PURPOSE

The purpose of this activity is to give you the opportunity to learn how the *Traffic Signal Timing Manual* describes some of the signal timing parameters that you studied in this chapter.

LEARNING OBJECTIVE

○ Contrast the description of the signal timing terms that are presented in this chapter with those described in the *Traffic Signal Timing Manual*

REQUIRED RESOURCE

○ *Traffic Signal Timing Manual*

DELIVERABLES

Prepare a document that includes

○ Answer to the Critical Thinking Question

○ Completed Concept Map

LINK TO PRACTICE

Read the sections of the *Traffic Signal Timing Manual* assigned by your instructor.

CRITICAL THINKING QUESTION

When you have completed the reading, prepare an answer to the following question:

1. Describe how the timing processes that you observed in the field (Activity #23) compare with their descriptions in the *Traffic Signal Timing Manual*.

IN MY PRACTICE...   *by Tom Urbanik*

Stop bar detection can be very efficient in allocating green time if the detection zone is large and the passage time is small (zero or close to zero). If the passage time is zero, the approach turns yellow as the vehicle leaves the stop bar. However, the onset of yellow occurs when the vehicle is well into the intersection. To achieve an even more efficient operation (and also provide dilemma zone protection which is not discussed here), separate setback (from the stop bar) detection is used.

The design of setback detection is complex. However, to illustrate the point, consider a detector located 3 seconds from the stop bar. If the gap time is 2 seconds, the vehicle is approximately 1 second from the stop bar if it is the last vehicle to gap out. At 1 second from the stop bar, there is no question that the vehicle will enter the intersection as it will take 1 second to react to the yellow. This type of operation is safer and more efficient.

CONCEPT MAP

Terms and variables that should appear in your map are listed below.

| gap out | maximum green | passage time |
| max out | minimum green | |

Student Notes:

Traffic Signal Systems Operations and Design: Isolated Intersections