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Causes of traffic congestion in Addis Ababa: The case of Torhayloch – Mexico Street Corridor

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Abstract

Understanding the root causes of road traffic congestion is essential for developing effective mitigation strategies. This study investigates the factors contributing to congestion along the Torhayloch-Mexico Street Corridor in Addis Ababa City Administration. The analysis draws on personal observations, mapping, and document analysis to explore how traffic congestion is generated within the corridor. The findings indicate that the usage patterns of the street corridor, the nature of surrounding land use, and the placement of parking facilities are primary contributors to congestion. Key factors include the prevalence of on-street parking, the lack of off-street parking facilities, the concentration of commercial and business activities along the corridor, and the characteristics of the surrounding road network. On-street parking, often considered beneficial, is found to reduce the corridor's capacity by occupying one lane. Given the high traffic generated by commercial land use, these factors collectively exacerbate congestion. The study concludes that Addis Ababa's Traffic Policy, Management Agency, and Transport Policy must collaborate to manage the city's traffic more effectively. Rather than expanding road capacity alone, they should prioritize strategies that optimize existing corridor usage. This study highlights the need for further research to address congestion across Addis Ababa's broader road network.

Keywords: *Land use, Street hierarchy, Traffic congestion, Off-street station, Road Capacity*

1. INTRODUCTION

Growing transport demand and increasing road traffic have led to mounting congestion, delays, accidents, and environmental issues in many large cities, particularly since the early 1990s. Factors contributing to these issues include increased automobile access due to rising middle-class purchasing power, accessible credit, an abundant supply of used cars, rapid population growth, and a lack of structured urban transport policies (Bull & Thomson, 2002).

In many regions, motor vehicle ownership rates are climbing faster than population growth, with annual increases of 15-20% (Olagunju, 2015). Ethiopia, despite being one of Africa's fastest-growing economies, had only six vehicles per 1,000 people in 2016, the lowest motorization rate worldwide. Nonetheless, Addis Ababa, Ethiopia's capital, allocated 26% of its capital investment budget to improving its transportation infrastructure.

Traffic congestion arises from various factors. Tilak and Reddy (2016) categorize congestion causes as micro-level—such as high road-user numbers and excessive vehicles within limited road space—and macro-level, including land use patterns, automobile ownership trends, and the economic locations of activity centers. Other factors include automobile dominance, driver behavior, and road design (Bull and Thomson, 2002). Poor road design and maintenance, such as unmarked lanes, sudden lane changes, and random bus stops on narrow streets, can also contribute to congestion. On a larger scale, many developing cities suffer from traffic congestion due to imbalanced housing and employment distributions (Niedzielski et al., 2015; Zhang et al., 2017).

Despite improvements in transportation demand and supply, traffic management remains inefficient in many developing countries (Olagunju, 2015). For example, Bangkok, with 54 vehicles per 1,000 people, experiences more congestion than American cities, where the average is 750 vehicles per 1,000 people (Gakenheimer, 1999). Similarly, while Ethiopia's motorization rate remains low (Gorham, 2014), Addis Ababa faces recurring congestion, highlighting deficiencies in traffic management over gaps between transportation supply and demand.

Taking the Torhayloch-Mexico Street Corridor as a case study, this research investigates why traffic congestion occurs despite the corridor operating below capacity based on volume-to-capacity ratios. Although some research has explored Addis Ababa's traffic issues, such as Yared's 2010 study on the impact of traffic congestion, findings have often relied on subjective perceptions rather than measured data. Yared's study also lacks key metrics, such as traffic volume-to-road capacity ratios. Wondwossen (2011) used travel-time data to reveal the city's congestion toll, finding 18,000 vehicle minutes or 38 vehicle days lost daily at major intersections, with an annual cost of 5-8 million Birr per intersection in vehicle and fuel expenses. Yet, few studies have focused on identifying congestion's root causes. Dursa and Tune's 2020 study employed deep learning for congestion detection but did not explore underlying causes.

This study of the Torhayloch-Mexico Street Corridor delves into spatial and thematic factors contributing to traffic congestion. Its focus on root causes is vital to developing effective strategies to reduce congestion. Identifying core issues, such as poor urban planning and inadequate parking, can enable policymakers and urban planners to implement targeted solutions to improve traffic flow. Consequently, this research serves as a valuable resource for understanding congestion's complexities and formulating effective interventions.

