

## CHALLENGES FACED BY TRISIKAD DRIVERS AFTER THE INSTALLATION OF TRAFFIC LIGHTS: A CASE STUDY

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**ABSTRACT:** The installation of traffic lights in Ozamiz City, while aimed at modernizing urban traffic, introduced significant socio-economic challenges for local trisikad drivers. This study was anchored on the Urban Political Economy Theory and Structuration Theory, examining how large-scale structural decisions interact with the routines of informal transport workers. Using a qualitative case study design, the researchers conducted in-depth, face-to-face interviews with trisikad drivers and traffic enforcers operating in newly regulated areas. Data were analyzed using Thematic Analysis, revealing six core themes: Critical Restriction of Mobility and Income, Deterioration of Operational Safety and Road Quality, Exclusion by Non-Consultation, Lack of Formal Political Status, Demand for Exclusive and Safe Infrastructure, and Need for Policy Reinstatement and Livelihood Support. The findings showed that while traffic modernization aims for efficiency, it significantly restructures the local environment, reducing earnings and increasing occupational stress for vulnerable sectors. It is recommended that local government units reinstate registration policies, provide exclusive infrastructure, and implement livelihood support programs to integrate informal workers into the urban transport framework.

**Keywords:** informal transport, livelihood, structuration theory, traffic lights, trisikad drivers, urban political economy

### I. Introduction

Non-motorized transport remains a vital part of the transportation system in many urban and rural areas in the Philippines (Nogueira & Diaz, 2023). Among these, trisikads pedal-powered sidecar bikes play a key role in providing short-distance and low-cost travel options (Dalde et al., 2025). They are especially important in barangays and small towns where larger vehicles are either impractical or unavailable (Era et al., 2023). This mode of transport supports daily mobility for students, vendors, workers, and residents in low-income communities (Ganzon, 2022).

Despite their usefulness, trisikads face strict regulations under local traffic laws (Tus et al., 2023). One of the major restrictions is their prohibition from operating along national roads and intersections controlled by traffic lights (Elipe et al., 2023). These rules aim to prevent congestion and reduce traffic risks but often overlook the operational limitations of informal transport workers (Moreno, 2023). As a result, trisikad drivers are confined to inner roads, limiting their access to more populated and profitable routes (Jaiswal et al., 2024). Urban centers like Ozamiz City are beginning to modernize their infrastructure to accommodate growing traffic volume (Francisco, 2024). One major development is the installation of traffic lights across key intersections (Admin, 2024). While this benefits motorists, it indirectly impacts informal transport providers like trisikad drivers (Katigbak & Dopeño, 2024). Infrastructure changes can shift traffic flow and accessibility in ways that exclude or disadvantage those who rely on traditional modes of transport (Andreasen et al., 2022).

With the introduction of traffic lights, several key intersections are now off-limits to trisikads. This creates new barriers in the daily routes they previously used for picking up and dropping off passengers. These limitations force them to take detours, reduce the number of trips, or even avoid high-traffic areas altogether. As a result, their mobility and service areas are significantly reduced. This forces many drivers into less efficient and longer routes, directly impacting their physical exertion and the wear-and-tear on their vehicles, beyond just the time spent. Furthermore, the diminished accessibility to central areas often leads to fewer spontaneous passenger pickups, a crucial component of their irregular income.

Because they can no longer access high-traffic areas, trisikad drivers often report a decline in passenger numbers (Chalermpong et al., 2025). This directly affects their daily income, which is typically just enough to cover food, rent, and family needs (Behrens et al., 2021). The competition also increases among drivers in the limited areas where they are still allowed to operate (Encarnacion et al., 2023). In effect, infrastructure meant to improve city traffic ends up creating economic hardship for those in informal sectors (Moreno & Sulasula, 2024). Despite their significant role in local transport, trisikad drivers are rarely consulted in traffic planning decisions (Sunio et al., 2023). Many were unaware of the traffic light installations until the rules were enforced (Goetsch & Lobaton, 2023). This lack of inclusion results in policies that may unintentionally harm their livelihood (De Ocampo & Tanpoco, 2024). Ensuring that all stakeholders, including informal workers, are involved in urban planning could lead to more balanced and inclusive solutions (Torabi Moghadam et al., 2024).

