- **Investigating the Impact of Local Real-Time Traffic Information Provision Strategy in a Connected Vehicle System** *(Shuwei Chen – Illinois Institute of Technology)*

  Nowadays, the application of sensor technology has enabled the real-time collection and distribution of traffic information. Meanwhile, the wireless communication technology has made the information exchange between vehicles. The combination of these technologies has connected the modern transportation system as never before, the Connected Vehicle System (CVS) has been gradually formed. Based on this technology background, the new generation of routing guidance employing real-time traffic information would be capable to help people to avoid traffic congestion and relieve the congestion problems.

  However, since the current guidance system basically relies on independent, selfish-routing systems and real-time global traffic information is uniformly provided, the real-time traffic information system may potentially guide exceeding volume of traffic flow into some corridors within a short time period and cause traffic congestion.

  Motivated by the above view, this research explores the possible causes and solutions to address this phenomenon through simulation methods. We propose an information service strategy, which provides local information rather than global information to each vehicle in the network, and expects to balance the traffic flow distribution by separating the paths for different vehicles and preventing the major corridor to overload. To estimate the effect of this approach, this research adopts a series of methods to identify the range of local information provision. Numerical experiments based on Borman network are conducted to demonstrate the performance of the network under different traffic load and service penetration. The result of tests suggested a significant benefit under heavy traffic load conditions and a positive relation between the effect and service penetration.