

“A Study on the Impact of Lifestyle Choices and Green Community Behaviour Associated with Namma Metro in Bengaluru”

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Abstract

Sustainable urban mobility has become an important priority as cities strive to balance development with environmental sustainability. Public transportation plays a vital role in reducing traffic congestion, lowering pollution, and encouraging eco-friendly travel habits. In this context, Metro has emerged as a safe, reliable, and environmentally responsible mode of transport, contributing to greener lifestyle choices and a more sustainable urban community. The study examines how Metro has influenced the lifestyle choices and green community behaviour of commuters in Bengaluru. It focuses on understanding people's opinions, awareness, and attitudes towards metro services and their contribution to sustainable transportation. The findings show that most commuters prefer Metro because it is convenient, safe, reliable, affordable, and helps save travel time. Many respondents also believe that using the metro reduces traffic congestion, pollution, and carbon emissions, encouraging environmentally friendly travel habits. The study suggests that improving last-mile connectivity, expanding the metro network, maintaining high service quality, and creating greater environmental awareness can further increase metro usage. Overall, the study concludes that Metro plays an important role in promoting sustainable urban mobility, encouraging greener lifestyle choices, and supporting the development of a cleaner and more environmentally responsible Bengaluru.

Keywords

Sustainable Transportation, Green Mobility, Public Transport Usage, Eco-friendly Lifestyle, Urban Mobility, Environmental Awareness, Lifestyle Choices, Traffic Congestion Reduction, Carbon Emission Reduction, Sustainable Development, Green Community Behaviour, Pollution Control, Environmental Responsibility.

Introduction

In today's world, transportation has become an important part of daily life. Rapid urban growth and increasing traffic have made public transport necessary in cities like Bengaluru. Metro provides a fast, safe, and comfortable mode of travel for people.

It helps reduce traffic congestion, fuel consumption, and pollution, making the city more environmentally friendly. The use of metro services also encourages people to adopt a more organized and time-conscious lifestyle. In addition, it promotes the use of public transport and supports sustainable urban development. Overall, Metro plays an important role in improving the quality of life and encouraging eco-friendly living habits.

Review of Literature

Kumuda P. R. et al. (2026) conducted a study to understand the experiences of passengers using Bengaluru's Metro. The study found that factors such as reliability, cleanliness, safety, and staff support play an important role in passenger satisfaction. It also showed that better service quality improves the overall travel experience of commuters. The researchers suggested that improving infrastructure and maintenance can increase passenger loyalty and trust in metro services. Overall, the study highlights the importance of providing efficient and high-quality metro services to support sustainable urban transportation.

Sinha Diksha (2025) conducted a study to understand the social, environmental, and operational impact of Metro in Bengaluru. The study found that Metro has helped reduce traffic congestion, save travel time, and improve environmental sustainability. It also highlighted that passengers prefer the metro because of its reliability and convenience. However, challenges such as fare increases and last-mile connectivity issues were also identified. The study concludes that improving connectivity and affordability can further increase the effectiveness of Metro and support sustainable urban transportation in Bengaluru.

Forghani, Alan et al. (2025) conducted a study to understand the factors that influence people's choice of using the Tehran Metro. The study found that travel time savings, convenience, accessibility, and affordability are the main reasons why commuters prefer the metro over private vehicles. It also showed that metro services help reduce traffic congestion and support sustainable urban transportation. The researchers suggested that improving service quality and connectivity can encourage more people to use public transport in growing cities.

Manu Bharadwaj V. (2025) conducted a study to understand how metro fare hikes affect the travel behaviour of Bengaluru Metro users. The study found that higher ticket prices caused many passengers to reduce their metro usage or shift to other transport options such as buses and private vehicles. Middle-income commuters were found to be the most affected by the fare increase. The study suggests that gradual fare revisions, better discounts, and improved services can help maintain passenger satisfaction and metro ridership.

Muniraja N. et al. (2025) conducted a study to understand the social benefits of Bengaluru Metro on people's daily lives. The study found that the metro has improved travel convenience, affordability, connectivity, and overall quality of life for commuters. It also promoted social inclusion and better mobility among people. However, issues such as overcrowding during peak hours and the need for better service efficiency were also identified.

