CoSiCoSt-EnV

Composite Signal Control Strategy- Enhanced Version

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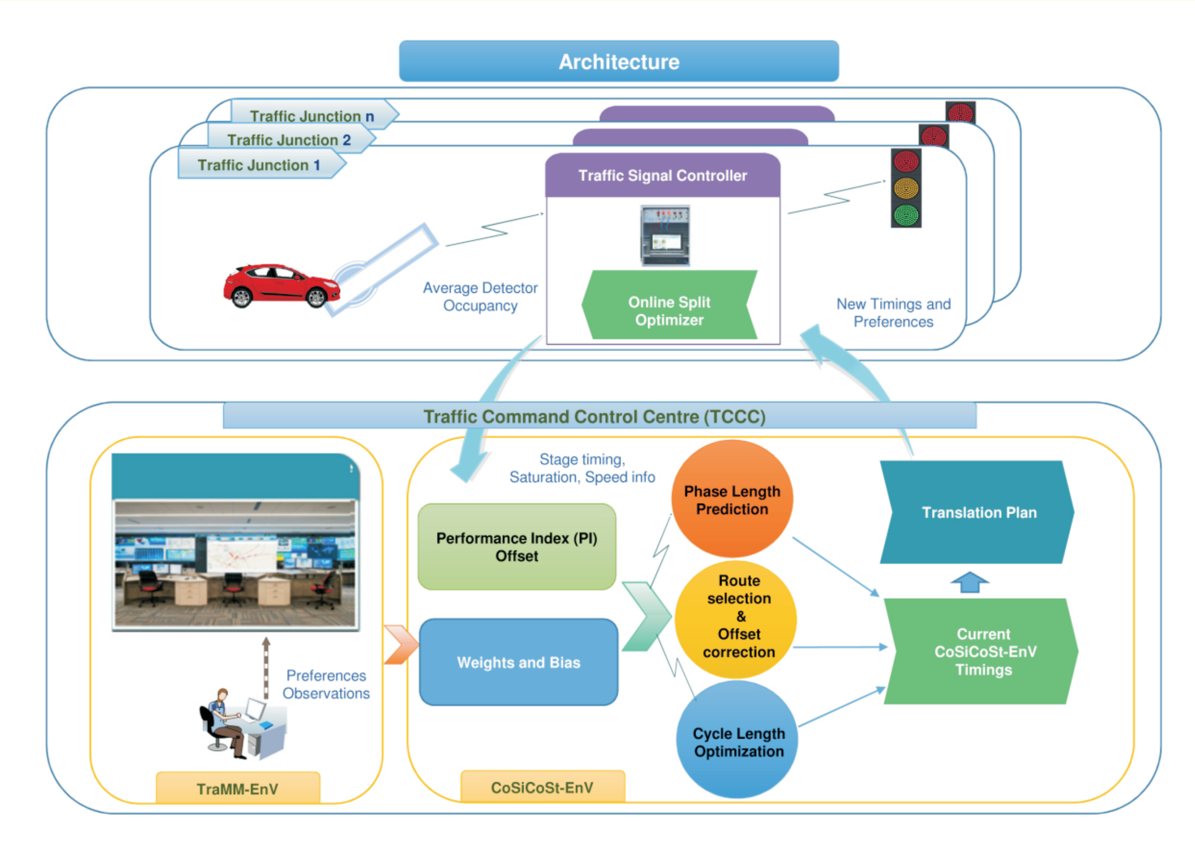
Composite Signal Control Strategy- Enhanced Version (CoSiCoSt-EnV) is an Adaptive Traffic Control System (ATCS) software algorithm that optimizes signal timings of a road traffic network in runtime. CoSiCoSt-EnV is used in the implementation of Advanced Traffic Management System (ATMS). The ATMS suite comprises Traffic signal controllers operating at the intersection level and ATCS application running at the Traffic Management Centre (TMC). The ATCS application constitutes the data acquisition, remote monitoring and user management system (TraMM-EnV) and the ATCS control algorithm, CoSiCoSt-EnV. The traffic signal controllers installed at individual traffic junctions in a road traffic network are networked to the ATCS application hosted at the TMC for real time signal control and remote monitoring of signal operation. Composite Signal Control Strategy (CoSiCoSt) developed by C-DAC Thiruvananthapuram optimizes a weighted combination of delay and stops of a road traffic network in real-time improving mobility, travel time, reduction in stopped delay, congestion levels, queue lengths and hence diminution in automobile pollution. CoSiCoSt is designed to cater the typical Indian driving and traffic conditions such as non-lane based driving in mixed traffic flow and non-standard junction geometry. CoSiCoSt bears an Indian Patent (No: 239258 Title: A Method for Synchronizing Heterogeneous Road Traffic and System thereof) jointly owned by the Ministry of Electronics and Information Technology (MeitY) and C-DAC.

