CE 474 – Class 10

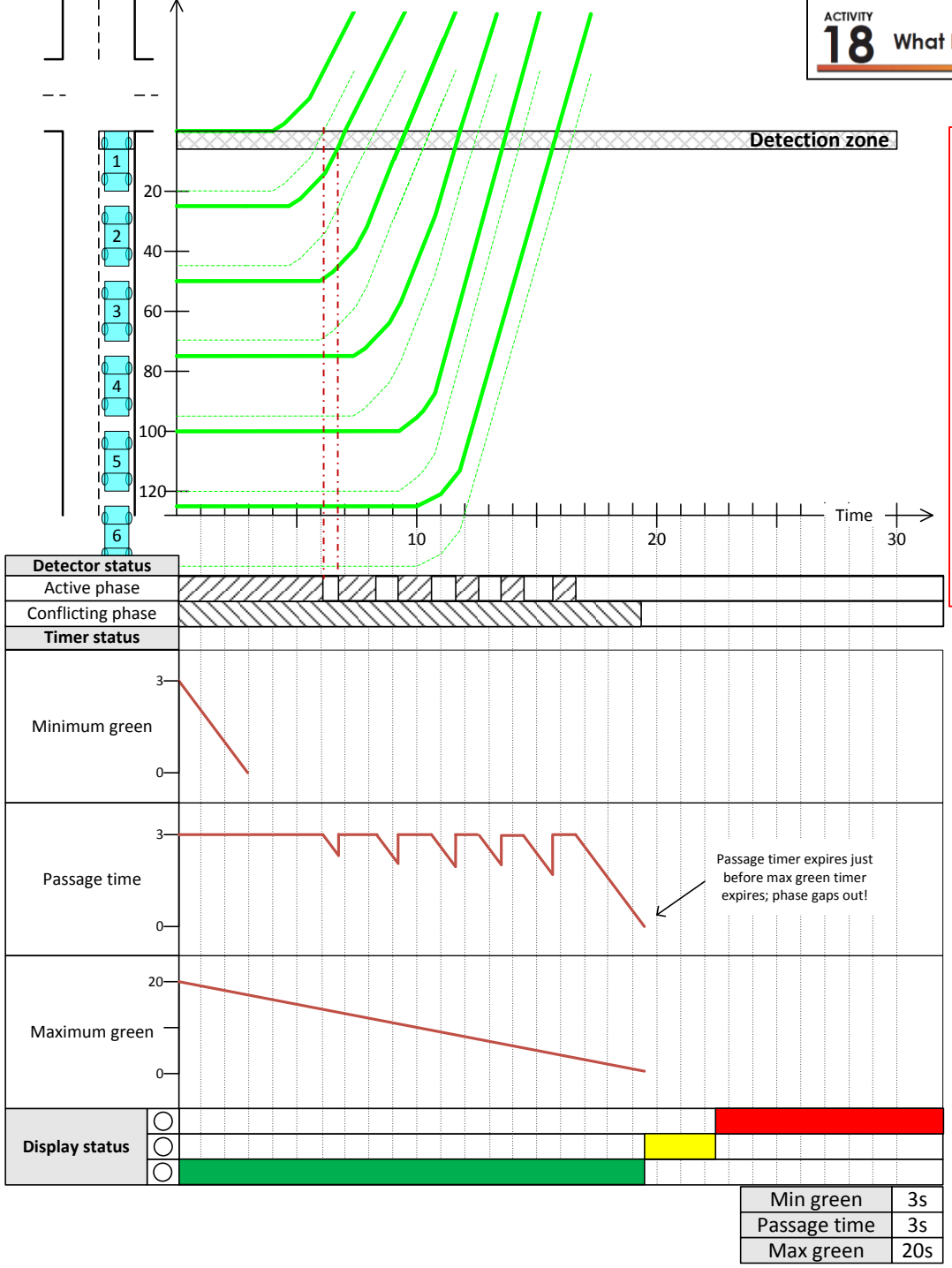
September 16, 2015

For next time

- Do A22 (individual); show work in book and bring to class tomorrow.
- Prepare for A23 by reading activity and listing questions that you have for it; this will be primary activity during lab tomorrow.