## II. Materials and Methods

The study utilized a qualitative case study research design to examine the impact of traffic light implementation on trisikad drivers. This design allowed for an in-depth investigation of real-life issues within the specific setting of Ozamiz City, focusing on intersections where traffic lights were activated in early 2025. Participants included trisikad drivers and traffic enforcers selected through purposive sampling. The selection criteria required participants to have at least five years of experience in their respective roles and a willingness to participate. Data were gathered using a semi-structured interview guide conducted face-to-face to allow participants to share detailed experiences regarding routes, income, and policy suggestions. Ethical considerations were strictly observed. Informed consent was obtained from all participants, ensuring they understood the study's purpose and their right to withdraw. Confidentiality and anonymity were maintained by removing personal identifiers from transcripts, in compliance with Republic Act No. 10173 (Data Privacy Act of 2012). Data analysis followed Robert K. Yin's approach, utilizing pattern matching and thematic analysis to identify recurring themes related to mobility, exclusion, and safety.

## III. Results and Discussions

This study explored the challenges faced by trisikad drivers after the installation of traffic lights in Ozamiz City, Philippines. The study was participated in by trisikad drivers and traffic enforcers, chosen through purposive sampling. Thematic Analysis was used to analyze the collected data. From the insights and experiences shared by the participants, six predominant themes emerged: (1) Critical Restriction of Mobility and Income; (2) Deterioration of Operational Safety and Road Quality; (3) Exclusion by Non-Consultation; (4) Lack of Formal Political Status; (5) Demand for Exclusive and Safe Infrastructure; and (6) Need for Policy Reinstatement and Livelihood Support.

### 3.1 Critical Restriction of Mobility and Income

The implementation of traffic lights has severely limited the routes that trisikad drivers can take, forcing them to avoid major roads and highways, which has reduced their access to passengers and income opportunities (Nwaedozi et al., 2023). As a result of these restrictions, many trisikad drivers experience decreased earnings due to longer, indirect routes and fewer available passengers in the areas where they are allowed to operate (Dumedah et al., 2025). Many trisikad drivers shared how the recent traffic restrictions have significantly limited their ability to move freely around the city, which has directly affected their work and income. One driver described how the ban on passing through areas with traffic lights reduced the places they could go, resulting in fewer passengers and a noticeable drop in earnings.

#### Response from the Trisikad Drivers:

*"It's really different now; it's not like before. The change is significant. It's now difficult for us to travel, and we have fewer places to go because we are not allowed to pass through areas with traffic lights. It's really affected our work. I am getting fewer passengers because we are banned from passing through areas with traffic lights, and my income has truly decreased." (Trisikad Driver 3)*

#### Response from the Traffic Enforcers:

*"Based on what I've heard from some trisikad drivers, their income has definitely decreased. They can no longer pass through areas with traffic lights or on major highways and now have to use more distant routes." (Traffic Enforcer 5)*

Related studies consistently highlight how mobility restrictions, especially those imposed by traffic regulations or urban planning policies, adversely affect the income and livelihoods of informal transport operators and daily wage earners (Kwaghgba & Tyozenda, 2024). Research shows that limiting access to main roads or key transit points forces these workers to take longer routes, reducing the number of customers or passengers they can serve within a given time frame (Xiao et al., 2024). This decrease in service capacity directly correlates with lower earnings and increased financial instability. Furthermore, studies emphasize that such restrictions not only impact immediate income but also aggravate socioeconomic vulnerabilities by increasing operational costs and forcing workers to take on debt. These findings emphasize the critical link

between mobility freedom and economic well-being, reinforcing the importance of inclusive transport policies that consider the needs of marginalized transport providers.

### 3.2 Deterioration of Operational Safety and Road Quality

The poor condition of roads, including potholes and uneven surfaces, significantly compromises the safety and efficiency of trisikad operations (Fruelda et al., 2025). These deteriorating road conditions increase the risk of accidents and vehicle damage, further affecting drivers' ability to provide reliable service (Manurung et al., 2022). The trisikad drivers commonly reported that the current routes they use, especially in the inner city, are in poor condition, characterized by bumpy roads and numerous potholes that cause damage to their vehicle tires. Many expressed the need for urgent road repairs to ensure smoother and safer journeys, emphasizing that continuous exposure to these rough road conditions leads to frequent tire damage and increased difficulty in travel.