Saldanha, Avil et al. (2025) conducted a study to understand the factors that influence people to use Bengaluru Metro services. The study found that cleanliness, reliability, easy ticketing, and convenient travel are the main reasons for passenger satisfaction. It also highlighted the importance of good accessibility and better last-mile connectivity for increasing metro usage. The researchers suggested that improving infrastructure, safety, and connectivity can encourage more people to choose metro transportation and support sustainable urban mobility.

Shwetha S. M. et al. (2024) conducted a study to understand the environmental impact of Bengaluru Metro on the city. The study found that Metro has helped reduce air pollution, traffic congestion, and travel time while improving urban mobility. It also highlighted the metro's contribution towards promoting sustainable and eco-friendly transportation. However, challenges such as construction dust, noise pollution, and tree cutting were also identified. The researchers suggested that better energy use, connectivity, and environmental measures are important for long-term sustainable development.

Guo, Yuanyuan et al. (2020) conducted a study to understand how commuters choose transport modes for reaching metro stations in Shenzhen, China. The study found that walking was the most preferred option for first- and last-mile travel, while safety concerns and travel convenience strongly influenced people's decisions. It also highlighted that better accessibility and infrastructure can encourage greater metro usage. Overall, the study emphasized the importance of improving connectivity to support sustainable urban transportation.

Hemashree R. (2019) conducted a study to understand the contribution of Metro to the sustainable development of Bengaluru. The study found that the metro has helped reduce traffic congestion, improve travel convenience, and lower pollution levels in the city. It also encouraged more people to use public transport instead of private vehicles. The research highlighted that Metro supports better connectivity, urban growth, and sustainable mobility in Bengaluru.

Sohoni, Aditya V. et al. (2017) conducted a study to understand how metro services influence the travel behaviour of commuters in Mumbai. The study found that factors such as travel time, waiting time, comfort, and cost play an important role in choosing metro transportation. It also showed that many people are willing to shift from private vehicles to metro services because of the convenience and time savings offered. The researchers concluded that improving affordability, accessibility, and service quality can further increase metro usage and support sustainable urban mobility.

Research Gap

Most of the existing studies on metro systems mainly focus on areas such as service quality, passenger satisfaction, traffic reduction, and environmental benefits. However, very few studies have examined how the use of Metro influences people's lifestyle choices and environmentally responsible behaviour. There is limited research on whether regular metro usage encourages sustainable habits and a greener community mindset. Therefore, this study aims to explore the relationship between Metro usage, lifestyle changes, and green community behaviour among Bengaluru residents.

Statement of the Problem

People living in Bengaluru face problems such as traffic congestion, long travel times, and increasing pollution levels in their daily lives. Although Metro provides a convenient and eco-friendly mode of transport, its influence on people's lifestyle choices and environmental behaviour is not clearly understood. Many people still depend on private vehicles despite the availability of metro services. Therefore, this study aims to examine how Metro affects daily lifestyles and whether it encourages greener and more sustainable community behaviour among Bengaluru residents.

Objectives

- To understand the influence of Metro on encouraging environmentally responsible and green community behaviour among commuters.
- To assess the impact of lifestyle related factors such as convenience, comfort, affordability, and time efficiency, on commuter preference for using Metro.

Hypothesis

Hypothesis 1: Pollution Reduction and Intention to Increase Metro Usage

H₀₁: There reflects no meaningful connection between commuters perception that metro reduces pollution and their willingness to increase its usage for reducing environmental impact

H₁₁: There reflects a meaningful connection between commuters perception that metro reduces pollution and their willingness to increase its usage for reducing environmental impact.