Transportation in the News

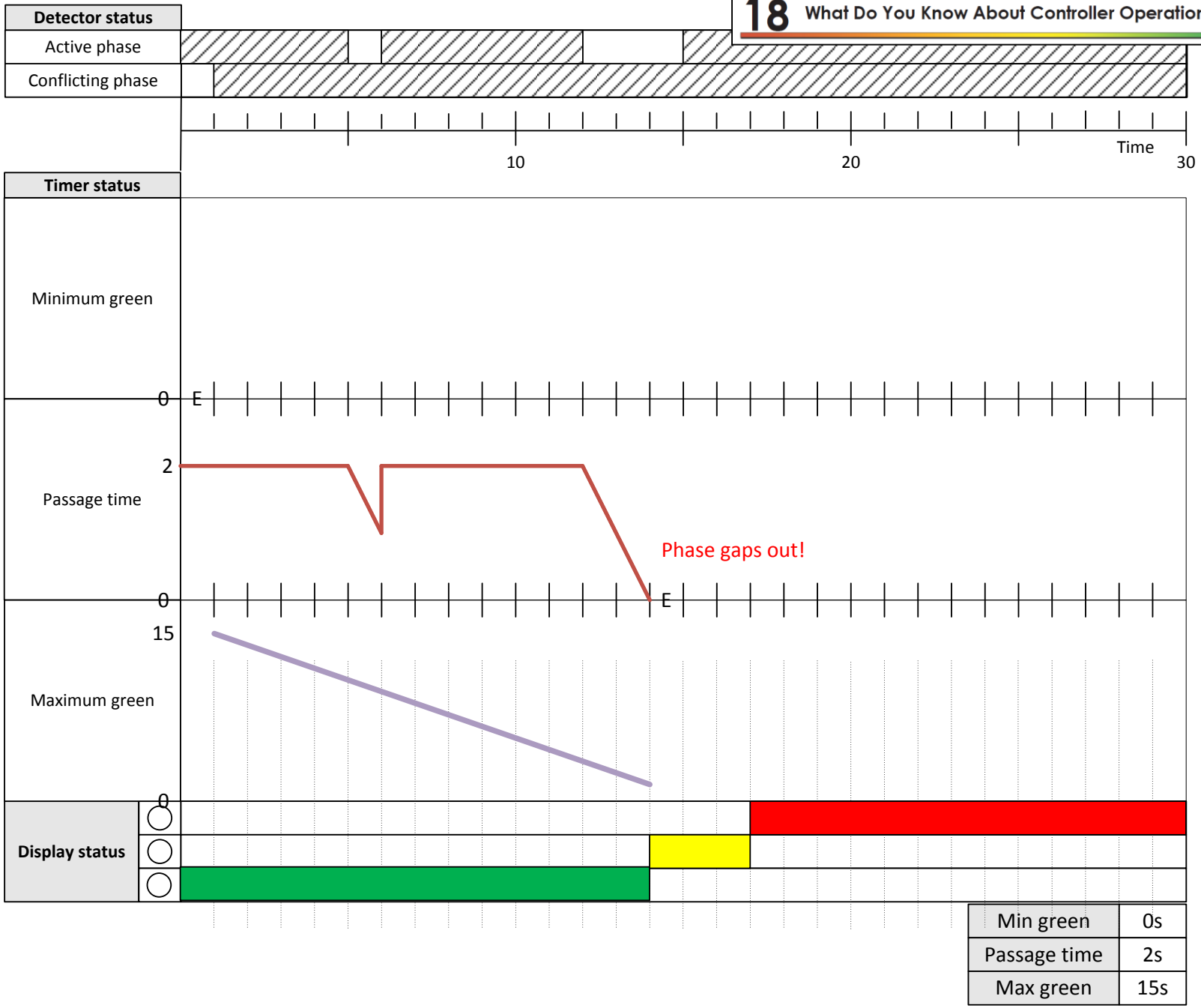
- Continuous flow intersection



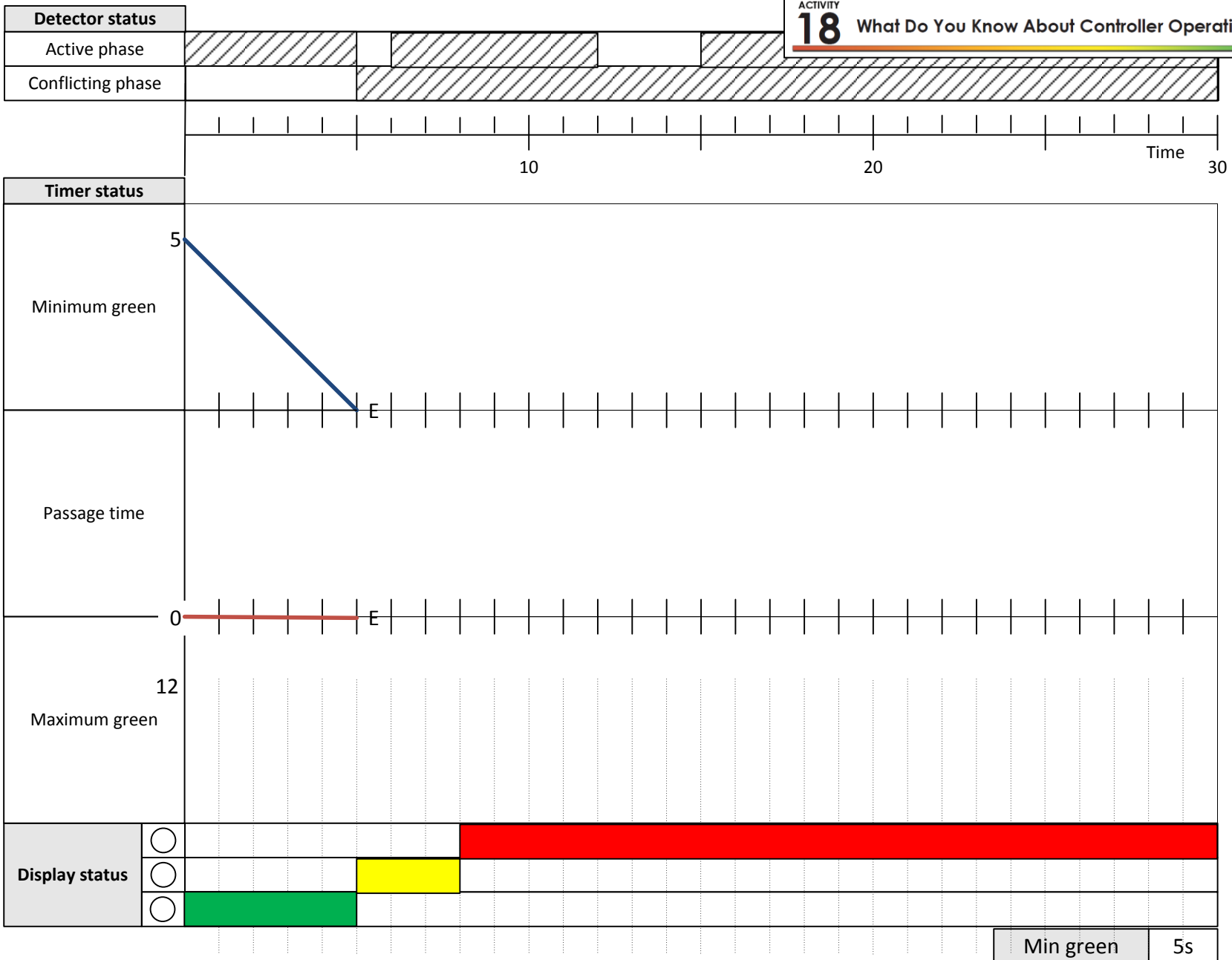
Min green	3s
Passage time	3s
Max green	20s

Notes

- Vehicle trajectories and detector status
- Phase terminates when min green and passage timers have both expired
- Phase gaps out when passage timer expires



