

# Propositions

attached to the thesis

## **Improving the Scheduling and Rescheduling of Rolling Stock: Solution Methods and Extensions**

Rowan Hoogervorst

Erasmus University Rotterdam

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## I

Comparing both the theoretical and numerical properties of rolling stock scheduling models is essential for determining the right model for the right application.

*(Chapter 2)*

## II

Local search-based heuristics can be an effective and flexible solution method to solve rolling stock rescheduling problems.

*(Chapter 3)*

## III

Rolling stock rescheduling can help to reduce the propagation of delays, especially when allowing flexibility in determining the rolling stock turnings at terminal stations.

*(Chapter 4)*

## IV

While a sequential process for rolling stock and shunting driver rescheduling often leads to infeasibilities, an integrated approach can provide high-quality solutions quickly.

*(Chapter 5)*

## V

Extending the rolling stock rescheduling problem to take into account other aspects of the rescheduling process can lead to better overall solutions and a more streamlined rescheduling process.

*(Chapters 4 and 5)*

## VI

Developing models that align well with the practical context of train operators is a continuing challenge in the field of railway optimization.

## VII

In academia, too little appreciation is given to the evaluation of existing models and the reproduction of results, compared to the development of new models and solution methods.

## VIII

Open science principles, like the sharing of code and data, will play an important role in keeping the field of Operations Research accessible and attractive.

## IX

Achieving a healthy work-life balance is essential for succeeding as a researcher: good ideas often pop up at the moments you are the least looking for them.

## X

With general-purpose solvers becoming ever more competitive, the bar for developing custom alternative solution methods is continuously being raised.

## XI

Moving through an academic career often requires a considerable amount of personal adaptation, both due to the temporary nature of contracts and the importance of building an international profile.