Title: Diverging Diamond Interchanges

Time: Thursday, August 21, 2014 at 12:00 pm

Basic overview of the material:

This webinar will present information about the analysis, design, and implementation of diverging diamond interchanges. Learn how the use of diverging diamond interchanges began in the U.S., the current status of deployments of the concepts within the U.S., cost advantages, suitable traffic and environmental conditions, tools for estimating capacity, and signal coordination. Also learn about accommodating pedestrians, bicyclists, transit vehicles, and special design/operations requirements at diverging diamond interchanges as well as constraints and possible treatments for nearby intersections.

One and one-half (1 ½) PDH will be awarded for participation. The course will offer 90 minutes of presentation with an opportunity for questions following the presentation.

Biography of the presenters:

Wei Zhang, PhD, PE
Wei Zhang has been a registered Professional Engineer (Civil) since 1995, with 18 years of full time work experience in the U.S.: 8 years with FHWA Office of Safety R&D on Intersection Safety; 2 years with FHWA NM Division managing 7 federal programs; 3 years with the IT industry, and 5 years with the Minnesota DOT working on signal design, traffic simulation, research management, bridge design, foundation design, and pavement design. Mr. Zhang earned a Ph.D. in Geotechnical Engineering from University of Minnesota, a M.Sc. in Software Design from the University of St. Thomas, a M.Sc. in Structural Engineering from Southern Illinois University – Edwardsville, a B.Eng. in Hydraulic Engineering from Tsinghua University with an industry focus on traffic safety, intersection/interchange design.

Mark Doctor, PE
Mark Doctor is a safety and geometric design engineer with FHWA’s Resource Center. He advances the use of flexible and innovative design practices on a national level and serves as a technical expert for FHWA in areas of geometric design, freeway and interchange design, and highway intersection design. Mr. Doctor has served with FHWA for 25 years in a variety of positions and offices with responsibilities in project development, design, traffic engineering, and operations. He earned a bachelor’s degree in civil engineering from Clemson University and a master’s degree in transportation engineering from the University of Florida. He is a licensed professional engineer in Georgia and serves on the TRB Geometric Design Committee.

What participants should expect to gain from the webinar:

Participants will have the opportunity to establish a good understanding of the benefits and limitations of the diverging diamond interchange design, traffic, and environmental conditions under which it will be more cost effective for reducing congestion and improving safety. Participants will learn how CAP-X (spreadsheet based software) can be used to quickly size diverging diamond interchange lane configurations, proper scope of signal timing optimization and coordinating design features for accommodating pedestrians, bicyclists, and special transit vehicles. Participants will also learn some innovative treatments for nearby congested intersections toward better use of the capacity potential of the diverging diamond interchange concept.