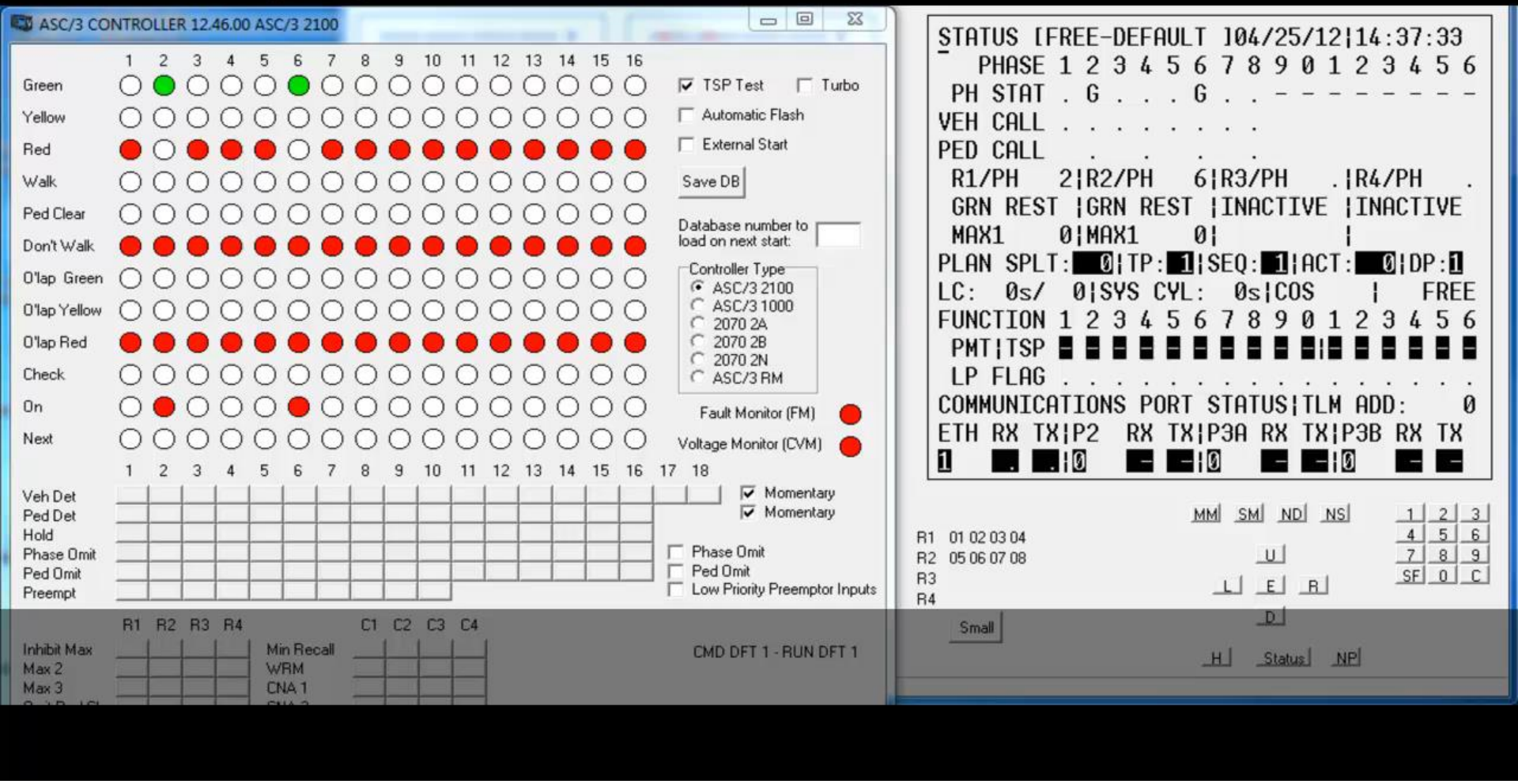
Min green	0s
Passage time	2s
Max green	15s



Min green	5s
Passage time	0s
Max green	12s

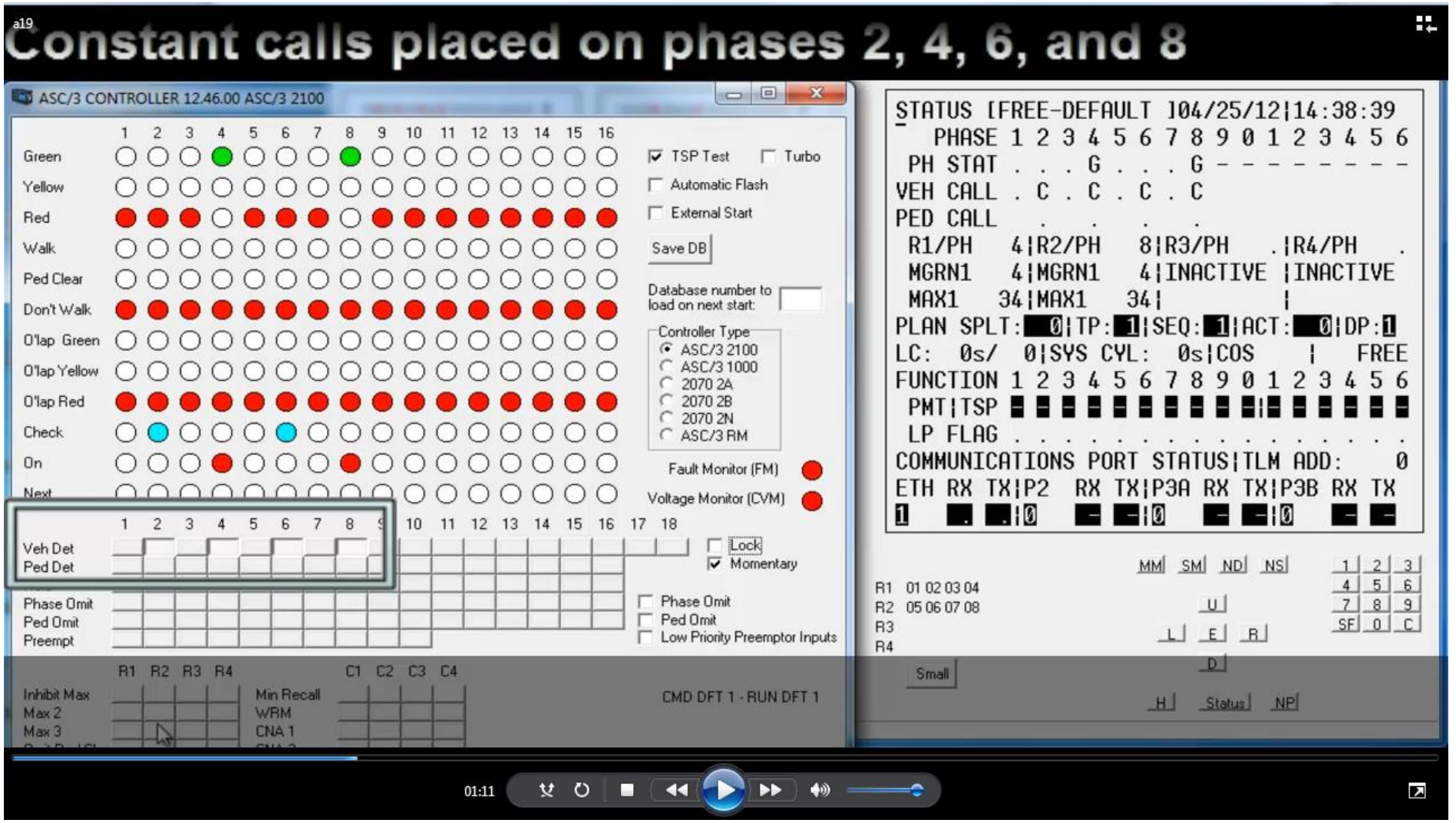
Phase gaps out!

