USDOT CENTER FOR CONNECTED MULTIMODAL MOBILITY

C^2M^2 DISTINGUISHED SPEAKER SERIES

Join us to welcome Dr. Ardalan Vahidi, and hear him speak on:

Coordinating Connected Cars and Signals in Smart Cities

Connectivity and autonomy of cars and roadside infrastructure in smart cities are expected to transform urban transportation. For instance, cooperation between intelligent cars and intersection control units can harmonize traffic flow, increase energy efficiency, and enhance safety and passenger comfort.

This talk takes a closer look at some of these potentials. In one experimental case study we demonstrate that coordination of movement of human-driven connected cars with traffic signals reduces idling and fuel consumption. In this case study we successfully "crowed-source" traffic signal timings from statistical patterns in motion of connected vehicles in the city of San Francisco. We also discuss the communication protocols and backend computing architecture that we have in place for collecting and processing vehicular data in near real-time and relaying the processed information to subscribing vehicles.

Benefits are expected to be higher with autonomous cars where absence of a human driver promises more predictability and precise control. We formulate and discuss optimal motion planning algorithms that coordinate movement of autonomous cars and evaluate benefits in simulated scenarios.

Dr. Ardalan Vahidi,
Professor of Mechanical Engineering,
Clemson University

Where: Watt Family Innovation Center, Rm 218

When: Thursday, March 28th, 2:00pm-3:00pm

AN INNOVATION CENTER FOR TRANSFORMING MULTIMODAL TRANSPORTATION THROUGH CONNECTIVITY, DATA ANALYTICS, AND AUTOMATION