
Center for Advanced Multimodal Mobility Solutions and Education

| UTC Project Information – CAMMSE @ UNC Charlotte | |
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| *Project Title* | Signal Timing Strategy for Displaced Left Turn Intersections |
| *University* | Texas Southern University |
| *Principal Investigator* | Yi Qi, Qun Zhao and Mehdi Azimi |
| *PI Contact Information* | (713)-313-6809 / qiy@tsu.edu |
| *Funding Sources and Amount Provided (by each agency or organization)* | The University of North Carolina at Charlotte: $54,282<br>Texas Southern University: $27,075 |
| *Total Project Cost* | $81,357 |
| *Agency ID or Contract Number* | |
| *Start and End Dates* | 10/01/2018 – 09/30/2020 |
| *Brief Description of Research Project* | Displaced left turn (DLT), also known as continuous flow intersection (CFI), is an innovative intersection designed to increase the mobility of an intersection by relocating its left turn lane (lanes) to the far-left side of the road at upstream location of the main signalized intersection. Since DLT is relatively new and only implemented in a few states, there are few existing guidelines available for designing DLT intersections. One of the critical elements when designing a DLT is the signal timing plan. An appropriate signal timing plan will maximum the intersection capacity, reduce congestion, and improve safety. The purpose of this research is to develop a comprehensive signal timing strategy for DLT intersections. To achieve this purpose, the research team will first review and summarize current design |

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| | guidelines and research findings on how to design and optimize signal timing for DLT intersections. Then, a new DLT signal time design methodology will be proposed by considering various geometric configurations and traffic conditions. A DLT intersection located at Texas is selected as a case study location to apply and validate the signal timing strategy developed in this project. VISSIM simulation will be conducted to evaluate the developed signal timing method. |
| *Describe Implementation of Research Outcomes (or why not implemented)*<br><br>*Place Any Photos Here* | |
| *Impacts/Benefits of Implementation (actual, not anticipated)* | |
| *Web Links*<br>• *Reports*<br>• *Project website* | https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2019-UTC-Project-Information-13-Qi.pdf<br><br>https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2019-UTC-Project-Report-13-Qi-Final.pdf |