CERIS : Civil Engineering Research and Innovation for Sustainability

The decision support system with a cost-benefit analysis for the resilience of urban infrastructure

Summary

The economic evaluation of urban infrastructures, such as environmental impacts, and social repercussions on roads and buildings, is controversial and needs a detailed monetary cost-benefit analysis for comparative purposes. In the context of social repercussions, this raises methodological challenges. In addition, accuracy prediction represents a significant constraint because of the demand for substantial data collection (cost and time-consuming).

This notion gives a policy tool for assessing the value of urban facilities. This combines cost-benefit analysis with multi-criteria analysis, so an exhaustive and complete examination of our objective's key economic, social, and environmental elements may be assessed. Again, this combines cost-profit analysis with a study of specific criteria.

This method seeks to guarantee that decision-makers and urban planners have a tool to analyze the trade-offs and implications of choosing and maximizing the future while considering urban infrastructure resilience.

This study examines existing tools and methodologies for assessing urban infrastructure projects' long-term sustainability and reseliance. Focus on MCDA and CBA techniques for analyzing infrastructure projects, with the most appropriate combination of monetary objects and intelligible non-monetary subjects to create the best choice for decision-makers.

Keywords

Resilience, urban infrastructure, decision support system, cost-benefit, multi-criteria analysis.
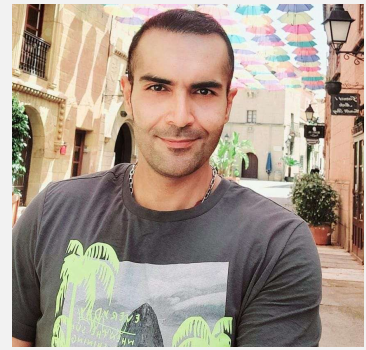
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Period
2020-2024

Funding
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