

Tactical Urbanism: An Approach for Transportation Improvement

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Abstract

Tactical urbanism stands as a dynamic and responsive strategy, characterized by its swiftness, cost-effectiveness, and action-orientedness, aimed at instigating meaningful civic transformations within neighbourhoods, towns, and cities. This research paper delves into tactical urbanism as a transformative approach for enhancing the transportation sector in urban areas. The study covers the various concepts of tactical urbanism and looks into various tactics deployed in urban settings. Secondly, case examples are studied under four different criteria, where tactical urbanism interventions left a profound and enduring impact on urban transportation. The analysis of these cases gave insights into the challenges and key actions adopted for the implementation of tactical urbanism in the transportation sector. Finally, recommendations for the effective implementation of tactical urbanism techniques are put forward, to tackle problems and bring a long-term impact on the transportation sector. It emphasizes the role of tactical urbanism in shaping the future of urban transportation

Keywords: Tactical Urbanism, Tactics, Urban Mobility, Urban Transportation

Introduction

Urbanization across the globe has led to a myriad of challenges in cities, ranging from traffic congestion to road accidents. These challenges have significant implications for the quality of life in urban areas, affecting the efficiency of transportation systems and the safety of pedestrians and motorists alike. As cities continue to grow at a rapid pace, there is an increasing need for innovative and adaptable approaches to address these urban challenges effectively.

Tactical urbanism emerges as a promising strategy in urban planning, offering a dynamic and responsive approach to revitalizing cities and neighborhoods. Characterized by its swiftness, cost-effectiveness, and action-orientedness, tactical urbanism aims to instigate meaningful civic transformations within urban environments. This approach, often abbreviated as TU, emphasizes short-term interventions with the ambition of catalyzing enduring and positive long-term changes in the urban landscape.

In the transportation sector, TU manifests in various forms, including the creation of pedestrian-friendly spaces, traffic calming measures, enhancements to public transportation, and the promotion of alternative modes of mobility. By implementing temporary interventions, cities, and communities can assess the viability and impact of proposed changes before committing to permanent alterations. Successful tactical urbanism interventions have the potential to transition into permanent features, thereby acting as catalysts for enduring change in the urban fabric.

This research paper aims to explore the intersection of tactical urbanism and transportation improvement, focusing on the potential of tactical urbanism to address critical challenges such as traffic congestion, road safety, and urban mobility. By examining case examples and drawing insights from scholarly literature, the study seeks to uncover the effectiveness of tactical urbanism in creating positive transformations within urban transportation systems.

Literature Study: Tactical Urbanism

The term “tactical urbanism” was first coined in 2010 by New York-based architect Mike Lydon. Along with his co-author Anthony Garcia, describes Tactical Urbanism (TU) in their book *Tactical Urbanism: Short-term Action for Long-term Change* (2015): “Tactical urbanism is an approach to neighborhood building and activation using short-term, low-cost, scalable interventions and policies. Tactical urbanism is used by a range of actors, including governments, business and non-profits, citizen groups, and individuals.” (Mike Lydon, 2015)

It is also known as DIY (Do it Yourself) Urbanism, Planning-by-Doing, Urban Acupuncture, or Urban Prototyping. (Rethinking the future, 2022) It is a fast, cheap, action-oriented approach to making meaningful civic changes to neighbourhoods, towns, and cities. Tactical urbanism projects can be implemented by a variety of actors, including community groups, local governments, and design professionals. (Mike Lydon, 2015) Notes that tactical urbanism should be seen as a way to quickly, incrementally, and cheaply implement projects, with emphasis on increased citizen involvement and as a place-making tool, not as a replacement for the governmental planning process.

Often TU and DIY urbanism are interrelated, but they differ in the sense that TU intends long-term change in infrastructure or policy through short-term interventions whereas DIY urbanism is focused on the short-term process rather than its long-term effect. The movement can be seen as a way to be more responsive to unaddressed urban problems, with the ability to adapt depending on the results of these short-term actions. Tactical urbanism projects cover both sanctioned and unsanctioned projects, and the level of governmental involvement varies.

Features of TU (Mike Lydon, 2015)

- A deliberate phased approach to instigating change;
- Local solutions to local planning challenges;
- A short-term commitment to a longer-term change;
- Potentially high rewards, low risk; and
- The building of social capital and organizational capacity between citizens, public and private institutions, and non-profits.