ASC/3 Display and Detector Status

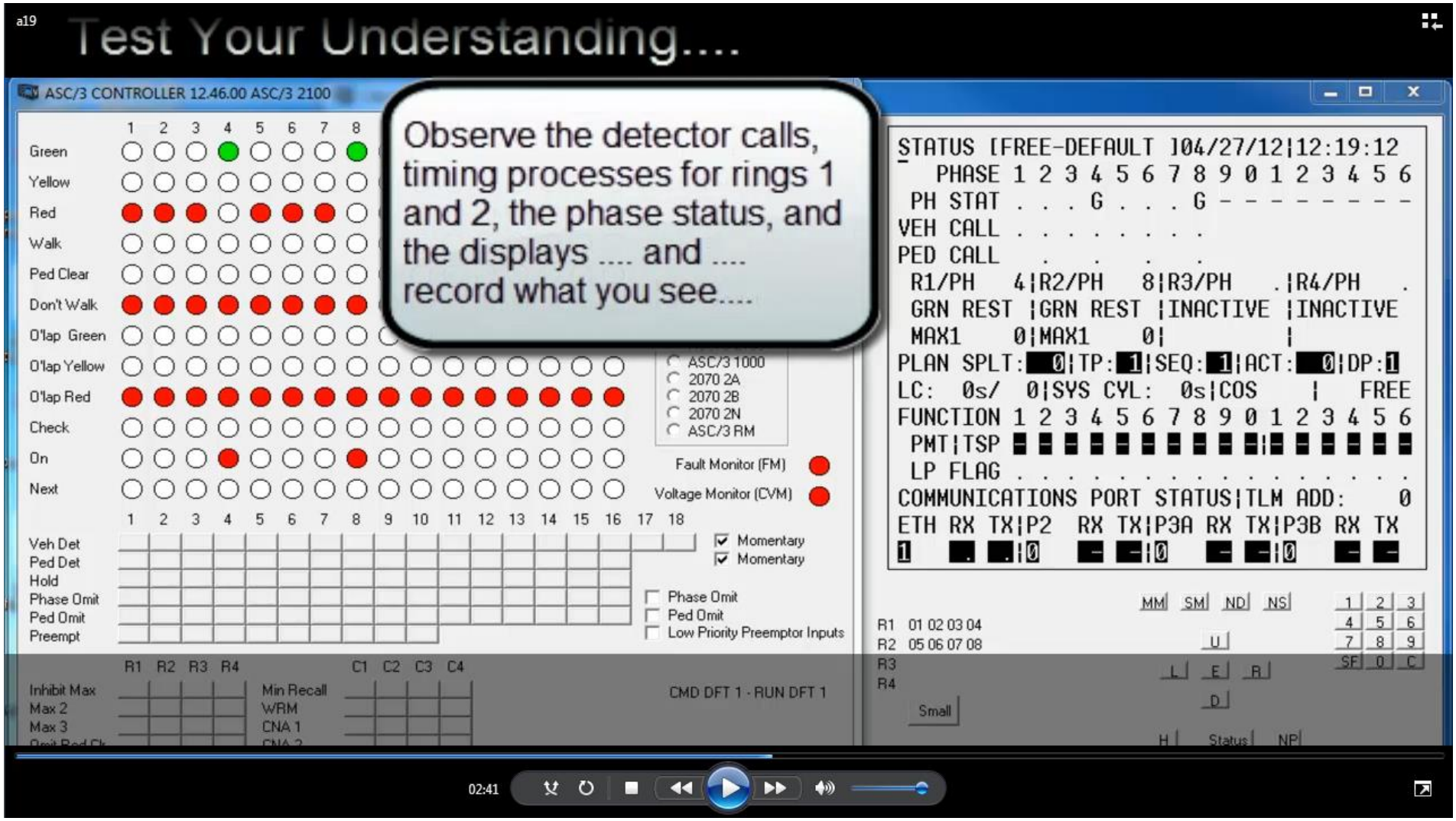


Download file

Observe part 1: 0:00-0:55

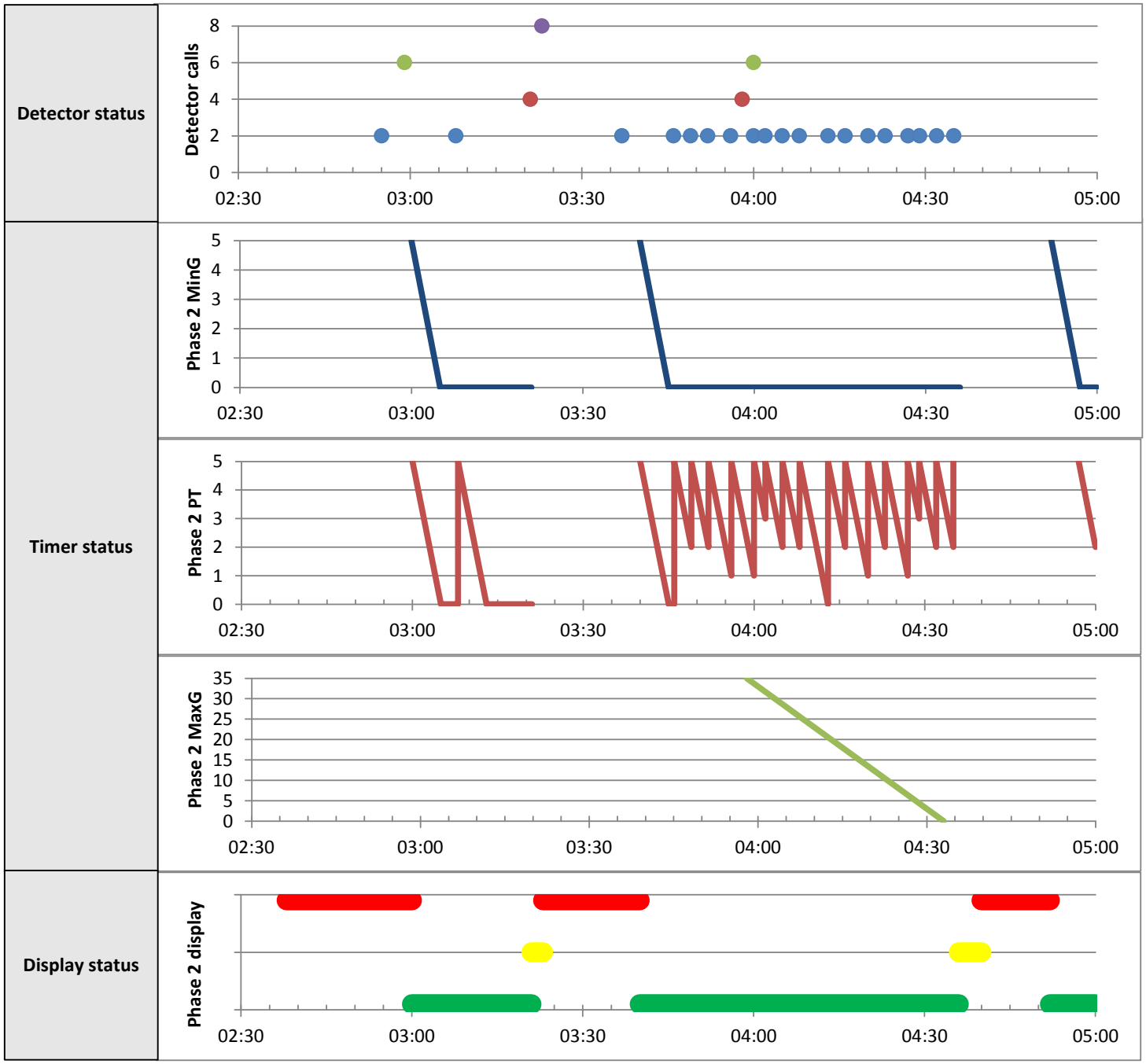


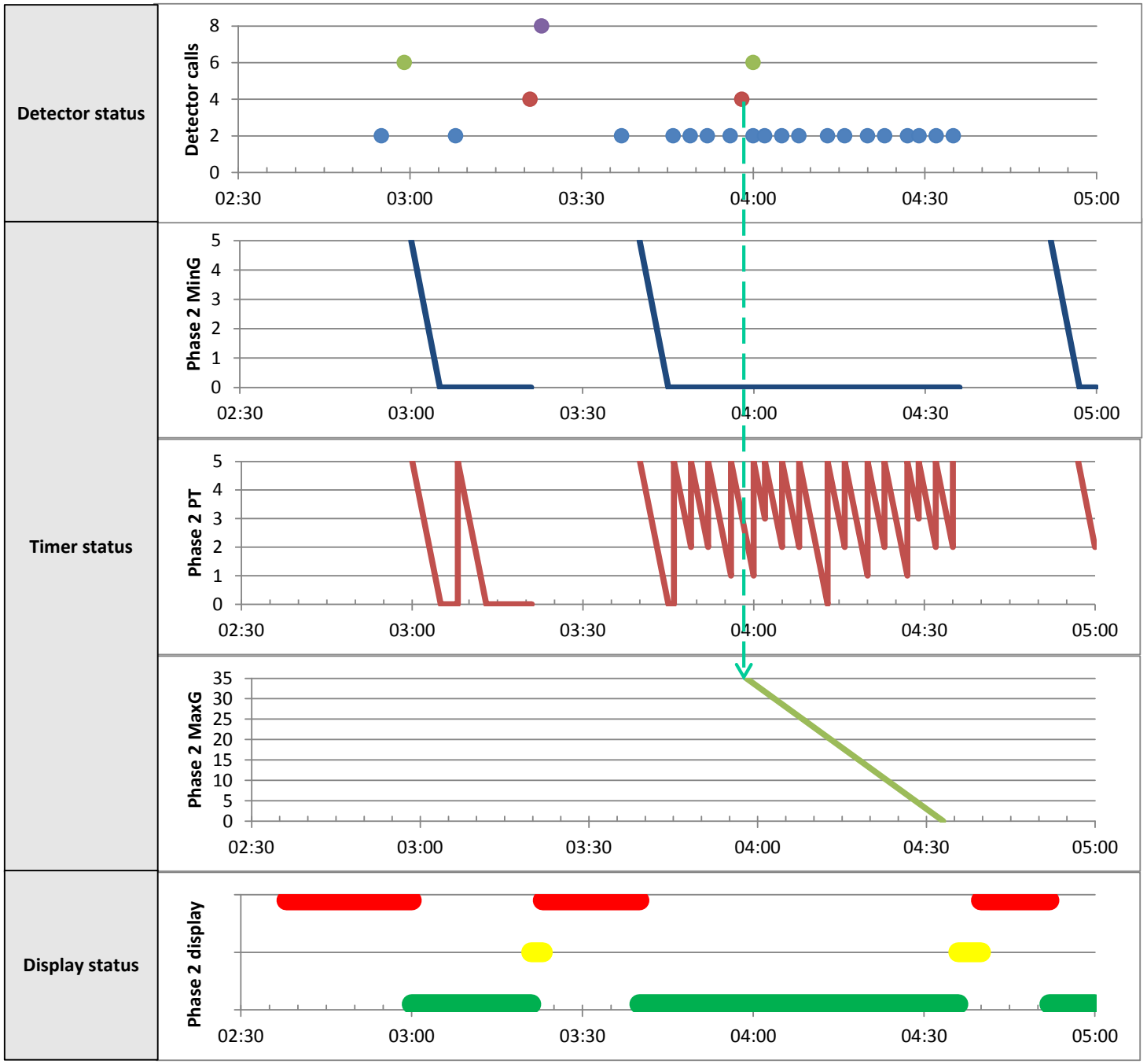
Part 2: 0:55-2:30
Example detector calls and controller/display responses



Part 3: 2:40-5:00 ← Testing your skills

1. What are examples of the data provided in the controller status display screen?
2. How many rings can be accommodated by the ASC/3 controller?
3. How do you know whether a gap out or max out has occurred?
4. How can you verify that a vehicle call has been placed?
5. Describe some of the observations that you have made on the response of the controller timing processes to vehicle calls.