2. LITERATURE REVIEW

2.1. Land Use and Traffic Congestion

Many studies have highlighted the link between urban land use and road traffic congestion (Colonna et al., 2012; Kuzmyak, 2012; Mukherjee et al., 2014; Zhang et al., 2017), particularly emphasizing that poor urban planning directly contributes to congestion in cities (Shabbar et al., 2014). New urban planning theories promoting sustainability have emerged, advocating for mixed land uses and diverse urban activities to reduce congestion (Kusumastuti & Nicholson, 2017). This approach suggests that when a range of uses are situated within close proximity, the need for travel decreases, ultimately reducing vehicle miles traveled and easing congestion (Spears & Boarnet, 2014; Cervero, 2016; Geyer & Quin, 2018).

From a land-use perspective, Olagunju (2015) discussed that rapid urbanization without adequate planning often results in spatial separation between workplaces, residential areas, and recreational zones, leading to crisscrossing movements that exacerbate traffic issues. The placement of high-traffic facilities, such as religious centers, banks, shopping malls, and petrol stations near road junctions, further intensifies congestion. In contrast, cities that have successfully managed traffic, such as Curitiba, Zurich, and Singapore, integrate transportation planning with land use to minimize congestion. Conversely, cities like Manila and Bangkok struggle with inappropriate road network structures, further complicating congestion management.

2.2. Parking System

Economic development in commercial areas often correlates with the provision of on-street parking facilities (Meyer & McShane, 1983). However, on-street parking significantly impacts traffic congestion, closely linked to urban land use. First, it reduces road capacity by constricting traffic flow, as parked vehicles limit available roadway width, causing traffic to slow and reducing total flow speed and capacity (Biswas et al., 2017; Chiguma, 2007; Rudjanakanoknad, 2010; Chen et al., 2017). Furthermore, the safety of road users can be compromised due to narrower lanes and reduced visibility (Box, 2004; Cao, 2017). Additionally, frequent parking and unparking maneuvers create challenging traffic conditions, increasing congestion on busy urban streets (Biswas et al., 2017).

Studies have shown that parked vehicles generate "side friction," reducing traffic speed along urban streets (Edquist et al., 2012; Chiguma & Bang, 2007; Kladeftiras & Antoniou, 2013; Reddy et al., 2008, cited in Biswas et al., 2017). The challenges of on-street parking are especially prevalent in developing countries, where inadequate parking policies further exacerbate congestion (Chiguma, 2007). Issues like obstructed road views and limited visibility for approaching pedestrians are commonly associated with on-street parking. However, some studies suggest that a row of parked cars can buffer pedestrians from moving traffic, enhancing pedestrian safety (Dumbaugh & Gattis, 2005; El-Din, 2015).

Yousif (1999) argued that increased vehicle ownership and the growth of shopping centers in central business districts (CBDs) have heightened parking demands, often resulting in on-street parking due to limited designated parking spaces. Consequently, street space intended for vehicle movement is reduced, lowering both speed and effective capacity. On-street parking, therefore, is a key contributor to congestion and traffic flow obstruction, impacting the practical capacity of urban streets and resulting in delays (Boro et al., 2015). Here's a refined version of the study area description, emphasizing conciseness and clarity.

3.3. MATERIALS AND METHODS

3.1. Description of the Study Area

Addis Ababa, Ethiopia, is geographically situated at approximately 9.03°N latitude and 38.74°E longitude. The city originated spontaneously around the Finfine hot springs and has grown to become Ethiopia's capital and the seat of the Oromia Regional Government. As the headquarters of the United Nations Economic Commission for Africa and the African Union, Addis Ababa hosts numerous international organizations, giving it a unique status within Ethiopia's ethnically structured federal system.

The city is a central hub for Ethiopia's road networks, accessible through five main entry points. Administratively, Addis Ababa operates on three government levels: citywide, Sub City at the intermediate level, and Wereda at the local level. It comprises 10 subcities, each divided into a minimum of 10 weredas, totaling 116 weredas (Hussen, 2016).

