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Matthew Barth is a Professor of Electrical Engineering at the University of California-Riverside, holds the Yeager Family Chair, and is also the Director of the College of Engineering Center for Environmental Research and Technology (CE-CERT). Dr. Barth's research focuses is in Transportation Systems, in particular how it relates to energy and air quality issues. Current research interests include Intelligent Transportation System Technology, Transportation/Emissions Modeling, Vehicle Activity Analysis, and Vehicle Navigation.

ABSTRACT:

The University of California-Riverside's Center for Environmental Research and Technology (CE-CERT) has been studying the linkages between ITS and the environment for several years. Many of these studies have been based on using sophisticated energy and emission models that have been coupled with transportation models in the evaluation of various specific ITS implementations. Other studies have been based on collecting ITS data in the field. From these different projects, it is clear that there can be significant energy and emission savings from implementing ITS. Some of the more common characteristics of these "green" ITS programs include: 1) reducing severe congestion, allowing traffic to flow at higher speeds; 2) reducing excessively high freeflow speeds to more moderate conditions; and 3) eliminating the acceleration/deceleration events associated with stop-and-go traffic that exists during congested conditions. It is also important to keep any induced travel demand in check after the implementation of any ITS project. Details on several green ITS research projects that have these key characteristics will be presented.