

TRAFFIC SIGNAL RE-TIMING: A COST-EFFECTIVE APPROACH TO IMPROVE CORRIDOR PERFORMANCE

Speaker

Prof. Rui YUE

School of Traffic and Transportation
Beijing Jiaotong University



Abstract

Traffic signal retiming involves periodically updating existing signal coordination plans of signalized corridors. Nevertheless, there are still several limitations with the current signal retiming practice, such as managing a large set of signal coordination data, optimizing coordination parameters, diagnosing timing errors, and assessing signal coordination performance. To fill these gaps, this seminar will introduce a novel signal retiming approach that offers transportation engineers an alternative way to assess and improve the operation of existing coordinated corridors. It allows for displaying the vehicle trajectories in the time-space diagram (TSD), based on which, transportation engineers could diagnose the potential issues with a signal coordination plan and develop an optimized signal coordination plan for the corridor. In addition, a unique signal performance index (SPI), which took into account average travel speed, number of stops, cycle length, and segment length adjustments, was developed to grade the performance of a signal coordination plan.

Biography

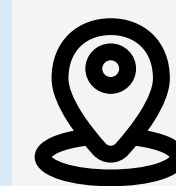
Dr. Rui Yue is currently an assistant professor at Beijing Jiaotong University, he is devoted to signal coordination and optimization, and capacity analysis. His research interest includes traffic signal timing optimization and evaluation, adaptive signal control systems, data-driven signal control optimization, signal control and emission. His research was mostly published in the Journal of Transportation Engineering, Part A and Transportation Research Record. He acquired his B.E. from Beijing Jiaotong University, M.S. and Ph.D. from the University of Nevada, Reno. He joined Beijing Jiaotong University as an assistant professor in Sep 2021.



11 August 2023
Friday



3:00 pm - 4:00 pm



**Civil Engineering
Conference Room
Room 3574 (Lift 27/28)
HKUST**

Enquiry:

Ms. Rebecca Yau
cerebeca@ust.hk