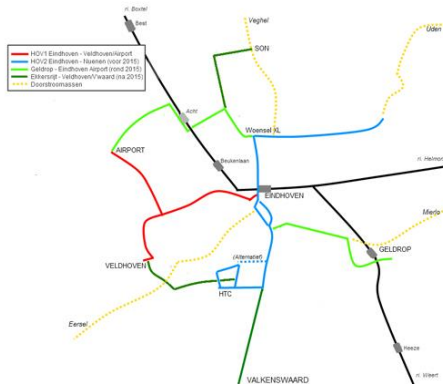


Image: Wikipedia/Sreglov



Network impacts of allowing automated vehicles to use bus lanes

Problem description

One of the main challenges of automated driving is the safe interaction with other road users. These challenges may be avoided by separating automated vehicles from most other traffic. But dedicated infrastructure is costly, especially while the volume of automated vehicles is still low. One potential solution may be to allow automated vehicles to operate on existing bus lanes. This may improve the capacity utilisation of bus lanes, but how viable is the concept in practice?

Objectives & Assignment

The study investigates how the introduction of automated vehicles on bus lanes changes the transportation network and its performance. Automated vehicles for various purposes may be considered: do the automated vehicles transport passengers or freight, and between which locations? Automated vehicles may or may not replace existing buses on the bus lanes. To ensure sufficient travel demand for an automated vehicle fleet, the automated vehicles may need to drive outside of the bus lane network as well, or be complemented with a separate feeder network. To entice travellers/companies to use the new automated vehicles, its travel time and pricing must be competitive compared to other modes. The student will select a case study, formulate a network design based on these and other relevant considerations, and assess the transportation system's performance with the proposed design quantitatively using a quasi-dynamic traffic assignment model developed at TU Delft.

Research group

Transport & Planning Department

External support

Your research will be part of the STAD research project. An internship position at one of the STAD partners may be available.

Information

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