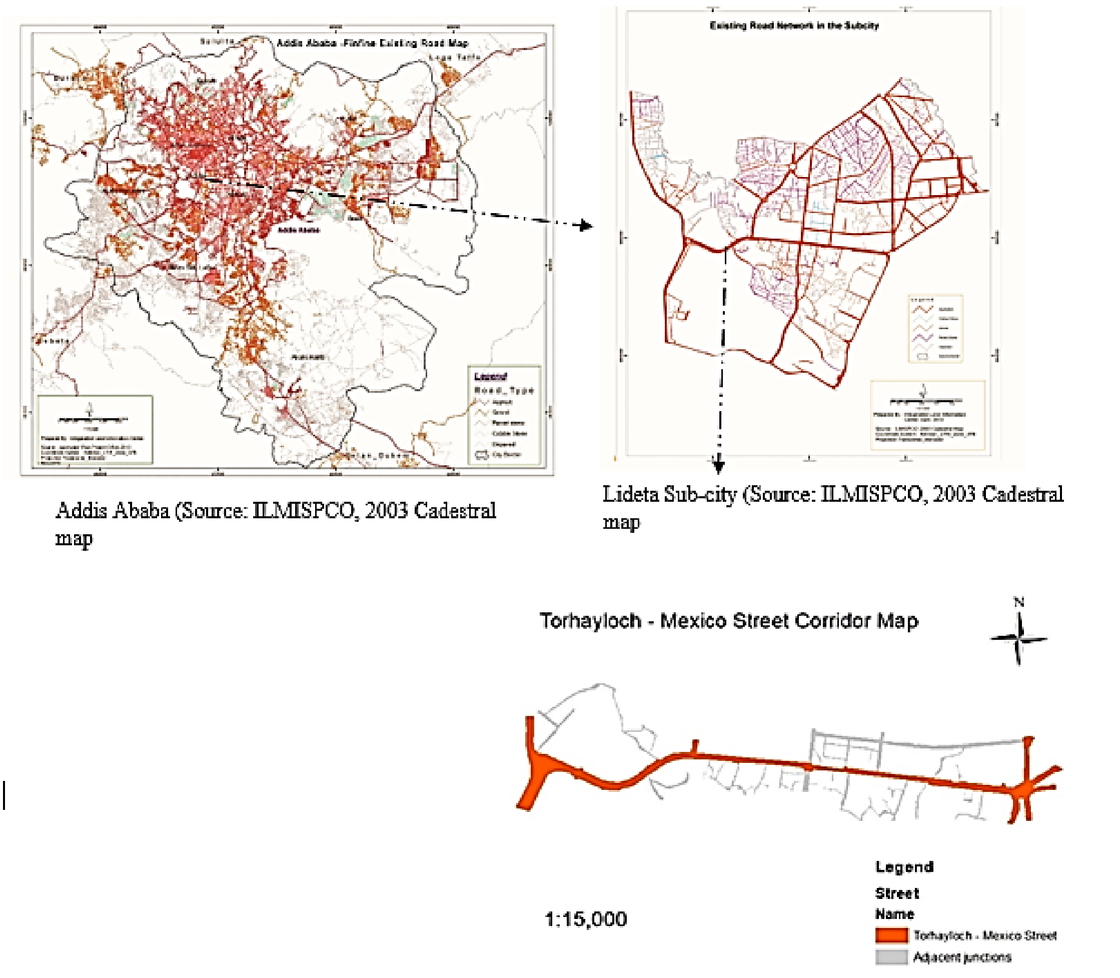

Figure 1. Location map of Torhayloch – Mexico Street Corridor
Source: ILMISPCO 2003 and Survey, 2023

Addis Ababa accounts for around 80% of Ethiopia's vehicles, with an annual growth rate of 5% (Samson et al., 2006). As of June 2019, Ethiopia had approximately 1,071,345 registered vehicles, 56% of which were in Addis Ababa (Ethiopian Federal Road Transport Authority, 2019; Kebede et al., 2022). This high vehicle concentration leads to persistent traffic congestion across the city, with congestion intensity, measured in vehicle or person minutes, reported to be substantial (Wondwossen, 2011).

The Torhayloch-Mexico Street corridor, connecting Kolfe Keraniyo, Lideta, and Kirkos sub-cities, spans 2.5 km and is among the most congested areas in Addis Ababa. Despite being upgraded to a six-lane system alongside the introduction of light rail transit (LRT), regular observations identified it as a high-traffic zone, making it a prime location for this study.

3.2. Research Design, Data Collection, and Analysis Methods

This research utilized primary data collection through personal observation of congestion factors along the corridor—street parking, on-street stations, land use, street patterns, and roundabouts. Maps were prepared using the 2011 Nortec map (AutoCAD) of Addis Ababa, georeferenced within the city's 2004 GIS data, and updated with October 2020 Google Earth imagery to capture recent developments.

GIS technology facilitated the integration, updating, and digitization of spatial data, allowing for a detailed analysis of congestion-causing factors. Existing land use maps and thematic maps were analyzed both textually and quantitatively to assess their impacts on traffic flow. Results are presented through maps, tables, and photographs, illustrating findings on congestion along the Torhayloch-Mexico corridor.

4. RESULTS

4.1. Observed Congestion Causing Factors along Torhayloch – Mexico Street Corridor

4.1.1. On Street Parking

Based on observations made along the corridor, on-street parking locations were mapped and presented for the two midblocks (see figure 2). From the three midblocks along the two directional movements of the street corridor, on-street parking is located only on two of them, i.e., Coca-Lideta and Lideta-Mexico midblocks, also in the reverse directions.

