Abstract

Conventional urban traffic control systems have been based on historical traffic data. Later advancements made use of detectors, which enabled the gathering of real-time traffic data, in order to re-organize and calibrate traffic signalization programs. Further evolution provided the ability to forecast traffic conditions, in order to develop traffic signalization programs and strategies pre-computed and applied at the most appropriate time frame for the optimal control of the current traffic conditions. Instamaps algorithm is a proposal for the next generation of traffic control systems based on principles of Artificial Intelligence and Context Awareness. Most of the existing algorithms use average waiting time or length of the queue to assess an algorithm’s performance. However, a low average waiting time may come at the cost of delaying other vehicles indefinitely. In the algorithm, besides the vehicle queue, ‘fairness’ is also as an important performance metric to assess an algorithm’s performance.
Context Aware Dynamic Traffic Signal Optimization

- Traffic Signal Timing Optimization Study for Metro Nashville Signal System

Index Terms

Computer Science  Artificial Intelligence

Keywords
Location  Context  Artificial Intelligence  Pattern  Analysis  Maps  Traffic Optimization

Accident