

Transportation Education Workshop Series

Transportation in the 21st Century: Moving People & Stuff (Freight)

Workshop #2: Traffic Operations & Safety ~ April 20, 2013

The **Transportation Workshop Series** will provide teachers with a curriculum connection for teaching about transportation topics via core subject areas (math, science, social studies, technology) and introduce students to careers in transportation. Teachers will be able to design and implement effective classroom lessons that are linked to the Michigan Common Core and Next Generation Science Standards.

Presenter: Dr. Peter Savolainen, Wayne State University Tel: 313-577-9950 Email: savolainen@wayne.edu
See Dr. Savolainen's varied interest & expertise in transportation: <http://engineering.wayne.edu/profile/peter.savolainen/>

Workshop Coordinator: Joan Chadde, Michigan Technological University Tel: 906-487-3341 Email: jchadde@mtu.edu

Credit: Michigan Tech graduate credit (for attending all 3 workshops); SECHs per workshop on April 20 & May 11.

Location: PACE Learning Center, Room 2507 Engineering Building, **Wayne State University**, 5050 Anthony Wayne Drive, Detroit, MI 48202. Parking available in nearby parking structure.

Field Trip Transportation: 1 Bus for 40 people pick up at 10:45 am from PACE Learning Center and drop off at Noon.

AGENDA

9:00 am Workshop Overview & Introductions

9:15 am Educational Themes in Transportation Engineering

Discussion of contemporary issues related to transportation engineering and how these themes can be integrated into the K-12 curriculum.

9:45 am Driver Distraction Curriculum, including "Distraction Dodger" Software

Driver distraction curriculum materials consist of classroom lessons that may be adapted by teachers for their own classrooms and Distraction Dodger, an online game designed to teach students the importance of concentrating on driving.

10:45 am Field Trip to the Southeast Michigan Transportation Operations Center (SEMTOC)

The Michigan Department of Transportation (MDOT) will provide a tour of the Southeast Michigan Transportation Operations Center, which is the hub of intelligent transportation system technology applications. The SEMTOC includes a world-class traffic management center where staff oversees a traffic monitoring system that covers 200 freeway miles that are instrumented with closed circuit TV cameras, dynamic message signs, and vehicle detection sensors.

Noon LUNCH (Mudgie's Deli)

12:30 pm K-12 Traffic Engineering Curriculum, including "Gridbuster" Software

Traffic engineering curriculum materials consist of five classroom lessons that may be adapted by teachers for their own classrooms and a traffic control game students can play online, Gridlock Buster.

1:45 pm The Physics of Highway Safety (TRAC Module)

This module addresses a number of issues related to the determination of local safety problems, to identifying and prioritizing high-accident locations, and, on a limited budget, to trying to fix them. The module also illustrates the physics involved in traffic crashes, including the effects of the first collision (the vehicle striking a tree causing damage to the vehicle) as it related to the conservation of momentum and the impact of mass and velocity on the effectiveness of crash impact attenuators.

2:45 pm Overview of TRAC Program and Other Available Transportation Teaching Resources

3:00 pm Brainstorm Rail Transportation Lessons & Group Sharing

3:30 pm Question and Answer Session

3:45 pm Evaluations & Closing