

UTC Project Information	
Project Title	A Novel Decision-Support Tool to Develop Link-Driving Schedules for MOVES
University	Purdue University
Principal Investigator	Dr. Satish V Ukkusuri
PI Contact Information	Professor of Civil Engineering Purdue University Email: sukkusur@purdue.edu
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Total Project Cost	\$140,000
Agency ID or Contract Number	DTRT12-G-UTC05
Start and End Dates	01/01/2015 - 5/31/2017
Brief Description of Research Project	EPA-MOVES is a modal-based emissions estimator that accounts for vehicle operating modes defined by factors like speed, acceleration, road grade, curvature, and so on. MOVES has the ability to include alternative types of fuel and different type of vehicles as well. Analyses at different scales including regional, state, and project level (e.g., small road network at county level) can be done with MOVES. Integration of MOVES with a microscopic traffic simulator can be outlined as an input-output process. The second-by-second vehicular activities from traffic simulation serves as input for MOVES and the emissions inventory for a transportation network can be estimated. The input from traffic simulators can be any of the following formats: (a) average speeds for the links in the network, (b) Link Driving Schedule (LDS) for each link of the network. LDS is time dependent speed profile of a link (generally done for a representative vehicle typically by sampling), and (c) Operating mode distribution of vehicles on the link. While average speed is commonly used in practice, operating mode distribution and LDS can take the advantages regarding vehicular activity data and dynamic capability of MOVES to report time dependent emissions.

	<p>In this project, we propose a novel decision-support tool to find the representative vehicle trajectories and accordingly the LDS for links on transportation networks. The technique will use the similarity measure such as the dynamic time warping distance and/or longest-common-subsequence measures in clustering that are more appropriate for curve alignment as compared with the Euclidean distances and its variants.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	
<p>Web Links</p> <ul style="list-style-type: none">• Reports• Project website	