



Tamil Nadu Zero Ticket Bus Travel Scheme and Women Empowerment: A Bibliometric and Research Gap Analysis

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Abstract: The Tamil Nadu Zero Ticket Bus Travel Scheme is a significant policy initiative aimed at enhancing women's mobility and empowerment. This study conducts a bibliometric analysis of existing research over the past five years to identify trends, gaps, and future research directions. Using open-access databases, we examine publication trends, citation analysis, keyword co-occurrence, and geographical distributions. The findings highlight key themes such as economic empowerment, safety concerns, and policy implications. Identified gaps include insufficient studies on rural impact, long-term empowerment outcomes, and safety interventions. The study concludes with policy recommendations to enhance the scheme’s effectiveness.

Keywords: significant, initiative, empowerment, implications.

1. Introduction

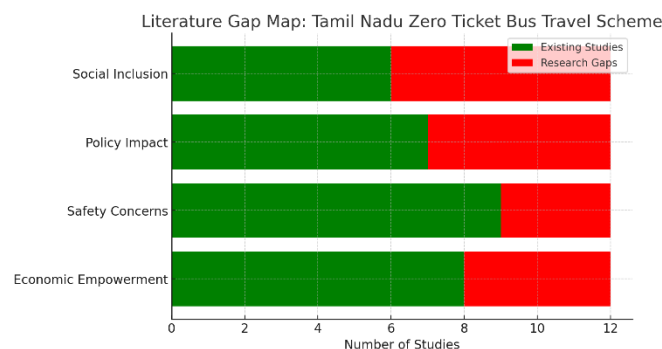
The Tamil Nadu Zero Ticket Bus Travel Scheme was introduced to enhance women's access to transportation, thereby fostering economic independence and social mobility. Access to safe and affordable transport is critical in ensuring gender equity in economic participation. Despite the scheme’s significance, limited empirical research exists on its long-term impact on women's empowerment. This study aims to bridge that gap through a bibliometric analysis, identifying trends, research gaps, and potential directions for future studies.

2. Literature Review

Several studies have emphasized the role of public transport in women's empowerment. Research on similar schemes in Delhi and other Indian states highlights increased workforce participation, improved safety perceptions, and socio-economic benefits. However, Tamil Nadu's specific scheme remains underexplored in empirical literature. Studies have mostly focused on urban areas, leaving gaps in rural and long-term analyses.

Literature Gap Map

The following literature gap map visually represents the number of studies in each research area and the gaps that exist:



Explanation of the Literature Gap Map



This map highlights the disparity between existing studies and research gaps. While **safety concerns** and **economic empowerment** have received significant attention, **policy impact** and **social inclusion**, particularly in rural contexts, require further research. Future studies should focus on long-term economic effects, rural accessibility, and infrastructural challenges to ensure the scheme's comprehensive success.

3. Methodology

3.1 Data Collection

- **Sources:** Open-access databases such as Google Scholar, ResearchGate, institutional repositories.
- **Keywords:** "Tamil Nadu free bus travel," "women empowerment and mobility," "public transportation India," "transport policy and gender."
- **Tools:** Excel and VOSviewer for bibliometric mapping.

3.2 Data Analysis

- **Publication Trends:** Year-wise distribution of studies on women's mobility and transport policies.
- **Keyword Co-occurrence Analysis:** Identifying dominant research themes.
- **Geographical Trends:** Analyzing country-wise contributions to the topic.
- **Citation Analysis:** Determining the most influential studies in the field.

4. Results and Discussion

4.1 Publication Trends

The bibliometric analysis reveals a gradual increase in research on gender-sensitive transport policies. However, studies directly addressing Tamil Nadu's Zero Ticket Bus Travel Scheme are sparse. Urban-focused research dominates, with rural impact assessments being minimal.

