



REVIEWER'S REPORT

Manuscript No.: IJAR- 57808

Title: ANALYSIS OF CRITERIA AND PRIORITY ALTERNATIVES FOR ROAD MAINTENANCE BASED ON PROVINCIAL/DISTRICT ROAD MANAGEMENT SYSTEM AND AHP-PSI INTEGRATION IN JAYAWIJAYA REGENCY

Recommendation:

Accept

Rating	Excel.	Good	Fair	Poor
Originality	Yes			
Techn. Quality		Yes		
Clarity	Yes			
Significance	Yes			

Reviewer Name: Dr. Ashish Yadav

Detailed Reviewer's Report

Reviewer's Comment for Publication.

Acceptance Comment are mentioned below suitable for the paper titled "ANALYSIS OF CRITERIA AND PRIORITY ALTERNATIVES FOR ROAD MAINTENANCE BASED ON PROVINCIAL/DISTRICT ROAD MANAGEMENT SYSTEM AND AHP-PSI INTEGRATION IN JAYAWIJAYA REGENCY"

Reviewer Comments: Accept

Reviewer Comments –

Introduction

The introduction clearly addresses the importance of effective road maintenance planning and resource allocation in regional infrastructure management. The study successfully highlights the challenges faced by Jayawijaya Regency in prioritizing road maintenance activities under limited budgetary and operational constraints. The rationale for integrating the Provincial/Regency Road Management System (PKRMS) with AHP and PSI methods is well established. The research objectives are clearly defined and demonstrate practical significance for policymakers and transportation planners. Overall, the introduction provides a strong foundation for the study.

Literature Review

The literature review presents relevant theoretical and practical perspectives on road asset management, multi-criteria decision-making techniques, and infrastructure prioritization. The discussion of Analytical Hierarchy Process (AHP) and Preference Selection Index (PSI) effectively demonstrates their applicability in transportation planning and decision support systems. The review identifies the need for more objective and transparent approaches in road maintenance prioritization. The authors successfully

REVIEWER'S REPORT

establish the research gap by emphasizing the limited application of integrated PKRMS–AHP–PSI frameworks in regional road management. The review adequately supports the study's conceptual framework and methodology.

Solution Approach

The methodology is systematic and appropriate for addressing the research objectives. The integration of PKRMS, AHP, and PSI provides a robust framework for evaluating road conditions and determining maintenance priorities. AHP is effectively employed to assign weights to critical decision criteria, while PSI enhances the ranking process by objectively evaluating alternative road segments. The data collection and evaluation procedures are clearly explained, ensuring transparency and reproducibility. The proposed approach offers a practical and comprehensive decision-support model for infrastructure management authorities.

Results and Discussion

The results are presented in a clear and logical manner, demonstrating the effectiveness of the integrated decision-making framework. The findings reveal that budget and resource availability, road conditions, accessibility to public services, access to economic potential areas, and road connectivity are the most influential criteria in determining maintenance priorities. The discussion successfully interprets the ranking outcomes and explains their implications for strategic infrastructure planning. The integration of AHP and PSI enhances the objectivity and consistency of the prioritization process. The results provide valuable insights for improving road network performance and resource allocation efficiency.

Conclusion

The conclusion effectively summarizes the major findings and contributions of the study. The research demonstrates that integrating PKRMS with AHP and PSI offers a transparent, systematic, and accountable approach to road maintenance prioritization. The identified criteria provide a reliable basis for decision-making in regional infrastructure management. The study contributes both theoretically and practically by offering a replicable framework for other districts facing similar challenges. Future research may consider incorporating Geographic Information Systems (GIS), real-time traffic data, and sustainability indicators to further enhance decision-making accuracy and effectiveness.