Identifying traffic signatures of traffic events on urban arterials

Abstract:
This study addresses the distinction of traffic signatures of various traffic events, on a very-well ITS-equipped urban corridor in Ft. Lauderdale, FL. While waiting for new field data streams to become available, the authors used a high-fidelity (field-calibrated and validated) microscopic simulation model to extract traffic signatures of various traffic events. These included: normal and oversaturated conditions (recurring) and a freeway incident, a left-turn spilllover, rail preemption, an arterial incident, and an art event (all non-recurring). Simulation performance measures, closely mimicking those from the field devices (microwave mid-block detectors and Bluetooth travel time devices), were used to record traffic events’ signatures both on local and corridor-wide levels. The overall findings confirmed hypothesis that various traffic congestion scenarios leave distinctive traffic-performance ‘fingerprints’.

Stichworte: recurrent, non-recurrent, traffic signature, incident, congestion, ITS detection technology

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