CE 391F: Papers for presentation
Spring 2013

Pick a paper to present during class the week before spring break. Papers are first-come, first-serve, and will be presented in this order. Plan to speak for 15 minutes, with time for a question or two afterwards.

March 5

1. Gilchrist, R. S. and F. L. Hall. (1989) Three-dimensional relationships among traffic flow theory variables. *Transportation Research Record* 1225, 99–108.

2. Duncan, N. C. (1976) A note on speed/flow/concentration relations. *Traffic Engineering and Control* 17, 34–35; Duncan, N. C. (1979) A further look at speed/flow/concentration. *Traffic Engineering and Control* 20, 482–483. **Note:** This presentation will be for both of the papers.

3. Daganzo, C. F. (2007) Urban gridlock: macroscopic modeling and mitigation approaches. *Transportation Research Part B* 41, 49–62. **Note:** This paper is a little different from what we've seen so far; it looks at modeling traffic flow and the problems of gridlock at a *macroscopic* scale.

4. Daganzo, C. F. (1995) Requiem for second-order fluid approximations of traffic flow. *Transportation Research Part B* 29, 277–286.

March 7

1. Stephanopoulos, G., P. G. Michalopoulos, and G. Stephanopoulos. (1979) Modelling and analysis of traffic queue dynamics at signalized intersections. *Transportation Research Part A* 35, 295–307. **Note:** This is a more precise version of the shockwave analysis we did in class and on the homework.

2. Newell, G. F. (1993) A simplified theory of kinematic waves in highway traffic, I: general theory; II: queueing at freeway bottlenecks; III: multi-destination flows. *Transportation Research Part B* 27, 281–313. **Note:** We have already covered the main ideas of Newell's method in class, so the emphasis should be on the applications in parts II and III to freeways.

3. Aw, A. and M. Rascle. (2000) Resurrection of "second order" models of traffic flow. *SIAM Journal on Applied Mathematics* 60, 916–938.

4. Helbing, D. and A. F. Johansson. (2009) On the controversy around Daganzo's requiem for and Aw-Rascle's resurrection of second-order traffic flow models. *European Physical Journal B* 69, 549–562.