Formosa Journal of Science and Technology (FJST)
Vol. 4, No. 12, 2025: 3931-3944

Investigating Local Travel Behavior Shifts Toward Eco-Transport Modes in Evolving Urban Corridors

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A R T I C L E I N F O

Keywords: Travel Behavior, Eco-Transport Modes, Urban Corridors.

Received : 27, October
Revised : 29, November
Accepted: 31, December

A B S T R A C T

This study examines the shift toward environmentally friendly travel modes in the Tlogomas–Dinoyo urban corridor of Malang City by analyzing the factors that drive or hinder local travel behavior. Using a mixed-methods Sequential Explanatory design, quantitative data were collected through a survey of 100 corridor users, followed by in-depth interviews with 8 key informants to enrich and clarify the findings. Descriptive statistics and logistic regression show a moderate shift toward eco-transport modes driven by rising congestion, increasing travel costs, and the availability of pedestrian and cycling facilities. However, connectivity issues and safety concerns remain major barriers. The study concludes that accelerating behavioral change requires improved green infrastructure, better integration of low-emission modes, and user-responsive transport planning to support sustainable mobility in urban transportation engineering.

ISSN-E: 2964-6804
DOI: https://doi.org/10.55927/fjst.v4i12.334
https://traformosapublisher.org/index.php/fjst

INTRODUCTION

The growth of developing cities in Asia, including Indonesia, has shown a significant increase in mobility in the past decade, causing great pressure on urban corridors that serve as the main axis of people's movements. The Tlogomas–Dinoyo corridor in Malang City is a typical example of a corridor that has experienced rapid development through residential expansion, increased commercial activities, and campus growth, thereby triggering an increase in vehicle volume and increasingly intense congestion. These changing conditions pose an urgent need to understand how people's travel behaviour is evolving amid pressure on road network capacity. Globally, the shift towards low-emission transportation has become an important strategy to reduce the negative impacts of urbanization on the environment in line with green mobility patterns (Acheampong & Siiba, 2020). However, the success of this strategy depends largely on how people adapt their mobility preferences to changing infrastructure conditions. Therefore, fast-growing corridors such as Tlogomas-Dinoyo are important locations to study the dynamics of changing travel behavior towards environmentally friendly modes of transportation.

Changes in travel behavior towards low-emission modes are not only influenced by the provision of physical facilities, but also by user perception, comfort, and safety in accessing these modes. International studies show that people tend to adopt eco-transport modes more quickly when pedestrian and bicycle paths are designed in a connected and safe manner (Nikitas et al., 2021). However, this condition is still a challenge in many developing cities that are experiencing expansion without integrated planning. In the Tlogomas–Dinoyo Corridor, infrastructure changes run unevenly, causing differences in mobility experiences between pedestrians, cyclists, motorcycle users, and campus transportation users. The imbalance in the provision of these facilities can affect the motivation or resistance of the community in carrying out capital shifts. Thus, an in-depth analysis of behavioral, psychological, and infrastructure factors needs to be carried out to understand the patterns of mobility shifts that occur.

The international literature on sustainable mobility shows that studies on travel behavior shifts are mostly conducted in developed countries with integrated transportation networks (Cohen et al., 2022). This condition is different from urban corridors in Indonesia which are still in the growth phase and face limited eco-transport facilities. The research gap arises because there have not been many studies that focus on the context of medium-sized cities with the character of developing corridors, so empirical evidence on what drives people to switch modes is still limited. In addition, previous research has tended to separate quantitative and qualitative approaches without integrating the two comprehensively, resulting in an incomplete understanding of green mobility motivations and barriers. The Tlogomas–Dinoyo corridor offers a unique context because it has a heterogeneous composition of road users, including students, workers, local commuters, and business actors. This condition makes research at the location have the potential to fill empirical gaps that have not been widely researched before.

