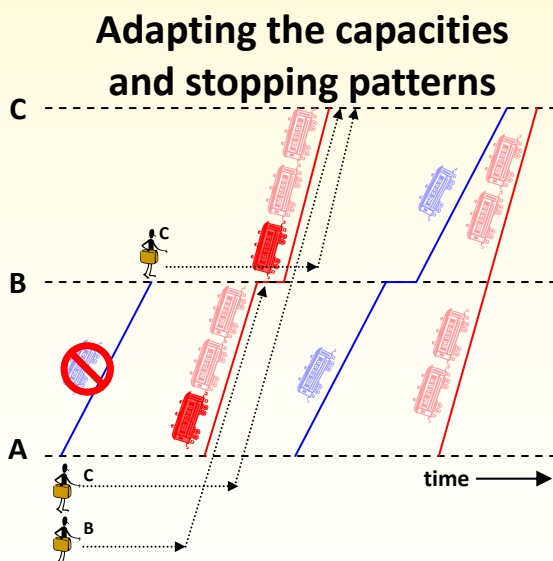
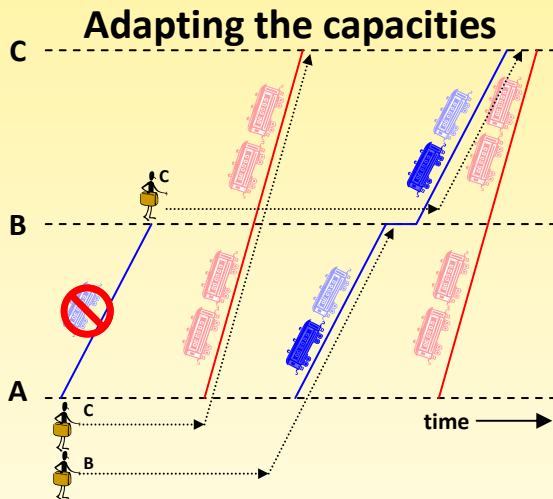
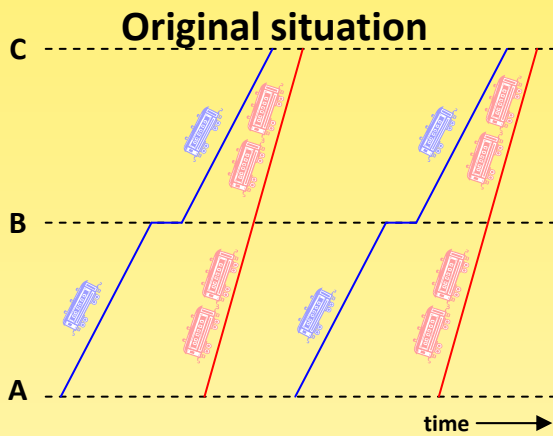




by Adapting Stopping Patterns



Rolling stock rescheduling

- For the rescheduling of rolling stock the multicommodity flow model of Fioole et al. (2007) is used.
- The passenger flows and stopping pattern decisions cannot be integrated into the rescheduling model since we deal with a railway system without seat reservation. Passengers can take another route than the one which is optimal for the operator.

Simulating the passenger flows

- Passengers with the same characteristics are aggregated into groups.
- Passenger groups have a quantity, an origin, a destination, a traveling strategy and a deadline.
- Passengers know the complete actual timetable.
- If more passengers want to enter a train than there is capacity in it, from every group the same percentage of passengers enters the train.
- A group will split into two groups if only part of the group can enter the train.

Adapting the stopping patterns

- Limited to additional stops of intercity trains at regional stations.
- Positive effects of an additional stop:
 - Passengers to and from the regional station will have shorter travel times.
 - It lowers the demand for the next regional train.
- Negative effects of an additional stop:
 - The intercity train will get a small delay, which can lead to missed connections for the passengers.
 - The capacity of the intercity train is reduced by the passengers going to or from the regional station. This can lead to an delay for passengers which do not fit in the train anymore.

Solution approach framework

