In order to ensure that a proposed highway transportation project will not adversely impact air quality, the Federal Highway Administration (FHWA) and Florida Department of Transportation (FDOT) rules require that state or federal roadway projects be assessed for potential air quality impacts via a project-level CO analysis. A large number of motor vehicles idling near or traveling through a large intersection, in concert with adverse meteorological conditions, can produce concentrations of CO near that intersection that may exceed federal air quality standards. A computerized screening model can save much time and effort for each intersection that is analyzed. Considering all the intersections that must be analyzed in any given year, a screening model saves much money for FDOT (either via saved employee time, or through reduced consultant fees).

For the last decade FDOT has used a computerized screening model (COFL2004 or its predecessor, COSCREEN) to assess potential CO impacts from Florida roadway projects. However, as of the end of 2010 (when the new EPA emissions model, MOVES, was introduced), COFL2004 had grown outdated and needed to be replaced. COFL2012 is a much enhanced version of the previous model. It includes the latest version of CAL3QHC2 and emission factor (EF) look-up tables developed through many runs of MOVES. The new model remains easy to use and because of the use of MOVES emission factors, it produces CO concentrations that are slightly lower than those predicted from the older model for similar scenarios.

Major: Environmental Engineering

Educational Career:
Bachelor’s of B.S. Environmental Engineering, BS, 2010, University of Central Florida

Committee in Charge:
Dr. C. David Cooper, Chair, CECE
Dr. Essam Radwan, CECE
Dr. Andrew Randall, CECE

Approved for distribution by Dr. C. David Cooper, Committee Chair, on February 9, 2012.

The public is welcome to attend.