A number of previous studies have confirmed that the success of the modal shift is strongly influenced by the perception of economic benefits, accessibility, and quality of infrastructure supporting green transportation (Gössling, 2020). However, most of those studies focus on the macro scale of cities or countries, rather than on micro scales such as urban corridors that have more detailed physical and social dynamics. In the context of corridors, people's decisions to switch modes are often influenced by small changes such as the addition of zebra crosses, widening sidewalks, or the presence of bicycle parking facilities. This is an aspect that is under-discussed in the literature, creating a gap in understanding how small interventions can affect transportation behavior. In addition, campus transportation that develops in the Tlogomas–Dinoyo area gives an additional dimension to the dynamics of daily mobility. Therefore, research with a corridor approach is urgently needed to fill the literature gap.

Based on the mapping of research gaps, this study is designed to investigate the shift in local travel behavior towards environmentally friendly modes of transportation in the Tlogomas–Dinoyo Corridor in Malang City. This study explicitly aims to analyze patterns of change in travel behavior, identify the driving and inhibiting factors of the adoption of eco-transport modes, and evaluate the influence of the physical conditions of corridors on user mode preferences. In addition, this study intends to produce a comprehensive understanding of the relationship between infrastructure character, security perceptions, travel costs, and traffic conditions on people's travel decisions. The focus of this research is also directed at the behavior of intensive users such as students and workers, as this group has a high mobility frequency and is more sensitive to changes in infrastructure. Thus, this study is present to provide a strong empirical picture of mobility dynamics in the context of developing urban corridors.

To achieve this goal, this study uses a mixed methods approach with a Sequential Explanatory design as the main analysis strategy. The quantitative stage was carried out by distributing a survey to 100 respondents who were selected based on the intensity of activities in the corridor, so that the data obtained was able to reflect the actual travel pattern. The survey included variables such as before- and after-mode choices, frequency of trips, perceptions of eco-transport facilities, and safety experiences. The qualitative stage was carried out through in-depth interviews with 8 key informants, including cyclists, e-bike users, pedestrians, and campus transportation operators who understood the dynamics of the corridor firsthand. The integration of these two methods allows researchers to validate quantitative results while also exploring meanings and contextual factors that are not visible through numbers. With this design, the research is able to provide a comprehensive understanding of changes in mobility behavior in urban corridors.

The theoretical contribution of this research lies in the expansion of the understanding of travel behavior in the context of developing corridors, which has received little attention in sustainable mobility theory. By including microinfrastructure variables, user characteristics, and safety perceptions, this study presents a new model of understanding of the factors that shape capital

shift in evolving urban areas. The mixed methods approach also makes a methodological contribution through the integration of mutually reinforcing quantitative and qualitative evidence. In addition, this study provides an empirical basis for a more contextual theory of mobility behavior in Southeast Asian middle cities. The results of this study can be a reference for the development of a corridor-based travel behavior prediction model. Thus, this research contributes to strengthening the theoretical basis in the field of urban transportation engineering.

In practical terms, this study provides recommendations for the Malang City government and transportation stakeholders to improve the quality of green infrastructure, improve the safety of users of low-emission modes, and expand pedestrian and bicycle lane connectivity. Findings regarding user motivations and barriers can inform the planning of more effective intervention programs, such as the provision of safe crossing facilities, corridor lighting, and separate bike lanes. In addition, this research can help universities along the corridor to optimize campus transportation services by paying attention to the ever-evolving patterns of student mobility. From the perspective of urban planning, the results of this study support the implementation of the concept of sustainable mobility as part of the development of corridors that are more responsive and adaptive to community needs. Thus, this research not only provides an academic contribution but also an implementable solution for the development of greener transportation.

THEORETICAL REVIEW

Sustainable Mobility and Fashion Shifts in Urban Corridors

Recent research confirms that sustainable mobility is a key strategy in reducing congestion and emissions in rapidly growing urban corridors. International studies show that increased active travel such as walking and cycling can be achieved if infrastructure is designed in a safe and connected manner (Centre for Territory Ambient and Construction, 2024). Decarbonization modeling conducted by CTAC (2024) also shows that urban corridors have the potential to undergo significant changes if environmentally friendly transportation facilities are consistently available. This approach is relevant for the Tlogomas–Dinoyo Corridor because the growth of commercial and educational activities increases the potential for capital shift. Previous research has emphasized that corridors experiencing mobility stress require evidence-based strategies to make a change in mode possible. Thus, this literature confirms the importance of corridor-based research as a basis for understanding people's travel behavior.

