

## Choice of Sleeper and Rail Fastening Using Linear Programming Technique

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**Abstract :** The increase in rail freight transport in Brazil in recent years requires new railway lines and the maintenance of existing ones, which generates high costs for concessionaires. It is in this context that this work is inserted, whose objective is to propose a method that uses Binary Linear Programming for the choice of sleeper and rail fastening, from various options, including the way to apply these materials, with focus to minimize costs. Unit value information, the life cycle each of material type, and service expenses are considered. The model was implemented in commercial software using real data for its validation. The formulated model can be replicated to support decision-making for other railway projects in the choice of sleepers and rail fastening with lowest cost.

**Keywords :** linear programming, rail fastening, rail sleeper, railway

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