Hypothesis 2: Time saving Benefit and Frequency of metro usage

H₀₂: There is no considerable association with respect to commuters perception that metro saves travel time and their frequency of using those services

H₁₂: There is a considerable association with respect to commuters perception that metro saves travel time and their frequency of using those services

Research Methodology

This study follows a descriptive research design to understand how Metro influences the lifestyle choices and green community behaviour of commuters in Bengaluru. The research mainly focuses on metro users and examines aspects such as sustainable travel habits, reduced dependence on private vehicles, environmental awareness, and eco-friendly living practices. Data for the study were collected from 200 Metro users using a structured questionnaire and supported by secondary sources such as BMRC reports, government publications, journals, and research articles. A convenience sampling method was used to select respondents from different age groups, occupations, and educational backgrounds who regularly use metro services. The collected data were analysed using statistical tools such as percentages, correlation analysis to understand the relationship between metro usage, lifestyle changes, and green community behaviour among Bengaluru commuters.

Limitations

- This research is restricted to 200 respondents
- Here the investigation is confined only to people who use metro services within Bengaluru city only (Within 2 to 3 metro stations)

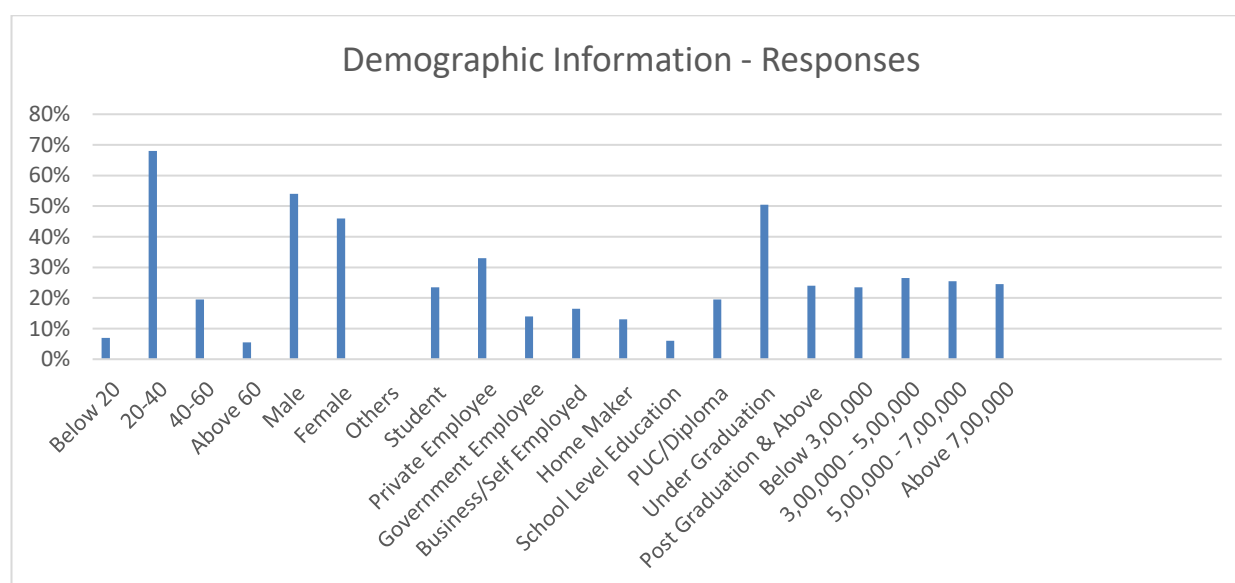
Data Analysis and Interpretation

Table 1: Demographic Information

Q. No	Question	Options	No. Responses	Percentage (%)
1	Age	Below 20	14	7%
		20-40	136	68%
		40-60	39	19.5%
		Above 60	11	5.5%
2	Gender	Male	108	54%
		Female	92	46%
		Others	0	0%
3	Occupation	Student	47	23.5%
		Private Employee	66	33%

		Government Employee	28	14%
		Business/Self employed	33	16.5%
		Home maker	26	13%
4	Qualification	School Level Education	12	6%
		PUC/Diploma	39	19.5%
		Under Graduation	101	50.5%
		Post Graduation & Above	48	24%
5	Family Income	Below 3,00,000	47	23.5%
		3,00,000 – 5,00,000	53	26.5%
		5,00,000 – 7,00,000	51	25.5%
		Above 7,00,000	49	24.5%

