Predictive Traffic Signal Control under Uncertainty

Analyzing and Reducing the Impact of Prediction Errors

Poelman, M.C.

DOI
10.4233/uuid:58d1eb12-ad5f-4f6b-8aa9-13a6d5cc096c

Publication date
2024

Document Version
Final published version

Citation (APA)
Poelman, M. C. (2024). *Predictive Traffic Signal Control under Uncertainty: Analyzing and Reducing the Impact of Prediction Errors*. [Dissertation (TU Delft), Delft University of Technology].
https://doi.org/10.4233/uuid:58d1eb12-ad5f-4f6b-8aa9-13a6d5cc096c

Important note
To cite this publication, please use the final published version (if applicable).
Please check the document version above.

Propositions

belonging to the dissertation

Predictive Traffic Signal Control under Uncertainty

Analyzing and Reducing the Impact of Prediction Errors

Muriel Celeste Poelman

Delft University of Technology

1. When controlling traffic, the traffic management system is not always in control.
   This proposition pertains to this dissertation.

2. Predictions do not need to be perfect for traffic signal controllers to be effective.
   This proposition pertains to this dissertation.

3. There is a tipping point where predictions have too large errors and no longer add value to traffic signal control.
   This proposition pertains to this dissertation.

4. Prediction quality and control robustness are two sides of the same coin.
   This proposition pertains to this dissertation.

5. In traffic signal control, there is a large gap between science and engineering.

6. To get your message across, it’s better to take an English writing course than to use generative AI.

7. Modeling is like sewing: stitching the right pieces together.

8. Gymnastics is all about robust body control: maximizing the complexity of movements, while minimizing the risk of falling.

9. Traffic modelers and groundwater modelers solve similar real-life problems.

10. It's easier to expand your code than to expand your house.

These propositions are regarded as opposable and defendable, and have been approved as such by the promotors J.W.C. van Lint, and A. Verbraeck, and copromotor A. Hegyi.