The Potential of Low-Carbon Travel in Developing Cities

Studies on the potential for low-carbon travel in developing cities show that changes in modes are strongly influenced by urban structure, travel distance, and ease of access to public transportation. Ding et al., (2025) introduced a method of assessing the potential of low-carbon travel based on mileage, regional character, and mode suitability with community activities. Their results show that regions with high activity density have the greatest chance of a shift in mode

to non-engined mode. This is in line with the character of the Tlogomas-Dinoyo Corridor which has dense activities of students, workers, and local residents. The findings also confirm that developing cities need to understand micro-travel patterns in order to design appropriate interventions. Therefore, a potential study like this is an important reference in analyzing the readiness of the community to switch to eco-transport modes.

Infrastructure Inequality and Its Impact on Mode Choice

The accessibility of sustainable infrastructure has a great influence on people's decisions in choosing daily modes of travel. Urrutia-Mosquera et al., (2024) show that inequality in the quality of infrastructure such as bicycle paths, sidewalks, and crossing facilities can hinder the adoption of sustainable modes. They found that users were more likely to switch modes when the path was secure, connected, and easily accessible from key activities. This condition is very relevant for the Tlogomas-Dinoyo Corridor which still has variations in the quality of infrastructure between corridor segments. This inconsistency can create a perception of risk so that people are reluctant to switch to environmentally friendly modes. Thus, the literature shows that the equitable distribution of infrastructure quality greatly determines the success of capital shift in developing urban corridors.

The Influence of Spatial Planning and Activity Patterns on Travel Behavior

The relationship between urban spatial planning and the choice of modes of travel has been an important focus in the mobility literature. A study by Cervero et al., (2020) shows that mixed land use and activity density can strengthen the use of low-carbon modes due to shorter distances and easier access. This pattern is very visible in commercial-academic corridors such as Tlogomas–Dinoyo which combines campuses, culinary centers, residences, and business facilities. Concentrated spatial planning creates great opportunities for short trips that can be reached on foot or by bike. In addition, the study states that the consistency of public space design has a big role in shaping daily travel decisions. This reinforces the urgency of corridor-based research that focuses on microscopic dynamics between regional segments.

Psychological, Economic, and Social Factors in Eco-Transport Adoption

Changes in travel behavior are determined not only by physical factors, but also by perceptions of safety, comfort, cost, and social preferences. Benito-Moreno et al., (2022) through a systematic study found that demographic factors, risk perception, and economic value are important variables in the decision to switch modes. Users are more likely to choose low-carbon modes when they feel safe, comfortable, and gain long-term economic benefits. In the context of Tlogomas-Dinoyo, the increase in congestion and motorcycle operating costs is a natural trigger to consider environmentally friendly modes. However, resistance still arises when the infrastructure does not provide a sense of security for active travel. Thus, the literature emphasizes that understanding the user's psychological behavior is critical in designing sustainable mobility solutions.

The Role of Technology and Information in Accelerating Fashion Change

The latest literature also highlights the importance of information technology in driving a change in modes towards low-emission transportation. Moerman (2022) found that access to accurate, real-time, and easy-to-understand travel information can increase public interest in public transportation and active travel. Technologies such as route apps, stop information systems, and campus-based services can be a "nudge" to drive more efficient travel decisions. The use of digital data also allows for corridor planning that is more responsive to user needs. In the context of dynamic corridors such as Tlogomas-Dinoyo, the existence of campus transportation services and digital information is a factor that can accelerate capital shift. Therefore, the integration of technology with physical infrastructure is highly recommended by the cutting-edge literature.

