

ABSTRACT

Embodiments of the disclosure provide traffic control systems and methods. The traffic control system may include a communication interface configured to receive vehicle trajectory data acquired by sensors and traffic control data from traffic signal controllers. The traffic control system may further include at least one processor. The at least one processor may be configured to detect an abnormal traffic condition. The at least one processor may be further configured to optimize an online traffic control scheme based on the vehicle trajectory data by adjusting green splits for a plurality of phases. The at least one processor may be also configured to provide, in real-time, the optimized online traffic control scheme to a traffic signal controller for generating traffic control signals.

(Fig. 7)