Project, Part 3

Simulation of Intersection Operations


# A – Based VISSIM Simulation

1. Create, validate, and calibrate a VISSIM simulation model of your intersection (*deliverable=\*.inp file*). Ensure that your model incorporates all of the following parameters:
* A realistic distribution of vehicle models
* A realistic distribution of vehicle types
* Speed distributions for generated vehicles
* Speed zone changes (where applicable)
* Reduced speeds for cornering
* RTOR consideration
* Yield consideration
1. Using 2009 design hour volumes and appropriate statistical principles, compute the level of service for:
* The entire intersection
* Each phase of the intersection
* Each movement within each phase

*(deliverable=report section detailing level of service)*

**B – Design Modifications**

1. One group member will use the Part A simulation and experiment with cycle time and green allocation to attempt to improve upon the levels of service attained in A2 (*deliverables=NEW \*.inp file and report section detailing signal timing optimization*)
2. The second member will use the Part A simulation file as a “base case” for “+15year” operation prediction based on 5% annual growth. This may include geometric modifications (i.e. dedicated turn lane, widening etc.) as prescribed by instructor (*deliverables=NEW \*.inp file and report section detailing 2009 and 2024 LoS evaluation + mitigation suggestions)*

Each student shall be prepared to report on Part B work on Monday, May 11.

# Project Report

An Intersection Evaluation Report shall be submitted Wednesday, May, 20. The report will contain all elements of Project Parts 1,2 and 3. The report shall be professional in nature (assume you are a consulting engineer). No hand-writing nor hand-drawing will be accepted.