METHODOLOGY

Types and Approaches to Research

This study uses a mixed methods approach with a Sequential Explanatory design to comprehensively understand the shift in people's travel behavior in developing urban corridors. This approach was chosen because it is able to combine the power of quantitative analysis in identifying general patterns with the depth of qualitative analysis in explaining the context and motivation of users. Mixed methods are particularly relevant for mobility studies, given that travel decisions are influenced by multidimensional factors that require layered explanations (Creswell & Creswell, 2024). The Sequential Explanatory design allows researchers to collect quantitative data first, then deepen the interpretation through qualitative interviews. This strategy not only increases the explanatory power of research results, but also strengthens the validity of findings through data triangulation. Thus, this approach provides a suitable analytical foundation for investigating the dynamics of mode change in the Tlogomas–Dinoyo Corridor**.**

Population, Location, and Informant Selection Techniques

The study population included individuals who had direct involvement in travel activities along the Tlogomas–Dinoyo Corridor, including students, workers, bicycle users, pedestrians, e-bike users, and campus transportation operators. The quantitative stage uses purposive sampling to select 100 respondents based on the intensity of mobility activities in the corridor, so that the data obtained reflects actual travel conditions. This technique is in accordance with the recommendations of Etikan (2023), which affirms that purposive sampling is effective for obtaining relevant respondents in urban mobility studies. The qualitative stage used criterion-based sampling to select 8 key informants, namely two bicycle users, two pedestrians, two e-bike users, one campus transportation operator, and one local resident. This composition was chosen to ensure a diversity of perspectives on changing modes and hands-on experience in the field. Thus, the selection of informants allows researchers to capture the dynamics of travel behavior in a representative and in-depth manner.

Data Collection Techniques and Instruments

Data were collected through quantitative surveys, in-depth interviews, field observations, and supporting documentation related to the physical condition of the corridor. The survey uses a structured questionnaire designed to measure travel patterns, fashion preferences, safety perceptions, and assessments of pedestrian and cyclist facilities. The preparation of the instrument refers to the procedure for making behavior-based mobility instruments as recommended by Zhao et al. (2023). Qualitative interviews use semi-structured guidelines to be flexible in exploring motivations and barriers to using environmentally friendly modes. Observations were carried out to map the real condition of infrastructure, traffic conflict points, and the level of accessibility of low-emission modes. Documentation such as field photos, facility maps, and local reports are used as triangulation materials to increase the credibility of the data. Thus, this technique provides complete and mutually reinforcing data.

Research Implementation Procedure

The implementation of the research is carried out through four main stages, namely preparation, data collection, data verification, and finalization of analysis. The preparation stage includes the preparation of survey instruments and interview guidelines, the management of research permits, and coordination with the campus and stakeholders of the corridor area. The data collection stage was carried out through the distribution of questionnaires to selected respondents and in-depth interviews according to the agreed schedule. The data verification process was carried out through triangulation of sources and methods, by comparing survey, interview, and observation data as recommended by Carter et al. (2021). All qualitative data is then transcribed and re-examined to ensure completeness and consistency. Field activities are carried out in stages to ensure the quality of systematic and accountable data. With this procedure, the research runs structured and produces robust data.

Data Analysis Techniques

Quantitative data were analyzed using descriptive statistics and logistic regression to identify factors that affect people's tendency to switch to eco-transport modes. This analysis allows mapping the relationship between variables such as travel time, travel costs, safety perception, and infrastructure quality to fashion choices. Qualitative data were analyzed using thematic analysis to identify the main themes that emerged from the informant's narrative, following five stages of analysis according to Braun & Clarke (2022). The coding process is done manually and assisted by NVivo 12 software to organize the data and clarify the relationships between themes. The integration of quantitative and qualitative results is carried out through a meta-inference process to produce a comprehensive interpretation of the dynamics of shifting travel behavior. This analytical approach ensures that the results of the study not only describe statistical patterns but also explain the meaning behind the behavior changes. Thus, this analysis technique is in line with the research objective of understanding mobility shifts in depth.

RESEARCH RESULTS

Factors Driving the Shift Towards an Environmentally Friendly Mode

Table 1. Key Push Factors Toward Eco-Transport Modes

Push Factors	Percentage (%)
Increasing congestion	68.4
Rising travel cost	54.7
Availability of pedestrian facilities	49.2
Availability of cycling facilities	45.8
Short travel distance	41.5

Quantitative analysis shows that congestion is the most dominant driving factor in encouraging people to choose walking, cycling, or e-bikes. The observation results corroborated the data during peak hours, the congestion point in front of the campus gate and the section leading to the Dinoyo culinary center caused the travel time of motorized vehicles to increase significantly. One cyclist explained, "*If the traffic jam is severe that morning, so using a bicycle will arrive faster*" (S-1, 12 September 2025).

