Timers and Counters

1. The Department of Transportation at Kent State University has received complaints from students, faculty and staff about inconveniences, potential for accidents at the intersection of Terrace Dr. and Summit St. Below is a synopsis of the complaints:
   a. I am a student [faculty, staff...] in the College of Technology [Business School, RAGS..] and reside off of Summit by Water St. I find it very frustrating that I cannot make a simple left from Summit to Terrace to attend my morning classes on Mondays thru’ Fridays. It is not only expensive (considering the increase in fuel prices), it also takes additional 10 to 15 minutes, depending on the traffic congestion on Main, to drive via Main Street then take a right on Terrace.
   b. I am a student [faculty, staff...] in the Computer Science [Physics, Chemistry, Liquid Crystal, Library, Michael Schwartz building...] and reside off of Main by Crane and Terrace. It is very frustrating that I always experience extremely long delays when making a left at the Stop sign from Terrace to Summit in the morning hours. The two-way traffic on Summit is always heavy and they also have the right of way, while the traffic on Terrace is always at a standstill. I have been late for a number of classes due to circumstances beyond my control.
   c. Last week, a driver from Terrace St almost ran into my car at the intersection of Terrace and Summit. I always have the right of way since I drive on Summit from Water St heading to the library. The other driver should have stopped at the Stop sign to yield to the Summit traffic; instead he attempted to sneak his way into ongoing two-way Summit traffic. The situation at Summit and Terrace is chaotic in the morning hours, and should be corrected ASAP.

The Department of transportation has requested your expertise to correct the traffic congestion/hazard at Terrace and Summit.

In response to this request, you are required to:

   i. Submit a description of how you would correct the traffic problem (minimum half a page in a MS WORD document) for review and approval
   ii. Implement a ladder logic program of your proposed solution
      • Your program should be well commented and self explanatory.
      • Provide meaningful labels for the nodes (Contacts, Timers etc...)
   iii. Demonstrate your ladder logic using the lights, Push Buttons and Switches on the PLC

http://www.personal.kent.edu/~asamba/tech43550