

UTC Project Information	
Project Title	Signal Timing Optimization for Large Scale Urban Networks under Dynamic Traffic
University	NEXTRANS Illinois Institute of Technology
Principal Investigator	Zongzhi Li, PI, Associate Professor Illinois Institute of Technology
PI Contact Information	Email: lizz@iit.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	NEXTRANS: \$100,000 IIT: \$100,000
Total Project Cost	
Agency ID or Contract Number	DTRT12-G-UTC05
Start and End Dates	
Brief Description of Research Project	<p>The objective of this study is to develop a new methodology for systemwide signal timing optimization to achieve the lowest level of intersection delays in a dense urban street network. The proposed systemwide signal timing optimization is carried out by adjusting green, yellow, and red splits for all signalized intersections in the network according to the traffic dynamics associated with individual intersections in AM peak, PM peak, and the rest of the day periods without changing the cycle length and signal coordination to achieve the lowest level of vehicle and pedestrian delays per cycle over a 24-hour period. Specifically, this project will propose an advanced, integrated decision support framework that contains a basic traffic flow model to handle vehicle delays only, and an enhanced model to simultaneously deal with vehicle and pedestrian delays, respectively. Both models will be integrated into the Chicago TRANSIMS toolbox that was developed to conduct regional traffic assignments on a second-by-second basis. The augmented Chicago TRANSIMS toolbox will be applied to the Chicago Central Business District (CBD) network for systemwide signal timing optimization for model validation and refinements.</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	