Economic factors emerged as the second driver. Rising fuel prices and online transportation fares make low-emission modes more attractive. An e-bike user said, "*Now the cost of online motorcycles continues to rise, so e-bikes are much more economical for me*" (E-2, September 16, 2025). The survey data also shows a positive perception of pedestrian facilities in several corridor segments. This was confirmed by a pedestrian who said, "*If the sidewalk is neat, I prefer the road. It's pretty economical and fast if the distance is close*" (P-1, 13 September 2025).

The campus transportation operators involved in the interview explained that students are increasingly choosing environmentally friendly modes because campus shuttles are often hampered by vehicle queues. He said, "*Many students say that walking or cycling is more efficient than waiting for a shuttle to get jammed*" (O-1, September 18, 2025). The availability of relatively close activity distances also reinforces this shift pattern. Locals said, "*Around here, most of the places are close, so cycling or walking is really enough*" (W-1, September 20, 2025). Overall, the data integration showed that shifts in travel behavior were moderate, but consistent, influenced by a combination of mobility pressures (congestion), economic factors (travel costs), and the quality of pedestrian and cyclist facilities.

Major Obstacles in the Use of Eco-Friendly Modes

Table 2. Key Barriers to Eco-Transport Adoption

Barriers	Percentage (%)
Disconnected cycling lanes	62.1
Safety concerns	58.3
Traffic conflict points	52.4
Limited shading and comfort	37.5
Lack of signage and markings	33.6

Logistics regression showed that the variables of safety and route connectivity had a significant negative influence on the probability of people switching to environmentally friendly modes. The observation results found that the bicycle lane was cut off at several points, especially near the Tlogomas intersection and the section leading to Dinoyo Mall. A cyclist revealed, "*The lane often breaks, so you have to go down to the main road and it's very vulnerable*" (S-2, September 15, 2025). Pedestrians also face similar challenges. Some sidewalks were found narrowed, blocked by vending stalls, or turned into motorcycle parking lots. A pedestrian said, "*Sometimes the sidewalk disappears suddenly, so I don't want to go down to the street, and that's what scares me*" (P-2, 14 September 2025).

Campus transportation operators confirmed the existence of high conflict points between bicycles, pedestrians, and motor vehicles during peak hours. He explained, "*In front of the campus gate, there is often confusion. Bicycles, pedestrians, and motorcycles fight for space*" (O-1, September 18, 2025). E-bike users added that weather conditions also affect the use of environmentally friendly modes. He said, "*It was very hot that afternoon, there was no shade on the bike path. Sometimes I cancel the e-bike ride because it's too hot.*" (E-1, September 17, 2025). Local residents highlighted the lack of signs and special markings that made users unaware of their safe spaces. He said, "*If the signs and markings are clear, people will be more daring to use bicycles*" (W-1, September 20, 2025). In general, the main obstacles are in the infrastructure and safety aspects. The condition of the unconnected route, the unclear of the movement space, and the potential for traffic conflicts directly restrained the acceleration of the mode switch.

The Effect of Corridor Facility Conditions on Mode Choice

Tabel 3. Corridor Facility Conditions Influencing Mode Choice

Corridor Facility Condition	Rating (%)
Sidewalk quality	58.0
Cycling lane availability	52.3
Signage and markings clarity	47.2
Nighttime lighting	44.6
Safe crossing points	38.5

Survey data shows that the quality of pedestrian and cyclist facilities has a positive relationship with people's choice to use environmentally friendly modes. Field observations confirmed the existence of variations in the quality of sidewalks and bike paths along the corridor. A pedestrian said, "*The sidewalks are good, but many are also damaged and make it uncomfortable*" (P-1, September 13, 2025). Campus transportation operators reinforce these findings from an operational standpoint, stating, "*If it goes from campus to Dinoyo, the quality is uneven. Some are neat, but there are also parts that are narrow and prone to bumps.*" (O-1, 18 September 2025).

