
Combined vehicle routing and truck driver scheduling in the EU and the working time directive

Asvin Goel*¹

¹Kühne Logistics University (KLU) – Germany

Abstract

This presentation studies vehicle routing and truck driver scheduling problems in which truck drivers must comply with hours of service regulations in the European Union. Some of the relevant rules are imposed by EU regulations and others by national law implementing Directive 2002/15/EC. Although some previous papers have claimed to consider all rules of the working time directive, some important rules of the directive have been ignored until now. Thus all existing approaches for vehicle routing and truck driver scheduling in the European Union are likely to generate routes and schedules which cannot be executed without violating rules. This presentation shows how these rules can be tackled and presents an approach for scheduling driver activities complying with all of the provisions of Regulation (EC) No 561/2006 and Directive 2002/15/EC. The approach is evaluated within an exact approach for the vehicle routing and truck driver scheduling problem. An interesting finding is that the solution process is significantly accelerated by considering the additional rules of the directive. A risk analysis of the results is conducted, indicating that road safety is significantly increased by the night work provision of the working time directive.

*Speaker