# CE 474 – Class 06

## September 4, 2015

**Class 06 (9.04)**

Do: A11 (field) (group) (due 9.09)

Homework (due 9.09) (individual)

- Read Chapter 3 overview
- Do: A13 (Reading and CTQ) (individual)

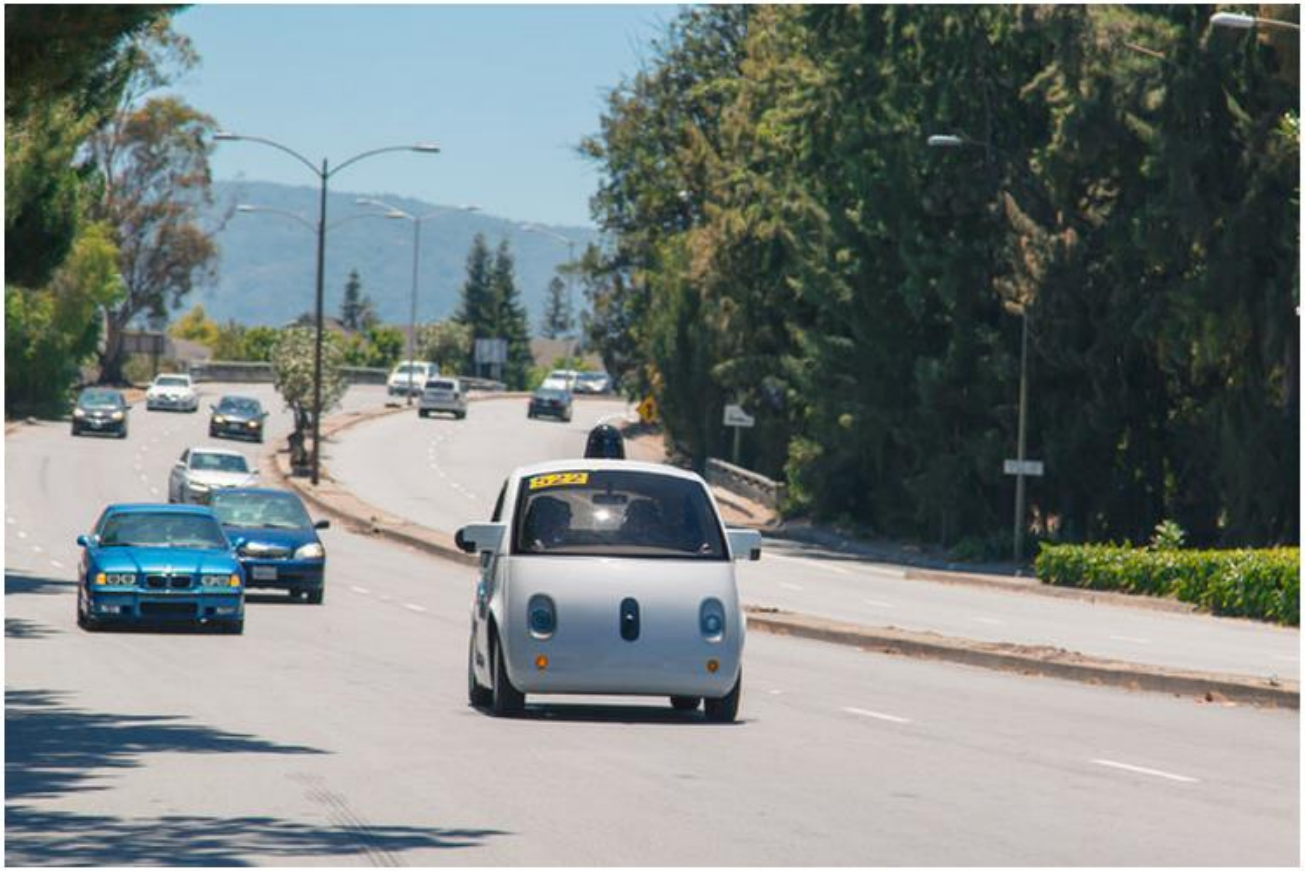
# TRANSPORTATION …. in the news

TECHNOLOGY

582 C

## Google's Driverless Cars Run Into Problem: Cars With Drivers

By MATT RICHTEL and CONOR DOUGHERTY SEPT. 1, 2015



A Google self-driving car in Mountain View, Calif. Google cars regularly take the most cautious approach, but that can put them out of step with the other vehicles on the road. Gordon De Los Santos/Google

# For next time…

**Class 06 (9.04)**

Do: A11 (field) (group) (due 9.09)

Homework (due 9.09) (individual)

- Read Chapter 3 overview
- Do: A13 (Reading and CTQ) (individual)