#### Response from the Trisikad Drivers:

*"They should repair the parts of the inner city roads that have potholes. They should patch them up so that we don't have difficulty passing, our journeys are smooth, and our tires don't get damaged from constantly passing over the potholes." (Trisikad Driver 7)*

#### Response from the Traffic Enforcers:

*"While trisikad drivers highlighted concerns about operational safety and road quality deterioration, supporting participants, such as traffic enforcers, did not explicitly comment on this issue during the interviews."*

Studies on informal transport workers often highlight how poor road conditions and infrastructure limitations directly affect their operational safety and livelihood (Nani et al., 2025). Potholes, uneven pavements, and congested side streets not only increase the risk of accidents but also lead to faster wear and tear of their vehicles, forcing drivers to spend more on maintenance despite already limited income (Amani et al., 2024). Informal transport is usually displaced to secondary roads, which are often neglected in terms of repair and development, making them more vulnerable to road hazards compared to formal transport modes. At the same time, safety concerns are heightened because these operators typically use slower, lighter vehicles that are more exposed to collisions and instability on poorly maintained roads.

### 3.3 Exclusion by Non-Consultation

Exclusion by Non-Consultation reflects how informal transport workers were left out of policy discussions and decisions that directly impacted their livelihood and mobility (Poudyal Ghimire, 2022). Their lack of organizational representation and legal recognition reinforced their invisibility in governance, leaving them unprepared for sudden restrictions and infrastructural changes (Sepehr, 2025). The trisikad drivers consistently revealed that they were not informed or consulted about the installation of traffic lights, which directly affected their routes. One driver recounted how he only discovered the restriction when construction had already begun, while another described his surprise at seeing the traffic lights suddenly installed without prior notice.

#### Response from the Trisikad Drivers:

*"No, we were not informed. They just suddenly started the construction. I only found out about it when I was surprised to see the traffic lights being built and was told we could no longer pass through those areas." (Trisikad Driver 3)*

*"No, we were never consulted that they would be installing traffic lights; it just happened suddenly. We were surprised when the traffic lights suddenly appeared." (Trisikad Driver 4)*

#### Response from the Traffic Enforcers:

*"No, they were not included. Usually, it's the motorcab drivers who are called because they have groups or organizations. The presidents of these organizations are the ones invited to meetings. No, they are not included. Usually, it's only the motorcab drivers who are involved because they have organizations with their own presidents. They attend meetings so they can be informed about new laws." (Traffic Enforcer 1)*

Related studies on exclusion in transport governance highlight how marginalized sectors are often sidelined in planning and policy processes, particularly when they lack formal recognition or organizational representation (Chan, 2025). Research has shown that informal workers and communities dependent on local transport systems are frequently excluded from consultations, leaving their needs unaddressed and their voices unheard in decision-making (Sil et al., 2023). This exclusion not only reduces their capacity to adapt to policy changes but also reinforces social and economic inequalities, as formal groups benefit from participation while informal ones remain invisible. Other studies emphasize that participatory governance in transport planning leads to more inclusive and effective outcomes, suggesting that the absence of consultation creates gaps between policy objectives and the lived realities of those most directly affected.

### 3.4 Lack of Formal Political Status

The lack of formal political status leaves informal transport workers without representation in decision-making processes, making their voices unheard in policies that directly affect their livelihood (Bandauko et al., 2025). Their exclusion from organizations and registration systems further reinforces their marginalization,

limiting access to rights, recognition, and support from governing institutions (Djatkiko et al., 2025). The trisikad drivers commonly expressed that the absence of registration leaves them vulnerable to being treated as illegal or “colorum” operators. One driver shared that reinstating registration would help protect their livelihood and ease the burden of high fees given their minimal earnings. Another driver emphasized that renewing their registration, which has lapsed since 2020, would grant them legitimacy and lessen fears of being completely removed by local authorities.

