

# CE 474 – Class 02

August 26, 2015

## *New Era in Safety When Cars Talk to One Another*

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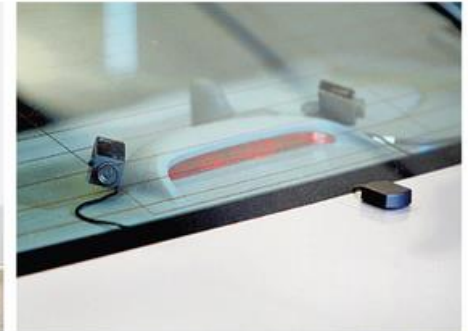
ANN ARBOR, Mich. — A driver moves along in traffic, the forward view blocked by a truck or a bend in the road. Suddenly, up ahead, someone slams on the brake. Tires screech.

There is little time to react.

Researchers here are working to add time to that equation. They envision a not-too-distant future in which vehicles are in constant, harmonious communication with one another and their surroundings, instantly warning drivers of unseen dangers.

When a motorist brakes quickly, a careless driver runs a red light or a truck bears down unseen in a passing lane, dashboards in nearby cars light up immediately with warnings — providing additional reaction time to avoid a pileup.

The New York Times



A van in a program to test the safety benefits of cars communicating with one another and their surroundings is equipped with a camera, top right, a rearview mirror that signals when a driver stops ahead and a digital display linked to traffic lights. Joshua Lott for The New York Times

- In terms of traffic systems design, what do you find is the most difficult concept for students to grasp?

## Some general comments

- The overall concept of the class seems to interest me and I am looking forward to the group work. I prefer to work in groups, I firmly believe that group working is one of the best ways to learn.
- Interested on learning more about the VISSIM program. I have seen it in action it will

## Preparing/studying for this class

- One of the reasons for having homework as part of most our of class sessions is to keep you on track in the learning process. This is not a class in which you can cram for an expert or even the preparation of the design project reports. By having what I think is a manageable amount of work several times a day, you continue to build your knowledge base in an incremental way. Regarding exams, I will have a review session prior to both exams in which I will tell you what the topics are that will be covered and what you should focus on. The exam questions are generally not ones in which you do computations but rather should your understanding of the concepts that we've covered. Finally, most class are based on your doing something, often based on the reading preparation or mini-lectures. This "doing" ensures that you will be actively involved in learning the material each class. Making notes on what you think the important concepts are is a good way of keeping tracking of your knowledge base as you develop it.

## Being

I notice... presentations and oral exams. I am not a great public speaker so this makes me nervous, but at the same time I am glad that is happening because I need more experience in this

## Textbook...

Should we bring our textbooks to class and lab every day? **YES!**

- What are the four main components of the traffic control system and how are they interrelated?
- What are the types of users of the system?
- What is actuated control and when do you think it is preferable to fixed time (pretimed) control?
- What are the discrete time periods of flow during a cycle?

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**Review with partner**

- Quiz
- CTQ



## PURPOSE

The prerequisite for this course is the completion of an introductory course in transportation engineering. This activity will give you the opportunity to assess and strengthen your understanding of that critical prerequisite knowledge so that you can reliably recall and use it, even as you continue to build on it.

# What's next...

Class 02 (8.26)

Do: A02

Homework (due 8.27):

- Read pp 29-38



Be ready to discuss  
in class on Thursday!