**…submit to BBLearn and have available to discuss in class.**

**A10 and A11 are also due before C07…have the results of your work available in class.**

| Group | Team | Name | Intersection | Approach/Movement |
|---|---|---|---|---|
| A | 2 | Morris<br>Cornwell<br>Keller | SH 8/Warbonnet | EB TH |
| B | 3 | Hartzell<br>LeCates<br>Landa | Palouse River Drive | SB TH or NB TH |
| C | 5 | Larrea<br>Cupps | SH 8/Line | EB TH |
| | 6 | Saras<br>Skinner | | |
| D | 7 | Scheel<br>Kury<br>Geibel | US 95/Sweet | EB TH |
| E | 9 | Bode<br>Hale | SH 8/US 95 | WBLT |
| | 10 | Dashti<br>Maffey | | |
| F | 11 | Alzufairi<br>Almakrab | SH 8/Warbonnet | WB TH |
| | 12 | Crow<br>Elmore | | |
| G | 13 | Ryu<br>Alrashdi | SH 8/Line | WB TH |
| | 14 | Bernauer<br>Taylor-Stiffarm | | |

# From Model to the Real World: Field Observations



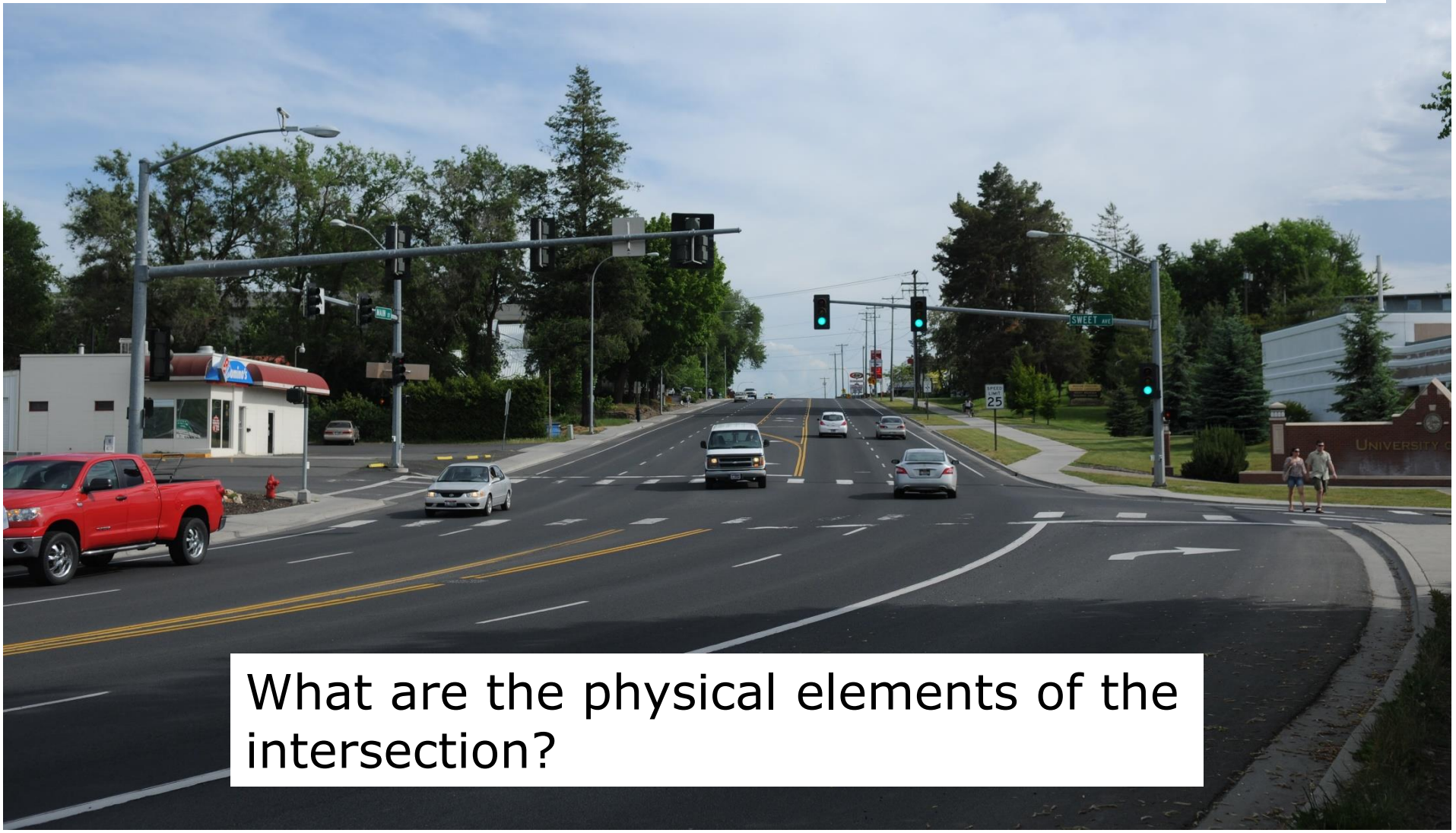
This

Not this

ACTIVITY 11

# From Model to the Real World: Field Observations

FIELD




What are the physical elements of the intersection?