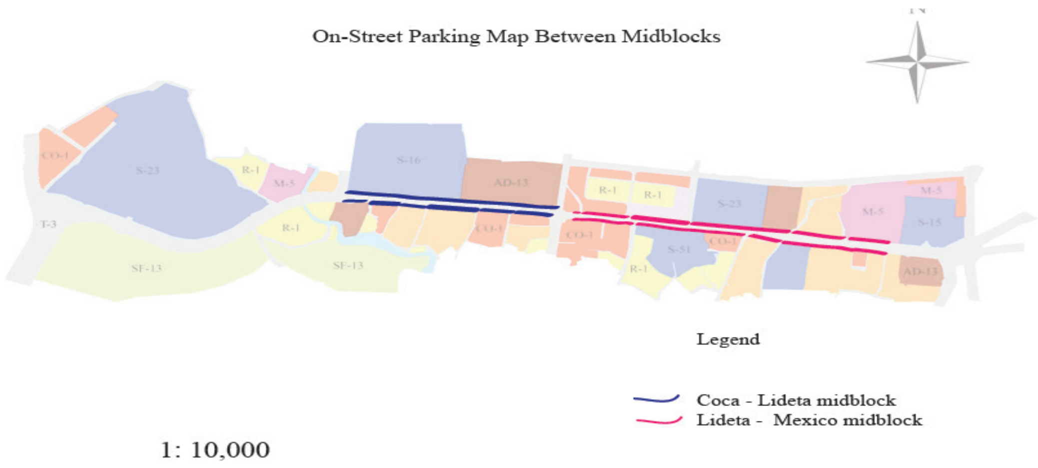

Figure 2. On-Street Parking Locations within Midblock
Source: Survey, 2023

The map reveals that the Torhayloch-Coca midblock is the only section of the corridor without on-street parking. This is mainly due to the presence of sensitive, government-owned institutions, such as the Torhayloch Military Camp and Torhayloch Hospital, which restrict parking along this segment. Conversely, on the remaining two midblocks, one lane in each direction is designated for on-street parking, largely supporting the commercial and business activities in these areas. These lanes are demarcated by white lines, separating parked vehicles from the two traffic lanes per direction (see Figure 3). On-street parking significantly impacts traffic flow by reducing the street corridor's capacity, as an entire lane is allocated for parked vehicles. Despite this reduction in traffic flow efficiency, Figure 3 illustrates that transportation agencies prioritize on-street parking, primarily focusing on its benefits rather than its limitations.

Figure 3. Dedicated Lane to On-Street Parking (Source: Survey, 2023)

The challenge is exacerbated by the fact that the reserved lane remains occupied by on-street parking even during peak hours. Overall, on-street parking occupies a substantial 1.6 km—on both sides of the street—from Coca Junction to Mexico Square, out of the corridor's total 2.5 km length. This extensive use of on-street parking significantly reduces available road space, compounding congestion issues along this heavily trafficked corridor.

4.1.2. Absence of Off-Street Stations

The absence of dedicated off-street stations for taxis and buses along the Torhayloch-Mexico Street corridor significantly contributes to traffic congestion. With one lane already designated for on-street parking, the stopping of taxis and buses in the remaining lanes forces vehicles to halt in the second lane, disrupting the traffic flow. To assess the impact of this factor, researchers mapped specific locations where taxis and buses stop to load and unload passengers, as shown in Figure 4. The results indicate a high concentration of these stops between the Coca-Cola LRT station and Mexico Square, contributing to congestion in both traffic directions.

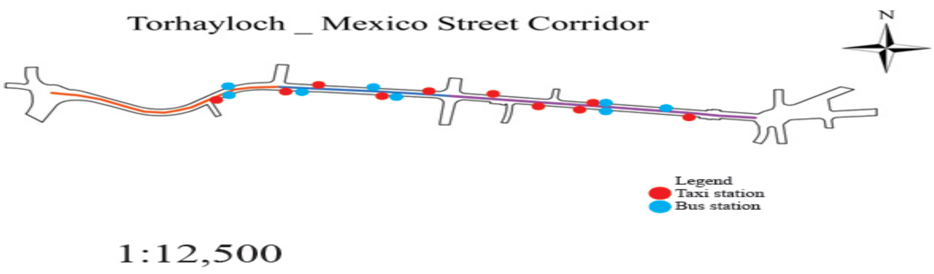

Figure 4. Taxi / Bus Stations in Two Directional Movements (Source: By the authors, 2023).

The researchers' observations and mapping of taxi and bus stops along the Torhayloch-Mexico Street corridor (refer to Figure 5) reveal significant congestion generated at these stations. Although the corridor is designed with three lanes in each direction, taxis and buses frequently stop in random locations without designated waiting areas, exacerbating congestion. This unstructured stopping behavior disrupts the traffic flow, leading to further delays and congestion. The random placement of these street stations, combined with a lack of regulated stopping zones, creates bottlenecks, particularly during peak hours, which impacts both traffic movement and overall corridor capacity.