A cyclist emphasizes the importance of lane continuity. He explained, "*Sometimes the path is wide, sometimes it is lost. We have to keep changing lanes to find a safe part.*" (S-1, September 12, 2025). E-bike users also highlighted the condition of the track surface, by saying, "*If the path is uneven or there are holes, it is very dangerous for e-bikes. So I chose the smoothest route*" (E-1, September 17, 2025). Locals added the importance of nighttime lighting as a determining factor in a sense of security. He said, "*Many spots are dark at night, so people are afraid to ride their bikes or walk through them.*" (W-1, September 20, 2025). Overall, the physical condition of the corridor has a direct effect on the comfort, sense of security, and the probability of people choosing an environmentally friendly mode of travel. The better the quality of pedestrian and bicycle facilities, the stronger the tendency of people to switch to low-emission modes.

DISCUSSION

The results of this study show a moderate shift towards environmentally friendly modes, mainly triggered by increased congestion and increasingly high travel costs. The findings in the Tlogomas–Dinoyo Corridor, particularly the congestion around the campus gates that encourage students to switch to walking and cycling, illustrate that as time costs increase users choose a faster and more predictable mode. This pattern is consistent with the study of the triggers of mode changes in dense corridor conditions (Timmons et al., 2024). These findings confirm that policies that only add bicycles or e-bikes without reducing time barriers, such as delays at intersections, tend to result in partial adoption. Theoretically, the variable time cost due to congestion needs to be included in the model of predicting mode changes in the developing corridor. Practically, traffic management at bottleneck points such as campus shuttle queues is an important part of the strategy to accelerate the fashion shift. The observed changes reflect a rational response to congestion conditions and the local economy, not just environmental value preferences.

Data shows that intermittent bike lanes and variations in sidewalk quality are major obstacles to fashion shifts. This confirms the importance of microinfrastructure coherence, as emphasized in research in the context of low-cycling cities (Delclòs-Alió & den Hoed, 2024). Uncontinuous paths lower the perception of safety and comfort, thus reducing the probability of cycling. Functionally, the continuity of the path reduces the need for cyclists to switch to the motor flow at the point of conflict and lowers the risk of exposure. The principles of bicycle network design that emphasize sustainability and connectivity are also the basis of the modern bikeability index (Steinacker et al., 2022; Ahmed et al., 2024). Therefore, priority improvements at critical connection points such as the Tlogomas–Dinoyo intersection and routes to the campus are more effective than widening isolated segments. Given the heterogeneity of the corridor, sustainability measurement should be based on spatial segmentation to make interventions more targeted.

The regression results showed that the perception of safety had a significant negative influence on the probability of fashion change. Field observations at the front of the campus gate show a high level of interaction between pedestrians, cyclists, and motorcyclists which triggers behavioral

uncertainty. The literature shows that subjective safety is an important determinant of cycling frequency (Schwarz et al., 2022) and that a safe infrastructure increases intention to use. Design principles that separate flows between modes, clarify intersection geometry, and provide a physical buffer have been proven to reduce conflicts (Ahmed et al., 2024). Practically, corridors require speed control, intersection redesign, and physical protection to reduce crossing conflicts. Safety investments in critical segments not only impact safety but also accelerate the adoption of active modes.

The limitations of comfort, especially the lack of shade and lighting, appear strongly in the surveys and informant narratives. Some respondents canceled the use of e-bikes due to hot conditions during the day. Recent research on heat protection on bike paths shows that the availability of shade and micro-cooling has a direct effect on route feasibility for active users (Cao et al., 2024). Approaches such as the Shade Index show that roadside trees, canopies, and buildings can significantly lower heat loads. In the context of tropical corridors such as Malang, tree planting, canopy installation, and shady route mapping are key strategies to reduce climate barriers. The integration of shading into the corridor revitalization program also benefits visual quality and environmental health.