**Table 1.** Example phase durations

| Cycle number | Movement (direction) | Duration (sec) | | |
|---|---|---|---|---|
| | | Green | Yellow | Red Clearance |
| 1 | NBLT, SBLT | 5 | 3 | 2 |
| | NBTH, SBTH | 25 | 3 | 2 |
| | EBLT, WBLT | 11 | 3 | 2 |
| | EBTH, WBTH | 30 | 3 | 2 |
| 2 | NBLT, SBLT | 4 | 3 | 2 |
| | NBTH, SBTH | 20 | 3 | 2 |
| | EBLT, WBLT | 5 | 3 | 2 |
| | EBTH, WBTH | 25 | 3 | 2 |
| 3 | NB LT, SB LT | 5 | 3 | 2 |
| | NBTH, SBTH | 20 | 3 | 2 |
| | EBLT, WBLT | 10 | 3 | 2 |
| | EBTH, WBTH | 23 | 3 | 2 |

# From Model to the Real World: Field Observations



**Table 2.** Example queue evolution

| Beginning of time interval (hh:mm:ss) | Number of vehicles in standing queue | Display status |
|---|---|---|
| 2:00:00 pm | 3 | Red |
| 2:00:10 pm | 5 | Red |
| 2:00:20 pm | 7 | Red |
| 2:00:30 pm | 7 | Red |
| 2:00:40 pm | 7 | Red |
| 2:00:50 pm | 7 | Red |
| 2:01:00 pm | 5 | Green |
| 2:01:10 pm | 2 | Green |
| 2:01:20 pm | 1 | Green |
| 2:01:30 pm | 0 | Green |
| 2:01:40 pm | 0 | Green |
| 2:01:50 pm | 0 | Green |

****One lane only**

****Also record total arrivals per cycle**

# From Model to the Real World: Field Observations



**Table 3.** Example headway data

| Cycle | Clock time (hh:mm:ss) | Event |
|---|---|---|
| 1 | 2:20:30 | Beginning of green interval |
| | 2:20:33 | Passage of vehicle 1 |
| | 2:20:35 | Passage of vehicle 2 |
| | 2:20:38 | Passage of vehicle 3 |
| | 2:20:41 | Passage of vehicle 4 |
| | 2:20:43 | Passage of vehicle 5 |
| | 2:20:47 | Passage of vehicle 6 |
| | 2:20:59 | Beginning of yellow interval |

**Don’t do task 4!!**

Table 2. Example phase durations

| Cycle number | Movement (direction) | Duration (sec) | | |
|---|---|---|---|---|
| | | Green | Yellow | All-red |
| 1 | NB LT, SB LT | 5 | 3 | 2 |
| | NBTH, SBTH | 25 | 3 | 2 |
| | EBLT, WBLT | 11 | 3 | 2 |
| | EBTH, WBTH | 30 | 3 | 2 |
| 2 | NB LT, SB LT | 4 | 3 | 2 |
| | NBTH, SBTH | 20 | 3 | 2 |
| | EBLT, WBLT | 5 | 3 | 2 |
| | EBTH, WBTH | 25 | 3 | 2 |
| 3 | NB LT, SB LT | 5 | | |
| | NBTH, SBTH | 2 | | |
| | EBLT, WBLT | 1 | | |
| | EBTH, WBTH | 2 | | |

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|---|---|---|
| 2:00:00 pm | 3 | Red |
| 2:00:10 pm | 5 | Red |
| 2:00:20 pm | 7 | Red |
| 2:00:30 pm | 7 | Red |
| 2:00:40 pm | 7 | Red |
| 2:00:50 pm | 7 | Red |
| 2:01:00 pm | 5 | Green |
| 2:01:10 pm | 2 | Green |
| 2:01:20 pm | 1 | Green |
| 2:01:30 pm | 0 | Green |
| 2:01:40 pm | 0 | Green |
| 2:01:50 pm | 0 | Green |

**Deliverable**

- Tab 1:Title page with activity number and title, authors, and date completed.
- Tab 2: Summary of your general observations and sketch.
- Tab 3: Description of the sequence of movements that you observed and the duration.
- Tab 4: Discussion of the queue pattern that you observed.
- ~~Tab 5: Description of the efficiency of the intersection timing for the lane that you observed~~.
- Tab 6: Discussion of the pedestrian activity; summary of traffic flow problems that you observed.

# From Model to the Real World: Field Observations



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