

CE474: Traffic Systems Design-Fall 2004

Lab 2 – Modeling intersection operation using Corsim
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Today's Activities

- ◆ 11:00 – 11:15 Review field data collection plan
- ◆ 11:15 – 12:00 Field data collection
- ◆ 12:10 – 1:20 Modeling the intersection operations using Corsim

Assignment A1.01

Site visit and field observations

◆ (11:15 AM to 12:10 PM)

◆ Field observations

- The purpose of this assignment is to get to know the intersection that will be the subject of your first design project.
- Walk or drive to your assigned intersection.
- Spent 30 – 40 minutes in the field observing the operations of the intersection.

Site visit and field observations

- ◆ Using your notebooks, record the physical elements of the intersection, including the intersection geometry, lane striping, all signal furniture, the signal controller, and other features.
- ◆ Observe the signal timing operations and record how the phases and right of way assignments change.
- ◆ Observe approach traffic volumes and turning percentages [10 or 15 minutes]

Site visit and field observations

- What vehicle flow patterns do you observe?
- How are pedestrians accounted for?
- What kind of traffic sensors are located at the intersection?
- While you are not observing peak flow operations, do you see any problems that exist today or that might exist if traffic volumes increase in the future?
- Once you have returned to the classroom, prepare a summary of your field observations.
- Be prepared to share the summary of your observations with the class.

Assignment A1.02: *CORSIM* problem

- The purpose of this assignment is to provide you with experience in building a CORSIM model of your subject signalized intersection.
- You should have information on intersection geometry from your site visit and from the aerial photos available on the web site.
- Your task is to build the CORSIM network that represents your intersection and to verify that you network is running by examining the output text file and by observing the TRAFVU animation.

Assignment A1.02

CORSIM problem (Cont.)

- Are you able to find the performance measures that are produced by CORSIM?
- List the various measures that you find.
- This activity will be completed in about 1 hours. I will review and verify your animation before the end of the lab period today.

Using CORSIM/TSIS

- Tasks:
 - Build network using TRAFED
 - Convert .tno file to .trf file
 - Run CORSIM
 - Examine .out file
 - Run and review animation (TRAFVU)

Hints for creating files in CORSIM

- ◆ Start by creating a project, and then a new TRAFED file.
- ◆ Create your network in the TRAFED graphical editor.
- ◆ Start by locating your subject intersection.
- ◆ Then, draw links out from this node to the approximate location of the dummy nodes.
- ◆ Then, draw another set of links out from the dummy nodes to create your entry/exit nodes. The entry/exit nodes will be numbered (automatically) as 8xxx.
- ◆ Enter your entry volumes for each approach at the 8xxx node.

Hints for creating files in CORSIM

- ◆ Enter the turning movement percentages by editing the subject intersection node.
- ◆ Check the coordinates of each node and adjust as needed to get your exact distances.
- ◆ Modify the link geometry to correspond to the lane assignments and number of lanes for your intersection.
- ◆ Enter the controller data for a fixed time controller. You will need to set a base phasing pattern and timing data.
- ◆ Save the .tno file.
- ◆ Convert the file to a .trf file.
- ◆ Run CORSIM.
- ◆ Check the .out file.
- ◆ Run TRAFVU to view the animation.

Using CORSIM/TSIS