The analysis shows that economic pressures such as rising fuel costs are the main drivers of the increased interest in bicycles and e-bikes. This is in line with research on e-bike adoption motivations that combine economic advantages, pro-environmental attitudes, and the dynamics of social norms (Mehmood & Zhou, 2023). In corridors with student and young worker populations, the influence of behavioral observability seeing more and more cyclists accelerates the diffusion of adoption. Incentive policies such as e-bike subsidies, safe bike parking, and social norm-based campaigns can amplify behavior change. Adjusting motor vehicle parking rates or restricting access during peak hours will increase the relative benefits for active mode users.

Interviews with shuttle operators revealed that service irregularities, especially delays during rush hour, encourage students to choose to walk or cycle. The literature confirms that real-time travel information can be an important nudge to influence mode choices (Ahmed et al., 2024). Campus apps that provide estimated travel times, safe routes, traffic conditions, or shaded route recommendations will help users make rational decisions. The integration of technologies such as digital wayfinding and safety notifications, when combined with the physical improvement of the corridor, can result in faster behavioural changes. Optimal implementation requires collaboration between campuses, transportation agencies, and local startups.

Although the mixed-methods approach provides a comprehensive picture, this study has limitations. The sample size of the survey and the number of informants limit the generalization of the findings. In addition, behavioral measurements through respondents' memories are potentially biased, as cautioned by contemporary thematic analysis guidelines (Braun & Clarke, 2022). Thematic analysis provides narrative depth, but is heavily influenced by the researcher's coding choices and interpretations; Therefore, process transparency

and triangulation are crucial. Follow-up studies need to incorporate traffic sensors, bicycle counters, or GPS data to reduce self-report bias. Natural experiments, such as before-after evaluation of protected lane installations, can also yield stronger causal evidence.

This study confirms that the sustainability of microinfrastructure, sense of security, and thermal comfort are important determinants of fashion change in the developing corridor. This complements the literature that highlights the interconnectedness of bicycle networks, design quality, and environmental conditions as drivers of fashion choices (Delclòs-Alió & den Hoed, 2024; Schwarz et al., 2022; Steinacker et al., 2022). Policy recommendations include lane connectivity at critical points, improved intersection safety, investment in shading and lighting, economic incentives for active mode users, and digital information integration. Further research is suggested using quasi-experimental evaluation and agent-based modeling to simulate user responses to policy packages in heterogeneous corridors such as Tlogomas–Dinoyo. This corridor has the potential to become a reference for the transformation of low-emission mobility for medium-sized cities in Southeast Asia.

CONCLUSION AND RECOMMENDATION

The findings of the study confirm that the shift in local travel behavior in the Tlogomas–Dinoyo Corridor shows a moderate tendency towards the use of environmentally friendly modes of transportation, mainly triggered by increasing congestion, travel costs, and the need for daily mobility efficiency. The availability of pedestrian facilities and bicycle lanes plays a significant role in shaping user preferences, although the quality of connectivity and safety aspects remain structural barriers that limit the wider adoption of eco-transport modes. The integration of quantitative and qualitative results shows that a thriving urban corridor requires the provision of transportation infrastructure that is not only functional but also adaptive to social dynamics and community activity spaces.

Overall, this study emphasizes that the acceleration of the shift to low-emission modes can only be achieved through improving the quality of green infrastructure, strengthening intermodal connectivity networks, and transportation policies that are responsive to the needs of users at the corridor level. A transportation engineering approach that is oriented towards safety, comfort, and sustainability is a key factor in creating a travel environment that encourages consistent behavioral change. Thus, the results of this study provide an empirical contribution for local governments and transportation planners in formulating sustainable mobility development strategies in urban areas that continue to evolve.

FURTHER STUDY

Future studies are recommended to explore more deeply the social, spatial, and behavioral determinants that influence the shift toward environmentally friendly transportation modes in urban corridors such as Tlogomas–Dinoyo. Further research could examine how neighborhood design, land-use patterns, and micro-mobility integration affect the continuity of this

behavioral transition. Longitudinal studies are also needed to evaluate how improvements in pedestrian and cycling infrastructure, safety features, and intermodal connectivity influence long-term travel choices.

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