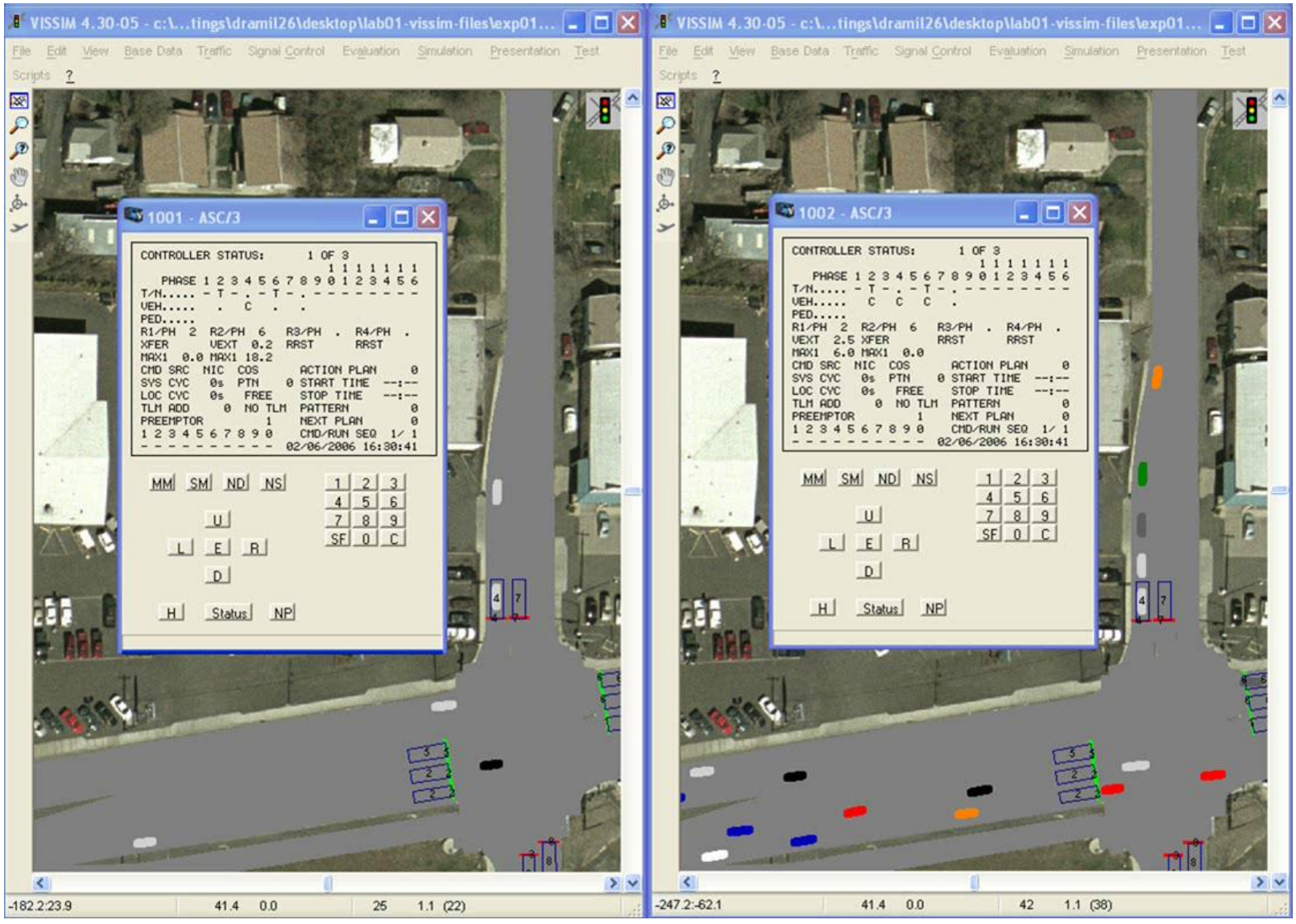

Detector status
Timer status
Display status
Detector calls
Phase 2 MinG
Phase 2 PT
Phase 2 MaxG
Phase 2 display
02:30
03:00
03:30
04:00
04:30
05:00
Time