Principles of Tactical Urbanism

- **Community Engagement and Collaboration:** Unlike the traditional top-down planning methods, tactical urbanism encourages grassroots initiatives and temporary interventions. This approach actively engages local residents, businesses, and organizations in the decision-making process, aligning projects with community needs.
- **Incremental Change:** This approach emphasizes the effectiveness of small, strategic interventions in transforming urban spaces. Unlike conventional practices, tactical urbanism allows for experimentation and adaptation through quick and easy changes.

- **Low-cost and Temporary Interventions:** By leveraging inexpensive materials and creative solutions, it provides a cost-effective alternative to traditional urban development. This affordability makes it appealing to communities seeking positive changes without substantial financial investment.
- **Testing Ideas:** This approach empowers both urban planners and communities by allowing experimentation with temporary interventions that have a lasting impact on the urban fabric. A strategic and valuable strategy in sustainable project development involves starting with small-scale interventions, enabling a careful assessment of feasibility and potential impact before committing significant resources to larger initiatives.

Tactical urbanism offers numerous benefits across intervention areas such as pedestrian and bicycle mobility, transit experience improvement, placemaking, and wayfinding. By implementing projects lighter, quicker, and cheaper, TU showcases the potential of spaces through imaginative solutions, addressing safety concerns and infrastructure gaps in the process. Moreover, TU serves as a valuable tool for public engagement, allowing project personnel to directly connect with communities and gather feedback. By showcasing tangible solutions to real-life issues, TU projects build public and political support, transforming discourse into actionable solutions. Furthermore, TU initiatives enhance placemaking by fostering vibrant environments that promote social interaction and economic revitalization. Lastly, TU improves equity and access to public spaces, establishing community amenities and supporting culturally sensitive education while contributing to the development of community resilience. (Systems, 2020)

Tactics in Transportation

Tactical urbanism interventions encompass a spectrum of strategies aimed at enhancing urban transportation in various aspects. These strategies include improving safety for road users, especially pedestrians and bicyclists, enhancing pedestrian and bicycle mobility through the creation of dedicated lanes, pedestrian-friendly spaces, and other interventions, addressing conflicts between mobility and liveability, improve the transit experience by creating more comfortable and user-friendly transit stations, optimizing transit infrastructure, and enhancing waiting areas. The Interventions also extend to improving wayfinding through clear signage and directional indicators, promoting active transportation by encouraging walking and cycling, and enhancing connectivity between people and places, facilitating seamless and efficient movement throughout urban areas.

Various tactics include Extended Sidewalks, Pop-up Bike Lanes, Pavement to Plazas, Streamlining Carriageway, Intersection Fix, Pedestrian Crossing, Traffic Calming, Parking Reorganization, Bus Stop Improvements, Bus Lanes/Bus Bay Marking, Modular Bus Stops, Sign Boards, Floor Signage, Trail Marking etc.



Figure 1: Tactical Transit, Utica Avenue, Brooklyn

Source: ITDP India 2022



Figure 2: Pop-up walkways, Sringeri Mutt Road, Chennai

Source: Transit Centre, 2016

These interventions represent a diverse set of strategies to effectively address urban transportation challenges. Their temporary and adaptable nature allows for experimentation and iterative improvements, making them valuable tools for urban planners and policymakers seeking innovative solutions for sustainable and resilient transportation systems.

Literature Case Studies

The case studies are identified based on the type of application and have been categorized under the following four broad themes, C1: Connecting Places and People, C2: Reducing Conflict between Mobility and Liveability, C3: Improving Access to Public Transport and C4: Wayfinding to Improve Legibility as described in Tactical Urbanism Guidebook. (Vidhya Mohankumar, 2020). The sites identified include Haji Nawi MRT station, Jakarta, Dr. Cesar and Salete intersection redesign in Sao Paulo, Brazil, Pondy Bazaar Chennai, Rajghat Intersection New Delhi & Everett City