Graph 1: Demographic Information Responses



The demographic profile shows that Metro is used by people from different age groups, occupations, educational backgrounds, and income levels, reflecting its wide acceptance among Bengaluru commuters. The majority of respondents belong to the 20–40 years age group (68%), are male (54%), work as private employees (33%), and have an undergraduate qualification (50.5%). Respondents from different income groups are almost equally represented, indicating that the metro is affordable and accessible to people across various economic backgrounds. Overall, the findings suggest that Metro has become a preferred mode of transportation for a diverse group of commuters and plays an important role in supporting convenient and sustainable urban mobility.

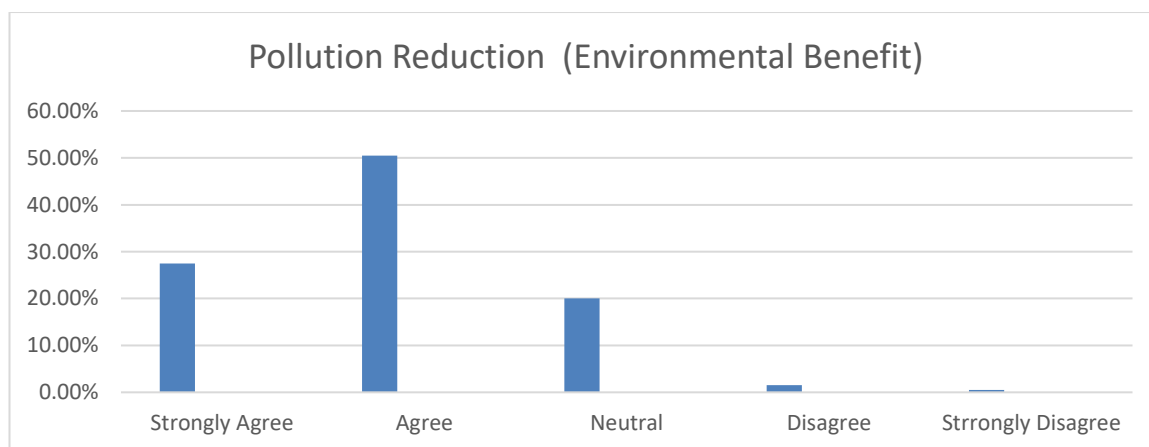
Table 2: Table showing Environmental Benefit (Pollution Reduction) of using metro

Particulars	Respondents	Percentage
Strongly Agree	68	34%
Agree	105	52.5%
Neutral	24	12%
Disagree	3	1.5%
Strongly Disagree	0	0%
Total	200	100%

Analysis

The above table and graph show the respondents' opinions on the environmental benefits of using Metro, particularly in reducing pollution. A majority of the respondents agree (52.5%) and strongly agree (34%) that metro usage helps reduce pollution. 12% of the respondents remained neutral, while only 1.5% disagreed and none strongly disagreed. This indicates that most commuters have a positive perception of the metro's contribution to environmental protection.

Graph 2: Graph showing Environmental Benefit (Pollution Reduction) of using metro



Interpretation

The findings indicate that commuters strongly believe Metro is an environmentally friendly mode of transport that helps reduce pollution. The high percentage of respondents who agreed or strongly agreed reflects growing awareness about the environmental benefits of public transportation. The very low level of disagreement suggests that most people recognize the metro's role in reducing vehicle emissions and promoting sustainable urban mobility. Overall, the results show that Metro is viewed as an effective solution for creating a cleaner and greener city.

