

Managing Construction Work Zone Traffic

A Research Connection Event

with **NetZone**

Sponsored By:

DIVISION OF RESEARCH & INNOVATION (DRI)

**Thursday, April 26th, 2007
9:30am - 11:30am**

**DRI Offices
Veteran Affairs Building - 5th floor - Room #518
1227 "O" Street, Sacramento Ca.**

VTC PARTICIPATION LOCATIONS:

HQ2101/ NTR-HQ / FMP/HQ_Tlab / HQ_VA_518 / VCI-M D1 / D1 / VC2-R/D02 / D2-119 / D3M / D3-Gateway Oaks/ D3 Conference Room / District Office D3/ VC5/D05 / DD5-201 / D6-119 / VC6/D06 / D7[01-038] / VTC/D07 / D8-1206 / VTC's/D08/ D9-109 / VC9/D09 / D10-162 / D11[3-204] / VC11/D11/ D12[D4-149]

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As more and more highway rehabilitation/reconstruction work is conducted on heavily traveled urban corridors which are already "capacity-hungry", travel cost becomes an increasing part of the total cost in a highway rehabilitation/reconstruction project. As such, traffic analysis procedures that can help develop effective construction schedule and work zone traffic management plans are in urgent need.

When the roadway under rehabilitation is relatively isolated from other roadways, that is, there are no viable alternative routes, one can rely on the simple but effective deterministic queuing (or demand-capacity) model to assess the delay caused by a work zone. When the roadway under rehabilitation is part of a large network, where many alternative routes exist, one is often faced with a tough choice between microscopic simulation that describes traffic in great detail but is labor intensive to build and difficult to calibrate, and a planning model that is easy to code up but is too rough to capture queuing and peak spreading, two important features of congested traffic.

In this talk, Michael Zhang will present a work zone traffic analysis tool, NetZone, that is developed based on dynamic macroscopic traffic flow models. It can model queues, traffic diversion, and peak spreading like in a microscopic simulation, but is much easier to code up and calibrate. He will show the various key features of this tool and the principles behind them, and demonstrate, with an example, how to use this tool to manage work zone traffic with various traffic control measures such as traveler information and ramp metering.

About The Presenter...



Michael Zhang is a Professor of Civil and Environmental Engineering at the University of California, Davis. He is Principal Investigator for the Institute of Transportation Studies. His areas of expertise include transportation systems operations, traffic flow theory, traffic control, dynamic traffic assignment, intelligent transportation systems.

The Institute of Transportation Studies operates from the campus of UC Davis.