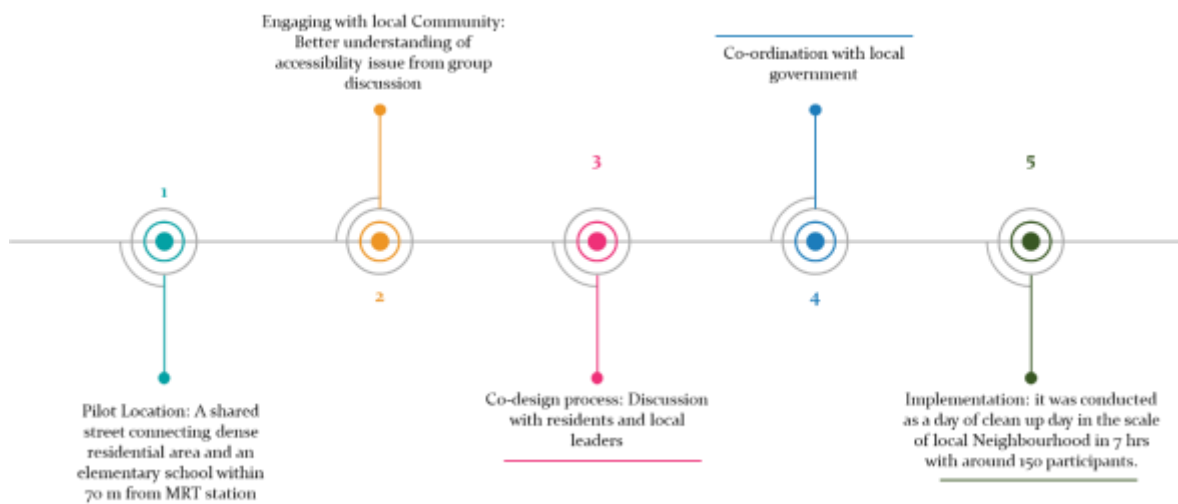
Haji Nawi MRT station, Jakarta, faced challenges due to the absence of sidewalks on the main road leading to the station, leading pedestrians to navigate smaller side streets with lower vehicle volumes but higher confusion. Observations revealed that a significant portion of pedestrians, primarily students, utilized side streets as shortcuts, posing safety concerns due to the presence of motorized vehicles. To

address these issues, the Jalan Jakarta campaign implemented tactics such as Wayfinding measures, painted signs, road markings, convex mirrors, lights, and strategically placed speed bumps. The intervention garnered positive feedback from respondents, indicating improved safety and a better living experience.

Figure 3: Before, After at Haji Nawi (HN) and Redesigned corner at Cipete Raya (CR),



Figure 4: Haji Nawi (HN) and Cipete Raya (CR) MRT stations project implementation timeline



Source: From Pilot to Permanent, How to scale tactical urbanism using lessons from global south

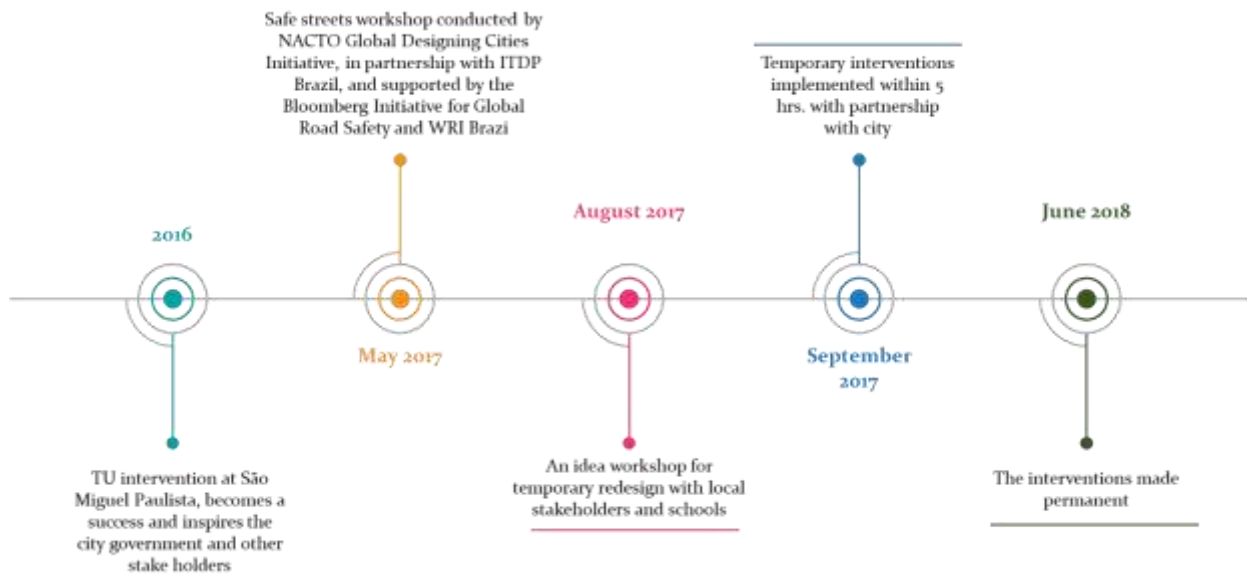
The Dr. Cesar and Salette intersection redesign in Sao Paulo, Brazil, aimed to increase pedestrian safety within a traditionally vehicle-dominated area, with the primary goal of reducing vehicle travel speeds and improving safety for pedestrians by using TU interventions. The intervention included the redesign of the intersection using temporary materials. This intervention addressed frequent conflicts between vehicles and pedestrians in the Santana neighborhood, particularly caused by high vehicle speeds upon entering the area. The redesign successfully enhanced user compliance to reduced turning speeds, and gained local support, leading to a substantial decrease in speed at the intersection. Its success also inspired similar initiatives across Sao Paulo, contributing to broader urban planning and traffic safety efforts.