Figure 5. Bus getting passengers on / off at on street station (Source: Survey, 2023)

Figure 6. Congestion induced at Taxi / Bus stops (Source: Survey, 2023)

In Figure 6, Lane 1 is fully occupied by on-street parking, limiting traffic to only two lanes (Lane 2 and Lane 3) for vehicular movement. When a bus or taxi stops in Lane 2 to allow passengers to board or alight, only one lane (Lane 3) remains open, forcing trailing vehicles (highlighted by the red rectangle) to merge into Lane 3. This situation, marked in red circles where the bus stops, severely impacts the traffic flow, as vehicles from Lane 2 must continuously adjust to the available lane, creating significant congestion.

During peak hours, this issue is amplified across multiple stops along the Torhayloch-Mexico corridor. Observations show that high volumes of taxis and buses stop frequently at major stations, such as the Lideta LRT and Balcha Hospital stops, in both traffic directions. Specifically, peak hour counts reveal 65 taxis and 23 buses stopping near the Lideta LRT station and 78 taxis with 19 buses near Balcha Hospital in the Torhayloch-Mexico direction. In the reverse Mexico-Torhayloch direction, 73 taxis and 22 buses stop at Balcha Hospital, with 76 taxis and 25 buses near Lideta Higher Court.

These frequent stops contribute to recurring traffic flow disruptions, as vehicles are forced to maneuver around buses and taxis at multiple points along the corridor. This dynamic was further analyzed by comparing the collected data with peak hour traffic figures from prior studies, providing a quantitative perspective on the severity of congestion caused by on-street stations.

4.1.3. Nature of Land Use along Torhayloch – Mexico Street Corridor

To analyze the effects of land use along the street corridor, a land use map was prepared, extending 50 meters in depth from both sides of the corridor. This mapping allows for a comprehensive assessment of how various land use types—such as residential, commercial, and institutional—interact with traffic flow and contribute to congestion. By examining the spatial distribution of different land uses within this defined area, researchers can identify patterns and correlations between land use characteristics and traffic congestion levels.

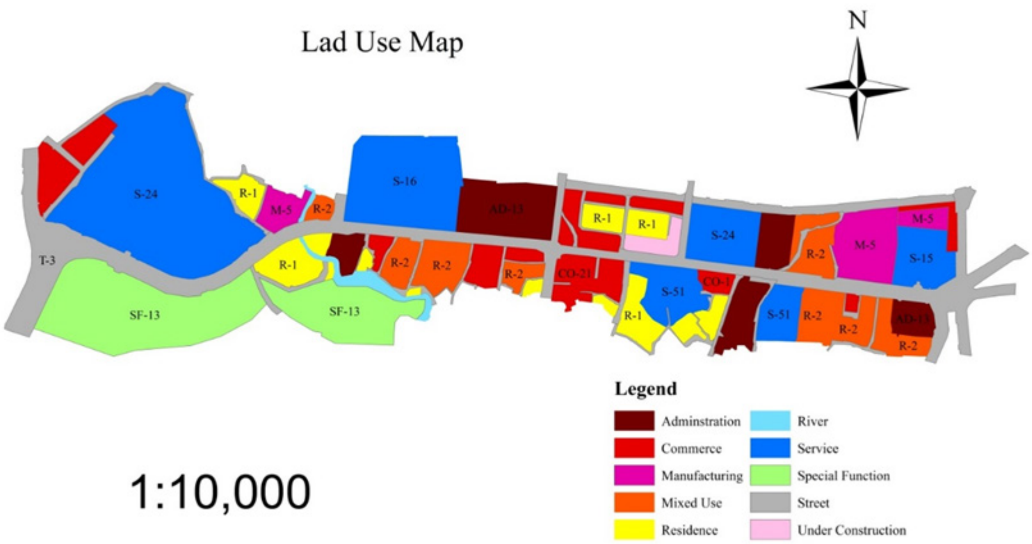

Figure 7. Land Use Map (Source: Survey, 2023)

Visually, the land use map reveals a predominance of service-oriented land uses, mixed-use areas, and commercial activities, with notable differences in distribution along the corridor's directional movements. For instance, the Torhayloch-Mexico directional movement exhibits a higher concentration of commercial and mixed-use activities, indicating a bustling environment that likely attracts significant foot and vehicular traffic. In contrast, the Mexico-Torhayloch directional movement features larger blocks dedicated to service and administrative functions, which may have different traffic dynamics. This unbalanced distribution of land use along the corridor contributes to increased demand for movement between the two sides of the street, exacerbating traffic congestion. As individuals seek to access various services and amenities, the need to traverse the corridor becomes more pronounced, leading to a higher frequency of crossings and potential delays. The summary of the prepared land use map, highlighting the specific types and their respective proportions along the corridor, is presented in Tables 1 and 2.

