

Traffic light control on road networks

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Traffic flow phenomena can be described by a continuous traffic flow network model incorporating constraints for optimal traffic light switchings in time. The focus is on the discussion of the extended traffic model and the derivation of a suitable optimization framework to determine the optimal switching points.

In fact, the model can be related to mixed-integer programming models that allow for Branch and Bound based optimization procedures instead of descent-type methods. To ensure feasibility and to reduce the computational effort of large-scale instances, there is evidently need for suitable heuristics.