Figure 5: Before, Temporary implementation 2017, Permanent implementation 2018



Source: *Global Designing Cities initiative*

Figure 6: Dr. Cesar and Salete intersection timeline



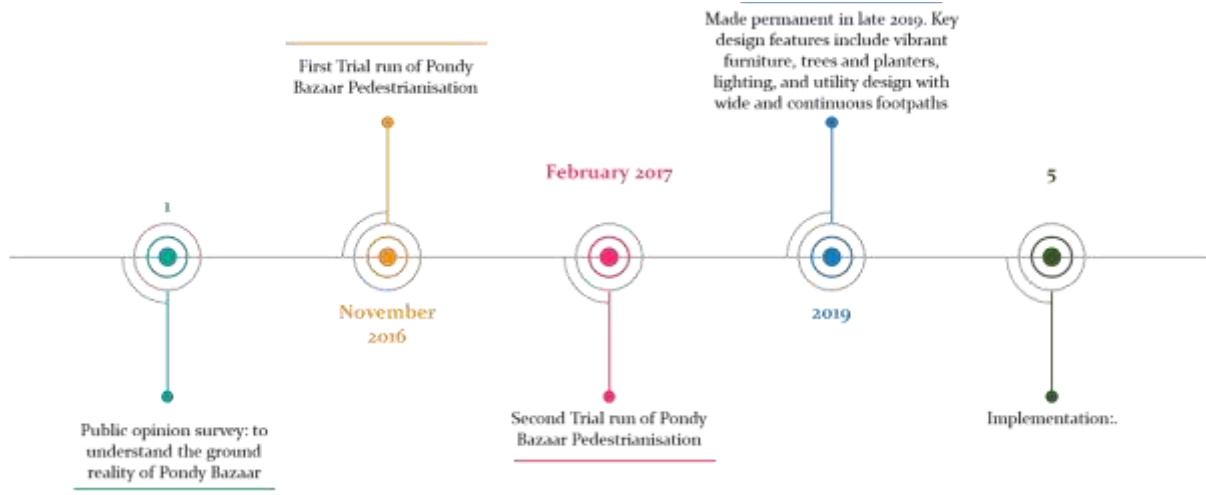
The conversion of Pandy Bazaar shopping street into a pedestrian plaza in Chennai, India, was a TU intervention aimed at transitioning a car-centric street to a walkable environment, featuring vibrant furniture, play equipment for children, trees, planters, lighting, and utility design. Overnight transformation of streets was done using traffic cones and ribbons. The interventions resulted in improved traffic flow, wider footpaths, transformation of streets, enhanced access to public facilities, and effective parking management systems, contributing to a sustainable and accessible urban environment.

Figure 7: Before and after images of Pondy Bazar, Chennai



Source: ITDP India

Figure 8: Pondy Bazar Project Implementation Timeline



The Rajghat Intersection redesign project in New Delhi, India, aimed to address issues such as poorly designed pedestrian crossings, lack of accessibility for the physically challenged, and conflicts between different modes of transportation. TU interventions reduced vehicle speeds and conflicts between vehicles and pedestrians, highlighting the effectiveness of TU in improving traffic safety and pedestrian accessibility.

