Supporting Infrastructure Maintenance Project Selection with Robust Portfolio Modelling

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Abstract:

In infrastructure management, annual maintenance portfolios often contain tens of projects selected from hundreds of candidates based on multiple prioritization criteria. We report experiences from deploying Robust Portfolio Modelling (RPM) –methodology to support maintenance project selection at the Finnish Road Administration. Necessitated by the problem size we develop an approximate algorithm to compute non-dominated portfolios, based on which RPM provides robust and flexible project prioritization recommendations subject to incomplete preference information and portfolio constraints.

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