C-DAC Urban Traffic Control Equipment (CUTE) and Wireless Traffic Control System (WiTraC) are the state-of-the-art Vehicle Actuated Adaptive Traffic Signal Controllers developed by C-DAC that functions as junction controllers in the ATMS environment.

CoSiCoSt-EnV is developed in India in line with the 'Make in India - Atmanirbar Bharat' policy of the Union Government.



SALIENT FEATURES

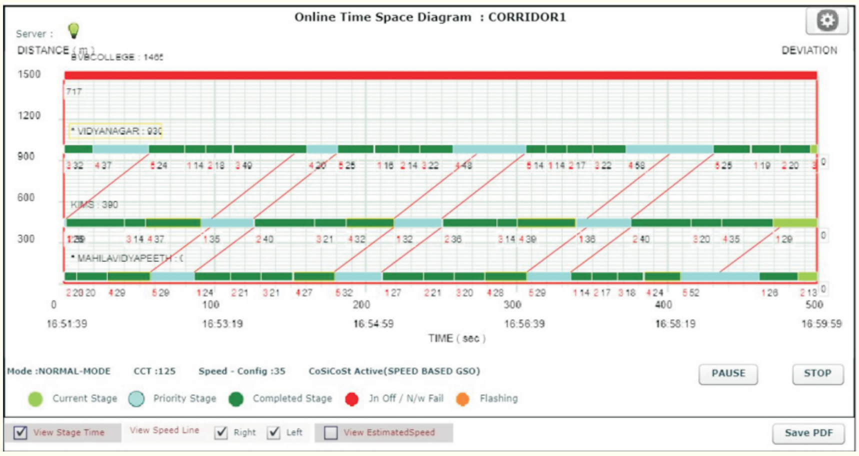
- ⦿ Highly Scalable
  - ✧ Isolated VA to Full-fledged Adaptive Signal Control
- ⦿ Easy Installation
- ✧ User-friendly Configuration interface
  - ✱Remote Programming of Junction Controllers
  - ✱On-the-fly automatic configuration update
  - ✱Configuration Mismatch Alerts
  - ✱Configurable Reports, Views and Charts
  - ✱Graphical representation of traffic network, junctions and signals
- ✧ Self-calibrating in runtime
  - ✱Dynamic identification of Critical Junction
  - ✱Dynamic identification of Priority Phase
  - ✱Estimation of Critical Cycle lengths
  - ✱Estimation and distribution of optimum Phase lengths
  - ✱Dynamic selection of Priority Route
- ✧ Quick and Smooth Offset correction
  - ✱Signal coordination achieved without pre-programmed coordinated signal plans
  - ✱Dynamic Selection of Transition Modes
- ✧ Flexible Algorithm Execution
  - ✱Signal time optimization on selected traffic network
- ⦿ Minimum Transition Cost
  - ✧Phase length updates maintaining signal coordination
  - ✧ Phase length adjustments within signal cycle
- ⦿ Better Progression without progression band bias
  - ✧ Signal phases other than Priority Phase pre-empted based on real-time demand
  - ✧Time saved on other phases automatically added to the priority phase for early opening
- ⦿ Adaptive Signal Control
  - ✧ Cycle length updates during continuous demand drop / cycle saturation
  - ✧ Phase lengths predicted and distributed in every signal cycle
  - ✧ Signal coordination verified in every signal cycle
  - ✧ Offset deviations corrected within five signal cycles
- ⦿ Special Features
- ✧ Logical Quit (LQ) of traffic junctions under abnormal conditions
- ✧ Automatic reversion of LQ junctions
- ✧ Filters for handling non-lane based driving and mixed traffic flow
- ✧ Features for executing complex phasing schemes at non-standard traffic junctions
- ✧ Methods to handle ATCS operation interruption
  - ✱Power interruption
  - ✱Communication interruption
  - ✱Manual Mode control
  - ✱Emergency Service Vehicle Priority Signal
- ✧ Green-wave invocation on selected routes from TMC
- ✧ Enhanced user management
- ✧ Advanced fault reporting and event logging

SUPPORT

- ⦿ Multi-vendor representation for supply, installation, operation and maintenance
- ⦿ In-house R&D support from C-DAC for training and customization

OPERATING PLATFORM

- ⦿ Windows Server 2016 or above



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