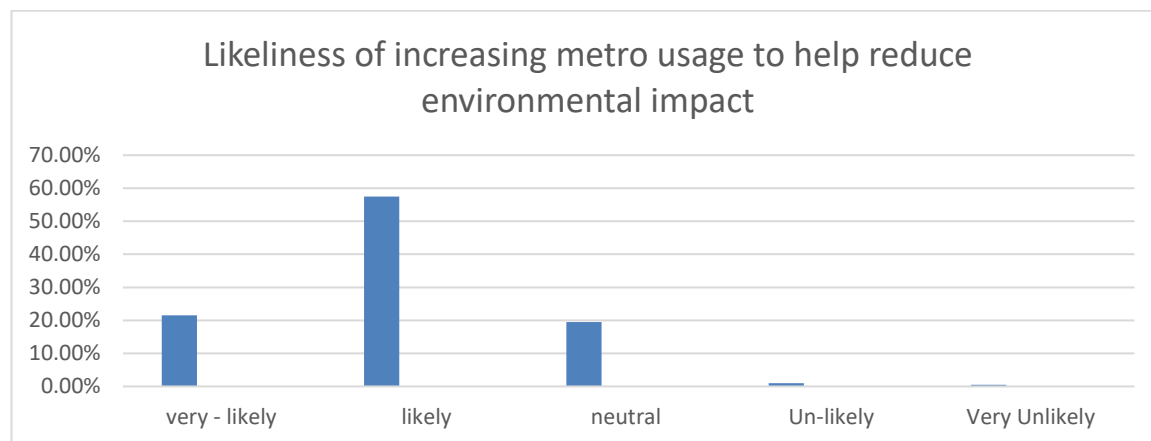
Table 3: Table showing likeliness of increasing metro usage to help reduce environmental impact

Particulars	Respondents	Percentage
Very - likely	43	21.5%
Likely	115	57.5%
Neutral	39	19.5%
Un-likely	2	1%
Very Unlikely	1	0.5%
Total	200	100%

Analysis

The data displayed gives an overview of the respondents likelihood of increasing their metro usage to help reduce environmental impact. Most of the respondents, accounting for 57.5%, signalled their intention to increase their usage. This is followed by 21.5% who are exceptionally likely, 19.5% who are neutral, 1% who are unlikely, and 0.5% who is very unlikely.

Graph 3: Graph showing likeliness of increasing metro usage to help reduce environmental impact



Interpretation

According to the graph it is evident that respondents show a positive attitude towards adopting travel actions that can help lessen environmental impact. The high level of willingness suggests growing awareness about the importance of choosing cleaner transportation alternatives. A very limited ratio of negative reactions likewise reflects a strong commitment among commuters towards promoting a more sustainable and eco-conscious urban environment.

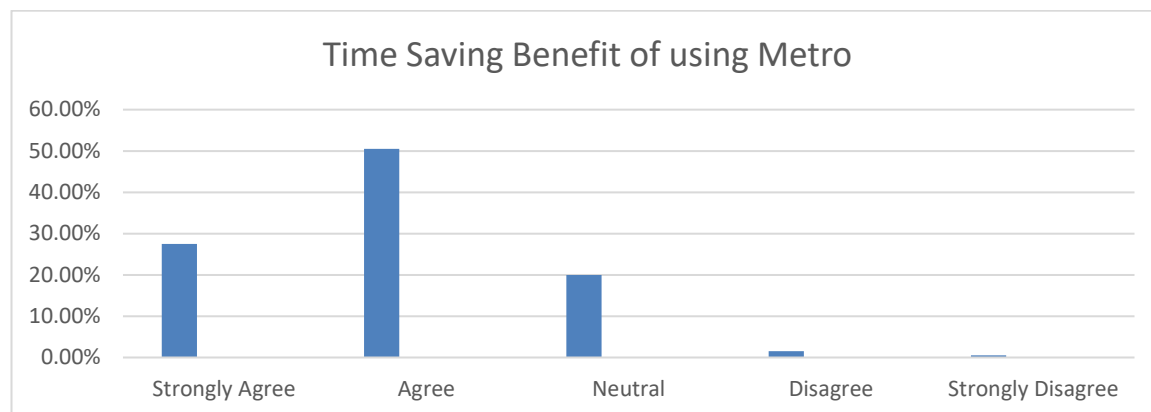
Table 4: Table showing Time Saving Benefit of using Metro

Particulars	Respondents	Percentage
Strongly Agree	55	27.5%
Agree	101	50.5%
Neutral	40	20%
Disagree	3	1.5%
Strongly Disagree	1	0.5%
Total	200	100%

Analysis

The above table and graph present the respondents' opinions on the time-saving benefit of using Metro. A majority of the respondents agree (50.5%) and strongly agree (27.5%) that the metro helps them save travel time. 20% of the respondents expressed a neutral opinion, while only 1.5% disagreed and 0.5% strongly disagreed. These results indicate that most commuters consider Metro an efficient and time-saving mode of transportation.