**Response from the Trisikad Drivers:**

*“I think we could be helped if our registration for trisikads was reinstated. If we have a registration, we won't be called 'colorum' (unregistered/illegal). They should also lower the registration fee because our earnings are minimal.” (Trisikad Driver 1)*

*“My suggestion for government assistance is that they should reinstate our registration, which hasn't been renewed since 2020. If we are registered again, we won't be considered 'colorum' (illegal), and they hopefully won't eliminate the trisikad.” (Trisikad Driver 6)*

**Response from the Traffic Enforcers:**

*“No, they were not included. Usually, it's the motorcab drivers who are called because they have groups or organizations. The presidents of these organizations are the ones invited to meetings.” (Traffic Enforcer 1)*

Studies on informal transport systems highlight how the absence of legal recognition and organizational structures often results in workers being politically invisible and excluded from governance processes (Toro López & Van den Broeck, 2023). Research in different contexts shows that informal operators, while playing a vital role in providing affordable and accessible mobility, frequently lack representation in policymaking spaces dominated by formal transport groups (Tuesaksri, 2025). This lack of political status not only limits their access to government support and protection but also exposes them to vulnerability, as they are often subject to restrictive regulations or even the threat of removal. Such findings emphasize that without formal recognition and inclusion in decision-making, informal transport workers remain marginalized despite their significant contributions to urban mobility and local economies.

### 3.5 Demand for Exclusive and Safe Infrastructure

Informal transport workers emphasize the need for exclusive and safe infrastructure, such as designated routes and boundaries, to protect them from larger vehicles and reduce the risks they face on congested roads (Aderibigbe et al., 2024). Providing such infrastructure would not only enhance their safety but also promote order and efficiency within the overall transport system (Verma et al., 2024). The responses from the trisikad drivers consistently reflected a strong need for exclusive and safe infrastructure. One driver emphasized the importance of having a dedicated route, similar to a bicycle lane, to ensure safety while traveling.

**Response from the Trisikad Drivers:**

*“If it were up to me right now, we should be given a proper route that is exclusively for us. My suggestion is that we be given our own dedicated route. Perhaps they could provide us with a specific side lane on the road, similar to a bicycle lane, but exclusively for trisikads, so that we can be safer.” (Trisikad Driver 2)*

**Response from the Traffic Enforcers:**

*“Perhaps they should be given their own designated route for them to pass through. My suggestion is that they should be given their own route or a proper path and a specific boundary on where they are allowed to go.” (Traffic Enforcer 5)*

Related studies on the demand for exclusive and safe infrastructure emphasize the importance of providing dedicated pathways and clearly defined zones for slower or non-motorized vehicles to enhance both safety and efficiency in urban traffic systems (Zulu, 2023). Research has shown that mixed traffic conditions, where slower vehicles share roads with faster-moving ones, significantly increase the risk of accidents and contribute to congestion (Ssenyonga, 2023). Studies on urban transport planning highlight that exclusive lanes or routes reduce conflict points, improve travel time reliability, and encourage compliance with traffic regulations (Droj et al., 2022). Furthermore, the presence of designated infrastructure has been linked to higher user satisfaction and a perception of safety, as drivers are able to navigate without constant interference from larger vehicles or high-speed traffic. These findings suggest that implementing specific lanes or restricted zones is a practical approach to protecting vulnerable road users while maintaining orderly traffic flow.

### 3.6 Need for Policy Reinstatement and Livelihood Support

The call for policy reinstatement and livelihood support highlights the drivers' need for formal recognition through registration and protection from being labeled as “illegal,” ensuring their work remains secure (Jones, 2024). At the same time, they seek government assistance or alternative income opportunities to sustain their families during restricted routes and reduced earnings (Nagesh et al., 2023). The responses of the trisikad drivers show a shared view on the importance of reinstating registration and receiving livelihood support. One driver emphasized that being registered would prevent them from being labeled as illegal operators, adding that the fees should be reduced since their income is already very limited.