Table 1. Description of Major Land Use, Sub-categories and Land Use Codes

Major Land Use Categories	Sub-categories	Land Use Code
Administration – AD	Police, Justice, Court	AD-13
Business & Trade- CO - 2	Hotels, Restaurants,	CO-21
	Motels, Grocery,	
	Cafeteria, Kiosk,	
	Super Market, Barberry,	
	Fuel Station & Beauty Salon	
Business & Trade- CO -2	Banks or Insurance	CO-31
Manufacturing and storage - M	Industrial Treatment Plant	M-5
Residence (Pure) - R	Residential Areas	R-1
Residence (Mixed) - R	Mixed with Retail Trades and Businesses	R-2
Recreational & Environmental – RE	Environmentally Fragile Areas,	RE -44
	Marshes, Lakes, River, Ground	
	Water Potential	
Services, S -1 (Education)	TVET	S-15
	University or College	S-16
Services, S -2 (Health)	Specialized / Referral Hospital	S-24
Services, S - 5 (Religious Institutions)	Orthodox Church	S-51
Special Functions – SF	Military Camp, Aircraft app - roaching areas,	SF-13
Transport-T	Roads	T-3

(Source: (Source: Survey, 2023)

Table 2. Area coverage and total percentage of the prepared Land use

Number	Land Use Type	Count	Total Area (in Ha)	Total Percentage (100%)
1	Administration	4	7.6	6
2	Commerce	13	10	8
3	Manufacturing	3	5.3	4
4	Mixed Use	11	11.8	10
5	Residence	13	7.8	6
6	River	2	1.3	1
7	Service	6	35.2	29
8	Special Function	2	15.9	13
9	Street	26	26.52	22
10	Under Construction	1	0.9	1
Total			122.32 Ha	100%

(Source: Survey, 2023)

All of these land use types possess significant potential for generating both pedestrian and vehicular trips, which exacerbates traffic congestion along the corridor. The strategic placement of these land uses—particularly commercial and mixed-use areas—near the road further intensifies the demand for movement. As people travel to access various services and amenities, the volume of trips increases, contributing to higher traffic density. Moreover, the proximity of these land uses encourages more frequent crossings of the street corridor, resulting in additional delays and interruptions to the flow of traffic.

4.1.4. Road Network (Street Hierarchy and Pattern)

Road network is the primary linkage between urban activities and transportation system. Urban transportation can be affected by the hierarchy of urban streets and its pattern. In this case street hierarchical connection and the layout of the street along the corridor were analyzed based on produced maps below.

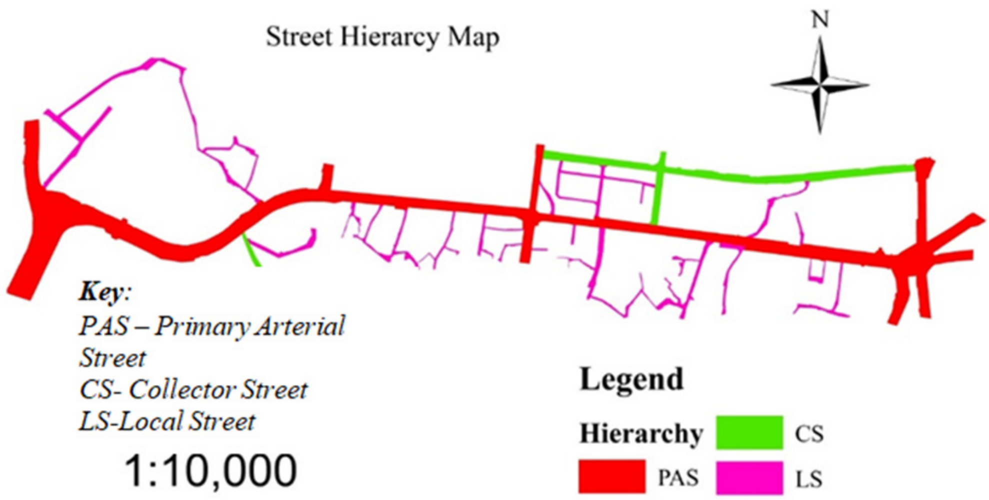

Figure 8. Street hierarchy map (Source: Survey, 2023).

