Controller Cabinet Troubleshooting

- A "logical" thought process
  CDOT 2001
“It’s In Flash” – Now What??

* DON’T TOUCH ANYTHING!!!!
* Observe the entire situation
  - Accidents
  - Weather conditions
  - Construction
  - Time of day / night
  - Location: near schools, bad neighborhood
I’m Not Going to Panic !?!?!?

* Open the cabinet (If you have one to open)
* Don’t touch – just look
* Look, Listen, & Smell
  - Are there any lights in the cabinet?
  - Do you hear relays chattering or wires arcing together?
  - Do you smell anything burning?
Look and Write It Down

* What Does the Conflict Monitor Display?
  - Read **ALL** the LEDs or LCD Display
    » Channels 1 thru 6, 13 thru 16
    » Condition
      • Red Fail (load switch fail)
      • Conflict (remember the ring diagram)
      • 24 volts (where does 24 volts come from?)
      • Watch dog (micro processor)
      • CVM or BND (line voltage to the controller)
Look and Write It Down

* What does the controller display?
  - Read **ALL** of the display.
    » Is the controller "stopped" at the point of trouble?
    » What phases are showing?
    » What intervals are showing?
    » Other status display – MAX II, preemption, coordination, master controller or system.
LOOK

* Are the detectors working?
  - loops, microwave, cameras
* Is there pre-emption?
* Is there telemetry?
What Type of Problem?

* Dark intersection
* Flashing intersection
* Cycling problem

*Begin to Divide and Conquer
Cycling Problem

* Improper cycling

- Phases cycling green for no reason
- Peds cycling for no reason
- Excessive green time for a phase
- Not enough green time for a phase
-Skipping phases
- Time clock (don't under estimate this one)
- Check the timing sheet with the controller settings
Cycling Problem

* Not Cycling

- Detection
- Phases enabled
- Proper timing in the controller
  » Compare the controller settings with the timing sheet
- Pre-emption
- System master
- Coordination
- Stop time switch (controller or door)
**Flashing Intersection**

* Something put the intersection into flash.
  - Begin to look for the reason why.
  - Start with the monitor and controller.
  - Check door and controller switches.
  - Check the rest of the cabinet components.
  - Is it a cabinet or field problem? Divide and conquer from the field terminals.
Dark Intersection

* Check the line voltage at the power termination point.

* Is the main breaker tripped?

* Are the door switches in the "on" position?

* Do the load switches have power?

* Are all the FTR's in place?

* Is the flasher operating as it should?