**Response from the Trisikad Drivers:**

*"I think we could be helped if our registration for trisikads was reinstated. If we have a registration, we won't be called 'colorum' (unregistered/illegal). They should also lower the registration fee because our earnings are minimal." "If possible, they should give us financial assistance (ayuda), such as rice or anything that could help with basic needs like food." (Trisikad Driver 1)*

**Response from the Traffic Enforcers:**

*"The help I would suggest is that if trisikads are completely banned, the city should provide them with new income opportunities so they can still work and continue to make a living." (Traffic Enforcer 6)*

Related studies on the Need for Policy Reinstatement and Livelihood Support often emphasize how marginalized transport workers face challenges when their operations are unrecognized or inadequately regulated by local governments (Rosaldo, 2022; Olma, 2022). Research has shown that lack of formal registration or unclear policy frameworks can result in labeling such workers as "illegal," exposing them to vulnerability and insecurity in their livelihood (Ndlangamandla, 2023; Syam, 2025). At the same time, studies highlight the importance of government support programs, such as subsidies, financial assistance, or provision of alternative income opportunities, especially when restrictions on informal transport are imposed. These findings demonstrate that policies must balance regulation with social protection, ensuring that livelihood opportunities are not completely lost but instead redirected or reinforced through inclusive interventions. Such insights reinforce the view that sustainable urban mobility planning should integrate both operational safety and the welfare of low-income workers who depend on these informal transport systems for survival.

#### IV. Conclusions

The study concludes that while the installation of traffic lights in Ozamiz City improved traffic organization, it resulted in critical restrictions on the mobility and income of trisikad drivers. The drivers face deteriorating operational safety due to poor road conditions in alternative routes and suffer from systemic exclusion due to a lack of consultation and formal political status. Sustainable traffic management cannot be achieved without addressing the socio-economic needs of these informal workers. Integrating them into the city's mobility framework through inclusive policies is essential for equitable urban development.

#### V. Recommendations

In line with the findings that traffic modernization disproportionately impacts informal transport workers, the following six recommendations are put forward for the local government of Ozamiz City and similar urban centers seeking equitable traffic management:

- 1. Policy Reinstatement and Legal Recognition:** Local government units should immediately reinstate or establish clear registration systems for informal transport workers (trisikad drivers) to ensure they are formally recognized and are no longer labeled as illegal or "colorum." Furthermore, lower and more affordable registration fees should be considered to align with their limited daily earnings.
- 2. Livelihood Support Programs:** Social safety nets, such as financial assistance, food subsidies, or livelihood training, should be introduced to support workers whose incomes have been demonstrably reduced by new traffic restrictions. Alternative employment opportunities must also be explored if stricter, total prohibitions on certain routes are enforced.
- 3. Infrastructure Allocation:** Authorities should dedicate resources to designate exclusive lanes or routes in inner streets to specifically accommodate trisikads and other non-motorized vehicles. This measure is necessary to minimize conflict with larger vehicles and enhance safety while maintaining their vital role in local mobility.
- 4. Consultative Governance:** Policymakers must adopt a practice of consultative governance by actively including representatives of informal transport groups in meetings, planning, and decision-making processes. This inclusion ensures that their lived experiences and perspectives are considered in all future traffic regulations and infrastructure projects.
- 5. Road and Safety Improvements:** Regular repair and maintenance of inner roads and tertiary streets commonly used by informal transport workers should be prioritized. Addressing the current unsafe and poor-quality road conditions will mitigate vehicle damage and further secure passenger and driver safety.
- 6. Balanced Transport Policy:** A holistic approach should be developed for urban planning where efficiency in traffic flow is carefully balanced with the goal of social equity. This ensures that modernization efforts in traffic management do not structurally exclude or financially disadvantage vulnerable economic groups.

**Declarations**

The researchers acknowledge the use of ChatGPT (<https://chat.openai.com/>) to assist in identifying and arranging relevant topics for the rationale and suggesting theories. Gemini (<https://gemini.google.com>) was utilized to draft and improve the abstract, refine the grammar of transcribed data, and generate themes for the Statement of the Problem based on participant responses. The research title was not generated by AI.

Lastly, we recognized the utilization of a URL shortener tool (<https://tinyurl.com>) in the process of preparing the paper. The tool assisted us in generating compact and handy links for ease of sharing and referencing internet resources. Utilizing the URL shortener enhanced the tidiness and clarity of the paper without altering the substance or availability of the original sources.

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