Graph 4: Graph showing Time Saving Benefit of using Metro



Interpretation

The findings suggest that Metro is widely recognised for helping commuters save travel time and making daily journeys more convenient. The high percentage of respondents who agreed or strongly agreed shows that the metro has become a preferred travel option for many people because of its speed and reliability. The very low level of disagreement further reflects the positive experience of commuters. Overall, the results indicate that the time-saving advantage of Metro plays an important role in encouraging regular metro usage and supporting sustainable urban transportation.

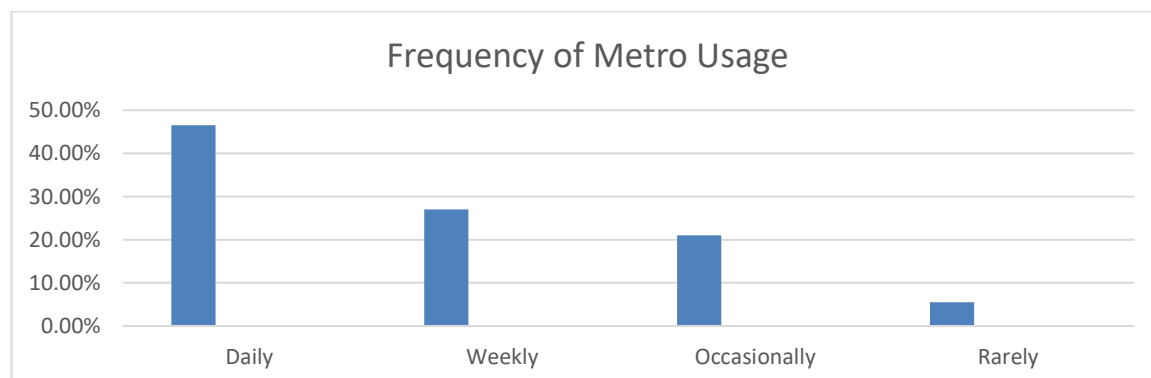
Table 5: Table showing Frequency of Metro Usage

Particulars	Respondents	Percentage
Daily	93	46.5%
Weekly	54	27%
Occasionally	42	21%
Rarely	11	5.5%
Total	200	100%

Analysis

The table provides details regarding the frequency of metro usage among the respondents. The highest proportion of them, accounting for 46.5%, use the metro daily. This is followed by 27% who use it weekly, 21% who use it occasionally, and 5.5% who use it rarely.

Graph 5: Graph showing Frequency of Metro Usage



Interpretation

Based on the presented graph it can be interpreted that most participants use this mode of public transportation as part of their everyday routine. The greater degree of regular usage implies that it is considered as a convenient and dependable travel option for commuting within the city. This reflects the increasing preference for efficient transit facilities and the adoption of more conscious travel choices among urban residents.

Hypothesis Testing

Hypothesis 1: Pollution Reduction and Intention to Increase Metro Usage

Statistical Tool Used: Spearman Rank Correlation

Result

Correlations				
			reduces pollution	how likely are you to increase your metro usage to help reduce enviromnetal impact
Spearman's rho	reduces pollution	Correlation Coefficient	1.000	.243
		Sig. (2-tailed)		.001
		N	200	200
	how likely are you to increase your metro usage to help reduce enviromnetal impact	Correlation Coefficient	.243	1.000
		Sig. (2-tailed)	.001	
		N	200	200

Decision

Since the calculated p-value (0.001) is under the threshold of 5% statistical cut off level (0.05), the initial statistical assumption (H_{01}) is contradicted and the proposed hypotheses (H_{11}) is accepted.

