

Presentation Title: Recurrent Traffic Bottlenecks: Systematic Identification and Mitigation Solutions

Abstract: Traffic congestion at freeway bottlenecks continues to challenge existing transportation networks. This study presents a systematic data analytics based approach to evaluating freeway performance, locating and ranking, examining, and mitigating freeway bottlenecks while accounting for both intensity and reliability dimensions of traffic congestion. Based on the vehicle probe data collected on four interstate freeways in Mecklenburg County, North Carolina, a case study is conducted to illustrate this new method. The research results can provide insightful and objective information for decision makers and transportation professionals to systematically assess traffic conditions along freeway segments and objectively locate and rank freeway bottlenecks, competently develop congestion mitigation strategies, and thus allocate limited transportation funding in a more effective and efficient manner.