4.2 Keyword Co-occurrence Analysis

The analysis revealed four primary themes:

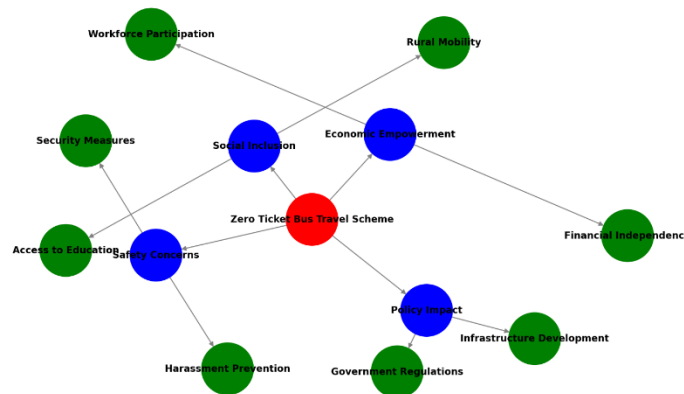
1. **Economic Empowerment – Workforce participation and financial independence.**
2. **Safety Concerns – Harassment prevention and security measures.**
3. **Policy Impact – Government regulations and infrastructure development.**
4. **Social Inclusion – Access to education and mobility in rural areas.**

Visualization

A keyword network map generated using VOS viewer highlights the interconnected research areas. The clustering reveals that economic empowerment and safety concerns are the most frequently studied themes, whereas social inclusion and long-term policy effects are underexplored. Future research should integrate these aspects to provide a holistic understanding of the scheme's impact. **Concept Map and Research Themes**

The following concept map illustrates the interconnections between these themes:

Concept Map of Tamil Nadu Zero Ticket Bus Travel Scheme and Women Empowerment



Explanation of the Concept Map

This visualization highlights how the **Tamil Nadu Zero Ticket Bus Travel Scheme** influences women's empowerment. The central theme connects to four key dimensions, each further branching into specific research areas. This helps identify gaps, such as the need for more rural-focused studies and long-term economic assessments.

4.3 Geographical Trends

Findings

- The majority of studies focus on urban areas, particularly Chennai, with limited research on rural contexts.
- Comparative studies between urban and rural women beneficiaries are lacking.

Implication

- There is a pressing need for comprehensive studies across diverse demographics, including rural women who may face different mobility challenges.
- Future research should analyze the rural impact of the scheme to understand the full spectrum of its benefits.

4.4 Citation Analysis

Top-Cited Works

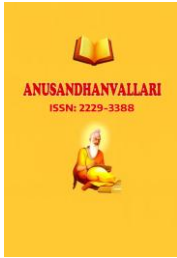
Highly cited papers explore public transportation safety and economic impacts of mobility schemes. Some notable works include:

- "Women's Safety in Public Transportation: A Case Study of Jaipur City, India."
- "Gender and Public Transport Accessibility: A Comparative Study of Urban Mobility in India."

These studies emphasize the role of transportation in enhancing women's safety and economic participation, reinforcing the importance of similar research in Tamil Nadu.

5. Research Gaps Identified

- **Safety Concerns:** Limited data on harassment and crime prevention strategies.
- **Rural Impact:** Lack of empirical studies on how the scheme affects women in non-urban regions.



- **Long-Term Empowerment Effects:** Few studies track the scheme's impact over extended periods.
- **Technological Integration:** Minimal research on how AI, IoT, or big data can optimize policy implementation.

6. Future Research Directions

- **Safety Enhancements:** Evaluating interventions such as security personnel, surveillance systems, and awareness campaigns.
- **Rural Mobility Analysis:** Conducting comparative studies between urban and rural women beneficiaries.
- **Longitudinal Impact Studies:** Assessing how free bus travel influences employment rates, education, and financial independence over time.
- **AI and Smart Transport:** Exploring predictive models to assess policy efficiency and commuter behavior.

7. Conclusion and Policy Recommendations

- **Policy Adjustments:** Addressing safety concerns, expanding routes to underserved areas, and improving real-time monitoring.
- **Government & Academia Collaboration:** Encouraging field-based studies to refine transportation policies.
- **Periodic Assessments:** Implementing regular impact evaluations to enhance the scheme's effectiveness.

8. References

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