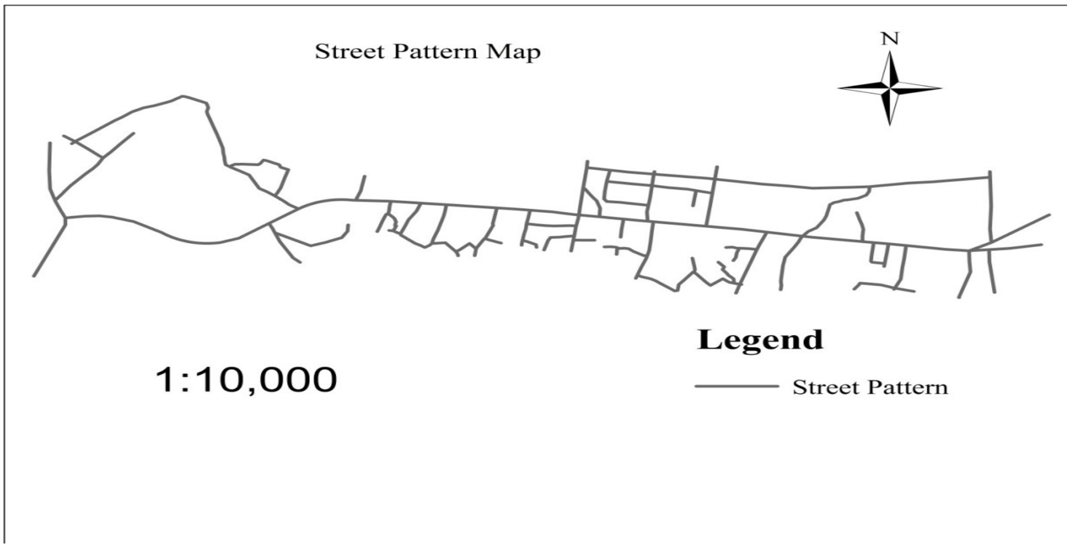

Figure 9. Irregular Street pattern map (Source: Survey, 2023)

5. DISCUSSION

Occupying 1.6 km of the total length of 2.5 km, on-street parking is one of the contributing factors to congestion by reducing the road space (capacity) of the Torhayloch-Mexico street corridor. However, in Addis Ababa, by totally ignoring the negative impacts, only its positive contribution is considered. Street parking provides easily accessible and comfortable car parking while at the same time being a source of income for unemployed people and urban administrations; it also provides a buffer for pedestrians from vehicular lanes. Other studies revealed that congestion, obstruction of side views, and drivers' challenges in perceiving approaching pedestrians are the negative impacts of on-street parking.

Other studies also described the effects on street parking as (i) reducing traffic flow speed or road capacity (Chiguma, 2007; Rudjanakanoknad, 2010; Chen et al., 2017; Prakash et al., 2020); (ii) compromising the safety of road users (Box, 2004; Cao, 2017); and (iii) chaos generated during frequent parking and unparking maneuvers along metropolitan streets to cause delays (Yousif, 1999; Biswas et al., 2017; Prakash et al., 2020). Even if Dumbaugh and Gattis (2005) and El-din (2015) claimed that parked vehicles buffer between moving traffic and pedestrians walking along a given street, Biswas et al. (2017) asserted a restriction on on-street parking along major streets. Traffic congestion generated by on-street stations is second only to on-street parking. To analyze its effects, the average number of taxis or buses stopped at each station in the two-directional movements multiplied by the number of stations (taxi or bus) gives the total number of random vehicular stops that interrupt the flow stream of traffic in the street corridor, which was already hampered by on-street parking.

Table 3. Average number of Taxi /Bus stopped at stations along the two directional movements

Directional Movements	Number of Taxis	Number of Buses	Number of Taxi Stations	Number of Bus Stations	Total number of Taxis	Total number of Buses
Torhayloch - Mexico	72	21	6	4	432	84
Mexico - Torhayloch	75	24	4	4	300	96

(Source: Survey, 2023)

Looking at Table 3, 432 (14.96%) taxis and 84 (16.5%) buses in the direction of Torhayloch, Mexico, and 300 taxis (10.19%) and 96 (17.71%) buses stop at different stations along Mexico-TTorhayloch daily to let the passengers get on or get off the vehicles during peak hours. The congestion generated in this case, especially during peak hours, is enormous, as it leads to a breakdown of traffic stream flow in both directional movements along the street corridor. The taxi and bus stations always function in the same manner all day, but it causes more congestion during peak traffic flows. However, the negative effects were likely to be lessened given the fact that a few vehicles were on the street corridor and traffic flow was smooth.