Interpretation:

The Spearman's rank correlation analysis produced a correlation coefficient of 0.243 with a significance value of $p = 0.001$ ($N = 200$), showing advantageous and mathematical meaningful connection concerning environmental degradation reduction and the intention to increase metro usage, the evidence shows that participants who recognise the environmental benefits of metro travel are more inclined to continue or increase their use of the service. Since the significance value is below the accepted threshold of 0.05, the findings confirm that environmental awareness is instrumental in influencing respondents travel intentions.

Overall, the analysis suggests that promoting the pollution-reducing benefits of metro transportation can encourage greater public willingness to choose it as a preferred mode of travel.

Hypothesis 2: Time Saving Benefit and Frequency of Metro Usage

Statistical Tool Used: Spearman Rank Correlation

Result

Correlations

			time saving	How frquently are you using namma metro?
Spearman's rho	time saving	Correlation Coefficient	1.000	.071
		Sig. (2-tailed)	.	.319
		N	200	200
	How frquently are you using namma metro?	Correlation Coefficient	.071	1.000
		Sig. (2-tailed)	.319	.
		N	200	200

Decision

Since the calculated p-value (0.319) is greater than the 5% significance level (0.05), the null hypotheses (H_0) is accepted and the alternative hypotheses (H_{12}) is rejected.

Interpretation

The Spearman's rho correlation analysis produced a correlation coefficient of 0.071 with a p-value of 0.319 ($N = 200$).

The correlation coefficient indicates a minimal proactive correlation relating to the perception that the metro saves time and how frequently respondents use it. However, as the observed p-value exceeds 0.05 significance level, the relationship is not significant at the statistic level. This confirms that although some members of the sample may view that the metro helps save time, this perception alone does not exert a measurable impact on how often they choose to travel by metro.

The obtained outcomes imply that the frequency of metro usage is likely affected by several other factors, such as convenience, accessibility, travel cost, comfort, and individual travel requirements, rather than only the time-saving benefit.

Findings

- Regarding environmental benefits, 52.5% of respondents agreed that using metro helps reduce pollution, making it the most recognized environmental advantage.
- Over 50% of the respondents (52%) believed that it helps reduce traffic congestion, while 51% agreed that it lowers carbon emissions.
- Most of the Respondents (46.50%) use this transport as part of their everyday routine.
- Around 57.5% of the surveyed users stated their inclination to increase their metro usage to help reduce environmental impact.
- Time Saving (46%) also received high "Very Good" ratings, indicating stronger customer satisfaction with these services.

- A dominant percentage of the respondents (52%) expressed their intention to promote Metro to others, showing a high level of user satisfaction and trust.
- A majority of respondents (51.5%) said that they often encourage others to use this mode of transport for environmental reasons, reflecting positive word-of-mouth behaviour.
- The correlation assessment indicated that awareness of pollution reduction has a significant positive influence on respondents intention to increase metro usage.
- The evidence suggests that the time-saving benefit solely does not act as an significant predictor of how frequently respondents use the metro, as other practical factors also affect travel decisions.

Conclusion

The conducted research concludes that Metro supports in shaping lifestyle choices and promoting sustainable urban transportation and encouraging environmentally responsible travel behaviour. The obtained results shows that majority of members of the sample have a positive opinion about the metro service and appreciate its safety, punctuality, convenience, comfort, and contribution to reducing traffic congestion and pollution. The results additionally suggest that sustainability focused awareness positively influences the intention to avail of metro, while key variables including service quality, accessibility, affordability, and overall travel experience have a greater impact on passengers travel decisions than usage frequency alone. Overall, it has become a preferred mode of transport that supports eco-friendly lifestyle choices and further improvements in connectivity, service quality, and environmental initiatives can encourage more people to adopt sustainable commuting practices in the future.

