

EVALUATING THE ENVIRONMENTAL IMPACT OF MODERN JEEPNEYS VERSUS TRADITIONAL JEEPNEYS: A COMPARATIVE ANALYSIS

ABSTRACT

AUTHORS

Mica Ehla Mangaliag
Cristy Naza
Mariella Peñaredonda
Jenevieve Rapal
Yvonne Jhon Sagnoy
Nicole Sugabo

RESEARCH ADVISER

Roland Rambo B. Jayoma,
CHP, MBA

AFFILIATION

Bestlink College of the
Philippines

DISCIPLINE

Ecology and Environmental
Science

KEYWORDS

traditional jeepneys • modern jeepneys • sustainable transportation • air and noise pollution • cost-efficiency • fare increase • digital payment systems • driver financial burden • government incentives • commuter accessibility • transportation mode; environmental modern; modern jeepneys; jeepneys versus

ARTICLE ID

AASGBCPJMRA-B09458

The Philippines is actively pursuing sustainable transportation through the modernization of jeepneys, an iconic mode of public transport deeply rooted in Filipino culture. Central to this initiative is the Public Utility Vehicle Modernization Program (PUVMP), a government-led effort to replace traditional diesel-powered jeepneys with modern units that comply with stricter emissions standards, promote fuel efficiency, and incorporate improved safety features. These changes aim to mitigate urban air pollution and align with the country's broader environmental goals. However, the program faces ongoing challenges, particularly concerning the actual environmental effectiveness of the modern vehicles and the economic implications for traditional jeepney drivers and operators, many of whom lack the financial means to comply with modernization requirements. This study sought to compare the environmental impact of traditional and modern jeepneys, providing insights to guide policymakers and foster greater public understanding of sustainable transport strategies in the Philippines. This study adopted a quantitative research design using a descriptive method to assess the environmental impact of modern versus traditional jeepneys in Sakayan Bayan Glori, Novaliches, Quezon City. A total of 100 respondents—comprising 50 drivers and 50 commuters—were selected through purposive sampling, based on their familiarity and direct experience with both types of jeepneys. Data were collected through a validated questionnaire. While some individuals declined participation or refused to be photographed, the survey was successfully administered and completed in a single day due to the steady flow of drivers and passengers in the area. The insights gathered from this study are intended to inform policymakers, promote public awareness, and contribute to ongoing efforts toward sustainable and environmentally responsible transportation solutions in the Philippines. The results indicated a bimodal age distribution among respondents, with the majority falling within the 17–22 age group (34%), followed by a significant proportion aged 47–52 (18%). A dominant 78% of respondents were male drivers, reflecting the gender dynamics of the local transport sector. Overall, respondents expressed a strong preference for modernized jeepneys, citing their environmental benefits, quieter operation, and enhanced passenger comfort. Despite these advantages, commuters voiced concerns regarding fare increases and limited route accessibility. On the other hand, drivers reported challenges such as heightened competition, financial constraints linked to modernization costs, and the need for technical training to operate updated vehicles and systems effectively. Traditional jeepneys are regarded as more economically accessible, especially for low-income commuters, but they contribute significantly to air and noise pollution, underscoring the trade-off between cost-efficiency and environmental sustainability. Commuters have raised concerns over fare increases and the shift to digital payment systems, which may not be accessible to all. Meanwhile, drivers face mounting challenges, including heightened competition, expensive vehicle upgrades, and the need for retraining on modernized systems. To address these issues, the study recommends implementing targeted services for frequent commuters—particularly younger male users—as well as government subsidies and incentives to ease the financial burden of modernization. These strategies aim to create a more sustainable public transportation system while maintaining affordability, accessibility, and livelihood support for stakeholders.

RECOMMENDED CITATION

Mangaliag, M. E., Naza, C., Peñaredonda, M., Rapal, J., Sagnoy, Y. J., & Sugabo, N. (2025). Evaluating the Environmental Impact of Modern Jeepneys Versus Traditional Jeepneys: A Comparative Analysis. *Ascendens Asia Singapore – Bestlink College of the Philippines Journal of Multidisciplinary Research Abstracts*, 7(6), 54.