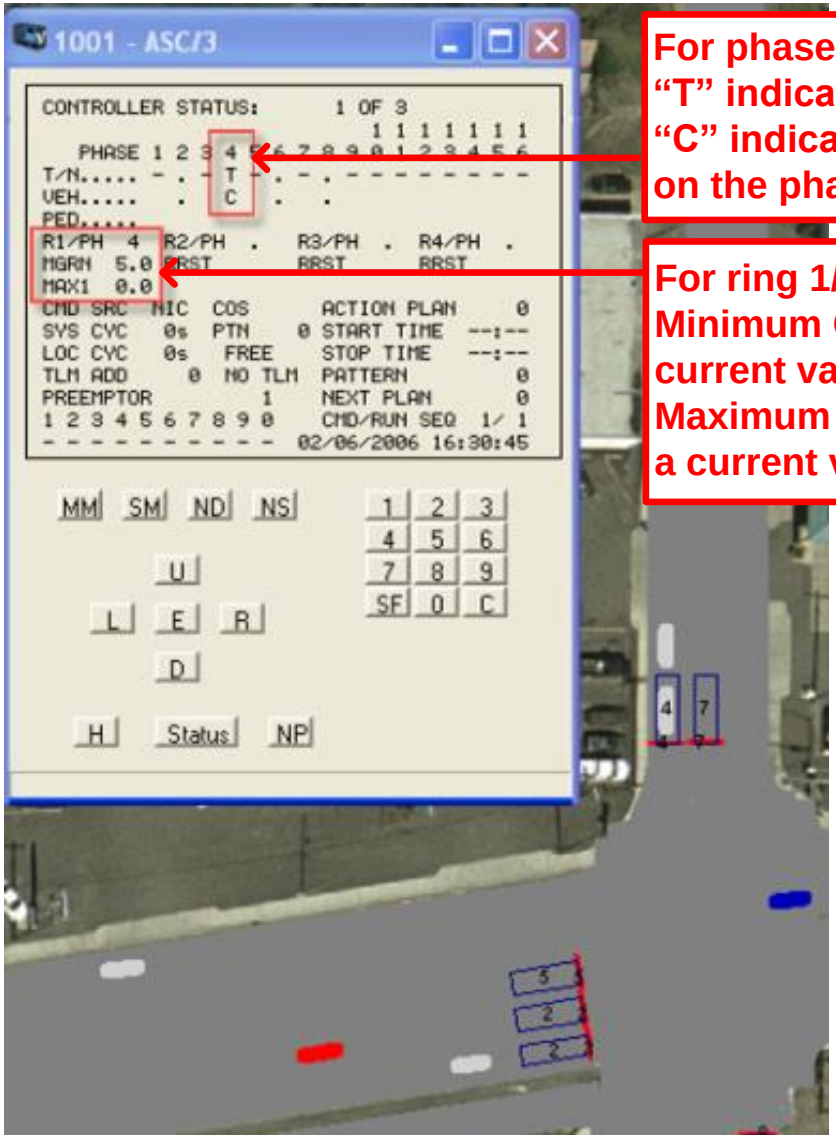


Conflicting call (on phase 4) spawns maximum green timer for phase 2

ACTIVITY
20 How a Traffic Phase Times and Terminates

DISCOVERY





For phase 4:
"T" indicates phase is timing;
"C" indicates an active call on the phase.

For ring 1/phase 4:
Minimum Green timer has a current value of 5.0 sec;
Maximum 1 Green timer has a current value of 0.0 sec.

Critical Thinking Question

1. Why does phase terminate for each scenario?

Doing the Activity

- Step 1. Open movie file
- Step 2. Observe status at beginning of Phase 4 green
- Step 3. Observe two scenarios for one green indication
- Step 4. Summarize your observations

- Why does phase terminate for each scenario?

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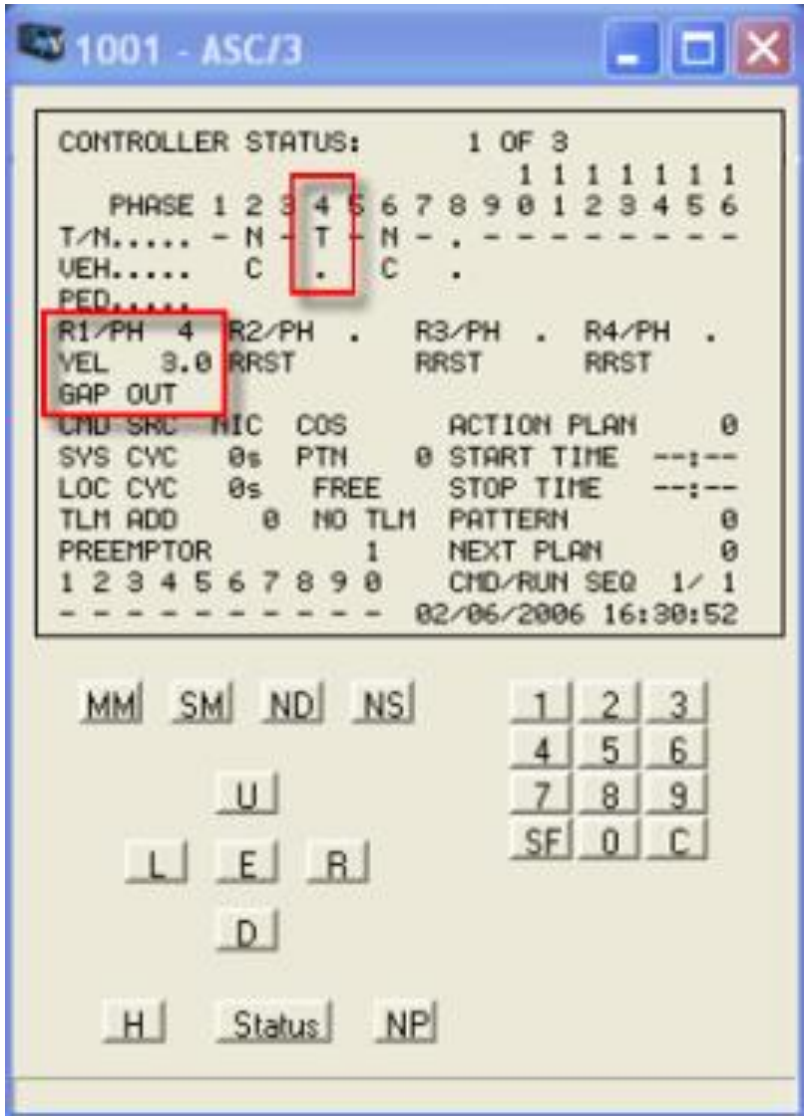