Suggestions

- Encourage sustainable travel habits by collaborating with educational institutions, workplaces, and local communities to promote greater use of public transportation, as such collaborations can strengthen environmentally responsible behaviour and encourage long-term use of the metro.
- Introduce more visible carbon emission displays at metro stations and inside trains to help passengers understand the positive environmental impact created by choosing metro travel, as making environmental benefits more visible can further motivate passengers to adopt sustainable travel practices.
- Improve travel convenience during peak hours by increasing train frequency and reducing waiting time, encouraging occasional users to choose the metro more regularly, as reducing waiting time and improving service frequency can increase regular metro usage.
- Provide attractive incentives such as eco-reward points, discounted passes, and loyalty programmes to motivate passengers to continue using the metro as part of their daily lifestyle, as incentive programmes can strengthen passenger loyalty and encourage continued metro usage.
- Encourage first-time and occasional users through trial passes, referral programmes, and awareness events, as increasing regular metro usage can further strengthen positive consumer opinion and environmentally responsible travel behaviour by motivating hesitant users to become regular commuters.
- Expand metro connectivity and improve route accessibility so that more residential, educational, and commercial areas can benefit from the service, as greater connectivity can meet the growing willingness of passengers to continue using the metro and increase overall accessibility.
- Regularly collect passenger feedback and use it to identify service gaps and make continuous improvements based on commuters' expectations, as regular feedback can help address the concerns of passengers who expressed neutral or less satisfied opinions and improve service quality.

- Strengthen environmental initiatives such as carbon footprint monitoring, tree plantation drives, and waste reduction programmes to encourage sustainable travel, as carbon footprint monitoring was identified as the major area requiring improvement and stronger environmental initiatives can increase public awareness and support green commuting.
- Increase public awareness campaigns to educate people about the environmental, economic, and lifestyle benefits of choosing metro transportation, as awareness of some metro campaigns was only moderate and greater awareness can encourage wider adoption of sustainable travel.

References

- Kumuda, P. R., et. al. (2026) Bengaluru Metro Through the SERVQUAL Lens. International Journal of Economic Practices and Theories, Issue 1, pp. 104-115, ISSN: 2247-7225.
- Sinha, Diksha (2025) Evaluating the Socio-Environmental and Operational Impacts of Metro in Bengaluru. Open Access Cases, Vol. 2, Issue 2, pp. 1-13.
- Forghani, Alan et. al Impact of Social Characteristics and Functional Aspects of Tehran Metro on Travel Choice. Frontiers in Management and Social Insights, Vol. 1, Issue 2, pp. 83-98, ISSN: 3107-5819.
- Bharadwaj, M. V. (2025) Impact of Bengaluru Metro Fare Hike on Passenger Sentiment and Travel Behaviour. IJRAR, Vol. 12, Issue 1, pp. 552-563, ISSN: 2348-1269.
- Muniraja, N., et. al. (2025) Social Benefits Evaluation of Bengaluru Metro Rail Transport System. EPRA International Journal of Economic and Business Review, Vol. 13, Issue 6, pp. 72-77, ISSN: 2347-9671.
- Saldanha, A., et. al. (2025) Consumer Behaviour Towards Metro Rail Services in Bengaluru. Ushus – Journal of Business Management, Vol. 24, Issue 2, pp. 83-100, ISSN: 0975-3311.
- Shwetha, S. M., et. al. (2024) A Study on Environmental Monitoring Plan Practiced by BMRCL. Rabindra Bharati University Journal of Economics, Vol. 28, No. 20, pp. 25-31, ISSN: 0975-802X.
- Guo, Y., Yang, L., et.al. (2020) Traffic Safety Perception, Attitude, and Feeder Mode Choice of Metro Commute: Evidence from Shenzhen. International Journal of Environmental Research and Public Health, Vol. 17, Issue 24, Article 9402, DOI:10.3390/ijerph17249402.
- Hemashree, R. (2019) Role of Metro in Sustainable Development of a City – Case Study Bengaluru. Proceedings of NCASED 2019, Department of Architecture, NIT Tiruchirappalli, pp. 1-8.
- Sohoni, A. V., et. al. (2017) Mode Shift Behaviour of Commuters Due to the Introduction of New Rail Transit Mode. Transportation Research Procedia, Vol. 25, pp. 2603-2618, DOI: 10.1016/j.trpro.2017.05.311.