To understand how the land use arrangement along the corridor causes traffic congestion, some selected land uses were presented to give in-depth insight. From Admiration land use type, Lideta Federal High Court is a good example in generating vehicular and pedestrian trips as well as on-street parking for longer hours that causes traffic congestion. The interesting part is the way pedestrian traffic crosses the street and prohibits continuous vehicular flow on the other side. The existence of numerous copy and printing houses on the opposite side of the Lideta Higher Court forced pedestrians to crisscross the street, and it was mapped in its simplest form, assuming a trip per pedestrian to the copy and printing houses.

Figure 10. Pedestrian movement pattern at Lideta Higher Court (Source: Survey, 2023).

Additionally, the land use type at the opposite end of the Lideta higher court, especially between the Coca-Lideta midblock, is dominated by two land use types: mixed use (R-2) and commerce (CO-21) (see figure 7). Since these two land use types contain many activities (see Table 1), they are likely to attract vehicular and pedestrian trips at these locations. Particularly, in regard to cafeterias and groceries along the street, in this midblock, there are loading and unloading of alcoholic drinks, soft drinks, and other materials from freight vehicles on the street, which is already occupied by on-street parking and on-street stations.

Figure 11. Loading and unloading at Grocery near Lideta Commercial Bank (Source: Survey, 2023).

Fuel stations are another common traffic congestion-inducing urban activity. There are two fuel stations along the Torhayloch-Mexico street corridor, one between the Lideta-Mexico midblock and the other between Coca-Mexico midblock. It is one of the main contributing factors to congestion, as there are vehicles waiting in a queue to enter gas stations, which causes the breakdown of traffic flow when these vehicles leave gas stations and join the traffic flow stream on the street. At the gas station, the Lideta-Mexico midblock effect is presented.

Figure 12. Vehicle closing street as it was leaving gas station (Source: Survey, 2023).

Olagunju (2015) claimed that rapid urbanization without appropriate land use planning, particularly in the locality of certain specialized activities such as workplaces, residential areas, and recreational facilities in some other areas that are often distant from one another, results in crisscrossing movements that compound traffic problems. These problems then lead to the emergence of new urban planning theories thought to be sustainable, which in a general sense consider a mix of uses and urban activities (Kusumastuti and Nicholson, 2017), with the concept that whenever there is a diversity of uses within a reasonable range, the need to travel will decrease, enabling fewer vehicle miles traveled by individuals (Spears and Boarnet, 2014; Cervero, 2016; Geyer and Quin, 2018).

With respect to the street network, there were twenty (20) local street to primary arterial street connections across the length of the street corridor. The presence of these connections particularly affects traffic flow, as the primary function of arterial streets is mobility and that of local streets is accessibility, which means the two inhibit one another. This being the case, traffic flow is greatly affected when vehicles enter a primary arterial street from a local street or vice versa.

The absence of functional classification of roads makes a disordered road network; disturbed street right of way; or overutilization of some streets or some roads may be underutilized. According to this document, maintaining the proper hierarchical connection of urban streets contributes significantly to allowing harmonious traffic flow along these urban streets. Otherwise, the intended use of the urban streets can be greatly affected, resulting in unintended output, which is road traffic congestion. The frequently observed improper connections (LS to PAS) are largely due to the spontaneous development of the urban fabric, which brings about irregular street patterns along the street corridor in particular and Addis Ababa in general.

6. CONCLUSION

Addis Ababa, as a spontaneously developed metropolitan area, faces significant challenges related to improper hierarchical connections and organically developed street layouts. These issues highlight the critical need for integrating land use and transportation planning to effectively manage urban traffic. The analysis of the study corridor reveals that much of the traffic congestion results from how the corridor is utilized, stemming more from mismanagement than from inherent capacity limitations. On-street parking emerges as a prominent factor contributing to this congestion, primarily due to the lack of available off-street parking. The allocation of one lane for on-street parking directly reduces road capacity and creates roadside friction, further complicating the traffic situation. With one lane occupied by on-street parking, the impact of on-street stations is magnified, causing interruptions in vehicle movement at random locations and leading to a breakdown in traffic flow along the corridor. Land use patterns, particularly in commercial and business areas, generate both vehicular and pedestrian traffic, exacerbating congestion and correlating closely with the prevalence of on-street parking.

The underlying issues of improper hierarchical connections and the organic layout of the street corridor significantly contribute to traffic congestion along the Torhayloch-Mexico street corridor. Therefore, addressing these congestion-causing factors will be more effective in mitigating traffic issues than simply increasing road capacity. To this end, it is essential for the Addis Ababa Traffic Policy, Management Agency, and Transport Policy to collaborate and prioritize the management of traffic conditions over mere capacity expansion. By focusing on effective traffic management strategies, the full capacity of the street corridor can be utilized, leading to improved traffic flow and overall urban mobility in Addis Ababa.

7. FUNDING

No fund was received.

8. CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

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