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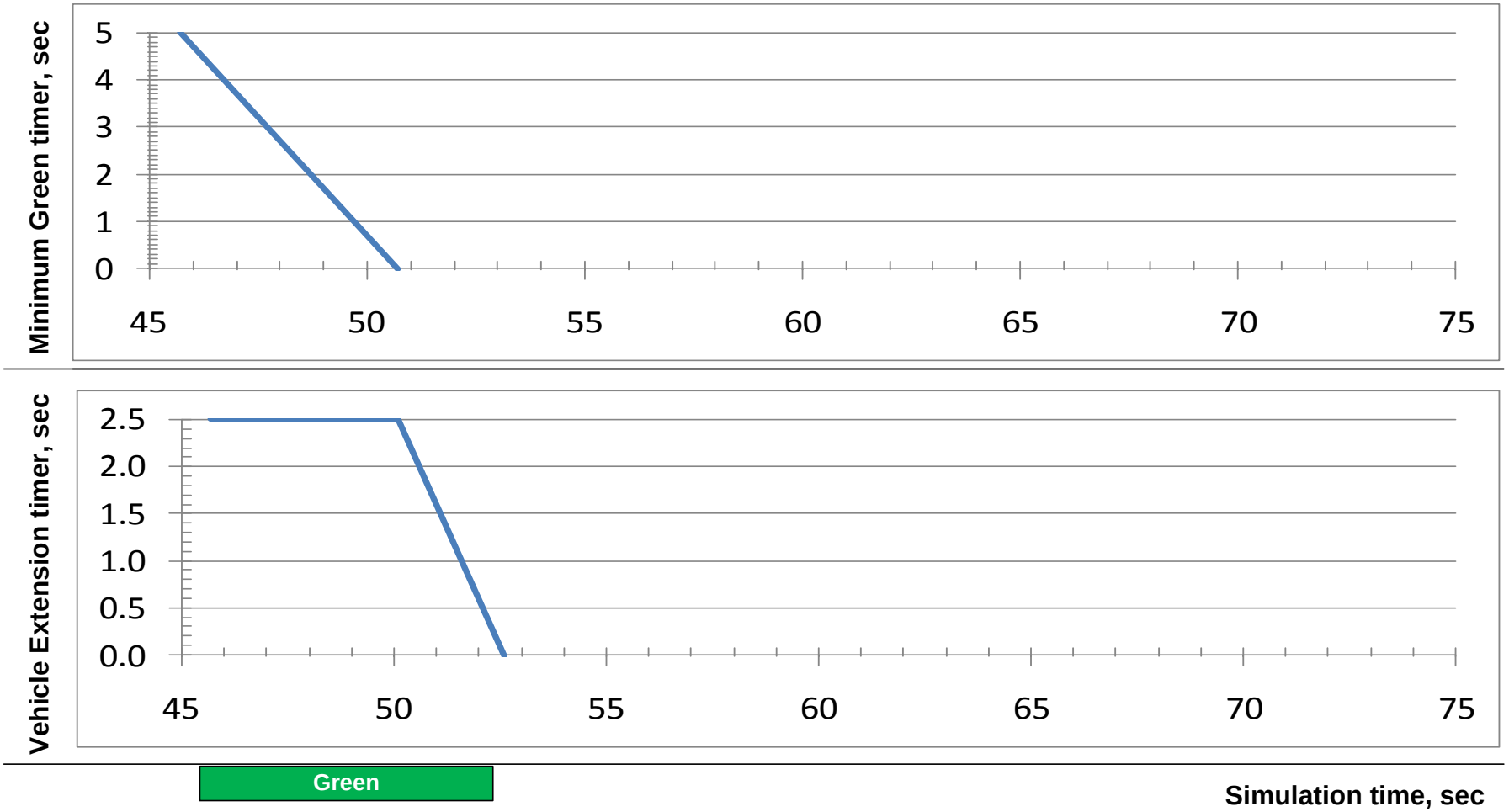

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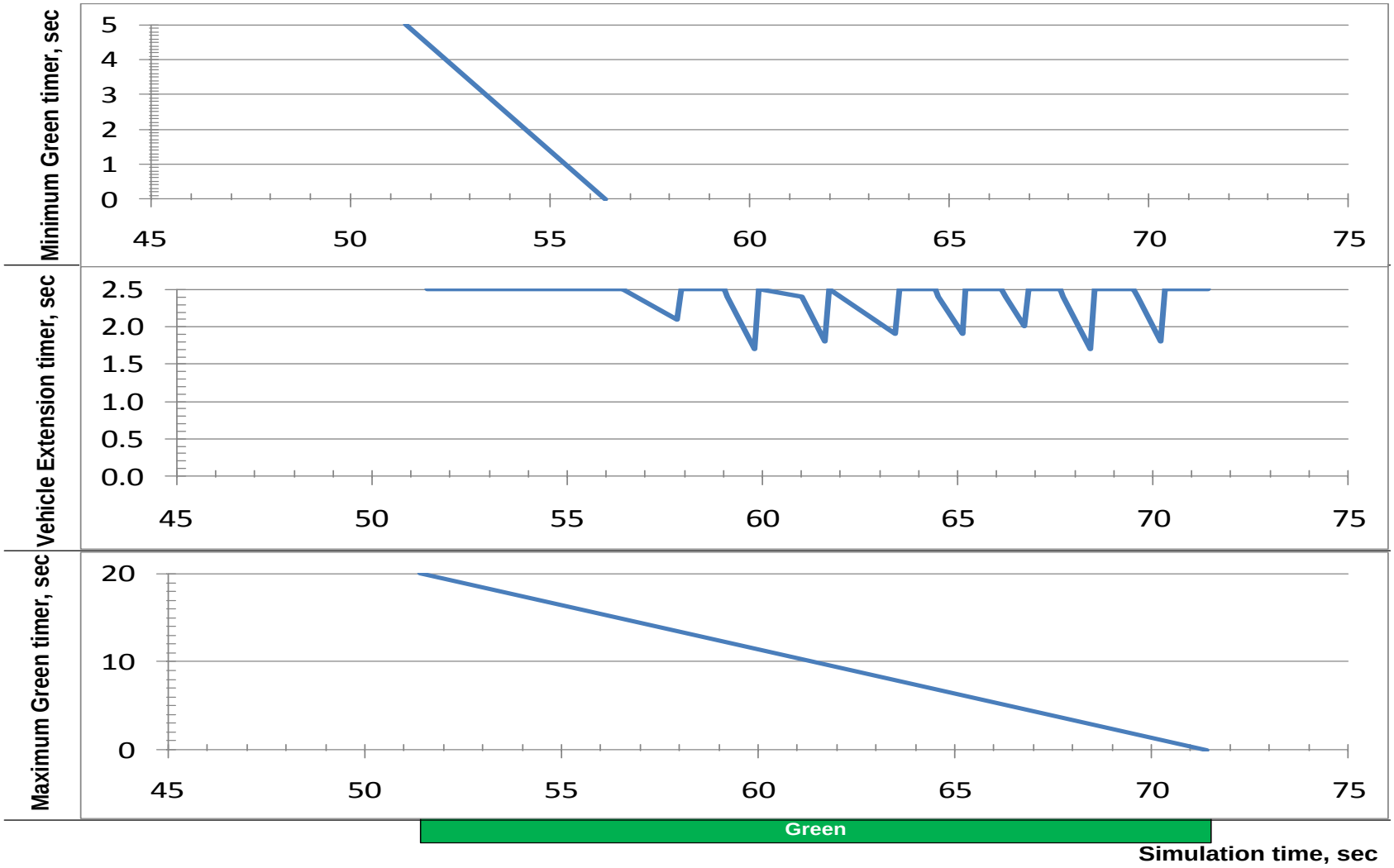

TASK 1

Complete the detector responses, timer responses, and signal display responses for each of the eight cases that follow. The conditions for each case are shown in the lower right of each figure. Assume that the green time begins at ~~$t = 3$~~ and that yellow time = 3 seconds and red clearance time = 1 second.

t=0

For next time…

Class 10 (9.16)

Review: A18

Do/Discuss: A19

Do/Discuss: A20

Do/Discuss: A21

Homework (due 9.17):

- Do: A22 (in book)
- Prepare: A23