Figure 9: Rajghat Intersection Project Implementation Timeline

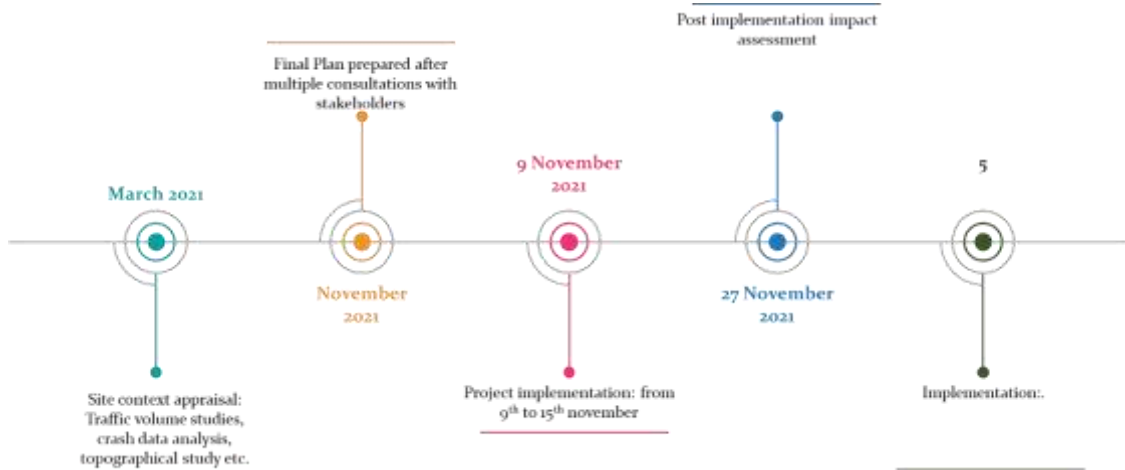


Figure 10: Rajghat Intersection Redesign: Before, After



Source: Rajghat Intersection redesign final report, Safelife Foundation 2022

The Everett city’s Tactical transit initiative enhanced public transit efficiency and reduce travel times by introducing a dedicated lane for public transit vehicles. In 2016, a tactical transit intervention was initiated as a discrete 4-day test to inform a longer-term pilot program, with no formal outreach process conducted beforehand. The implementation involved collaboration between the Everett Department of Public Works (DPW) and Parking Enforcement, resulting in the removal of parking spaces and the placement of cones along the designated lane. Following the successful 4-day test, the pilot project was extended to nine months and eventually permanently implemented in September 2017.

Figure 11: Everett City Tactical Transit project



Source: Tactical transit: Using Pilot Projects as Tool for Transformation, 2019

Analysis

The analysis focuses on various characteristics such as issues, key actions, tactics, duration, and outcomes. By examining these aspects, deeper insights are drawn into the effectiveness and implications of tactical urbanism interventions in addressing urban transportation challenges and improving the quality of life for residents.

Table 0.1 Comparative Analysis of Case Studies

Sl. no.	Parameters adopted for comparison	Haji Navi, Jakarta	Santana, São Paulo	Pondy Bazaar, Chennai	Rajghat Intersection, New Delhi	Everett City, Massachusetts
1	Criteria	1, 3, & 4	2	1, 2	2	1, 3
2	Area/length	670 m	162 m ²	1.4 km	400 m ²	1 km
3	Key Issues	Streets difficult to navigate Poor access to MRT station Lack of pedestrian paths	Over speeding at intersections Pedestrian and vehicular conflict	Conflict between pedestrians and motorised vehicles Lack of channelized ROW	High crash rate Poor pedestrian paths Lack of signals and signage	High travel time for public transport
4	Tactics	Temporary pedestrian paths and way findings measures	Intersection repair	Extended pedestrian paths, restricting vehicular movement	Intersection Repair	Tactical Transit
5	Effect	The interventions were made permanent Pedestrians and motorists feel safe	Intervention made permanent in 9 months Similar interventions adopted in other parts of the city	Reclaimed pedestrian space and converted it to pedestrian-only space The project was made permanent in 3 years	Reduction in accident rate Efficient flow of traffic	Reduced travel time by 4-8 mins Reduction in collision Increased ridership Pilot project-permanent within one year
6	Key Actions	Engaging active and potential new users Maximum participation of residents and local leaders was ensured by organising it as a	Prioritised civil society participation Consistent communication with Stakeholders	Two trail runs Pre and post-implementation surveys conducted Stakeholders were well acquainted	A thorough analysis of the traffic and activity patterns was conducted	No formal outreach process

		community event				
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Inferences & Recommendations

After conducting a comparative analysis, common issues across different criteria have been identified, leading to the formulation of recommendations based on the study findings

Criteria 1: Connecting Places and People

Issues such as increased pedestrian and cyclist accidents due to the absence of dedicated pathways, inadequate pathway width leading to congestion and safety hazards, encroachment by motorized vehicles and street vendors causing obstacles and disorder, and the forced adoption of alternate modes of transport are prominent challenges. The absence of designated spaces leads pedestrians and cyclists to share roads with motorized vehicles, elevating the risk of collisions, while narrow pathways impede smooth movement, especially during peak times. Encroachment further compromises safety and convenience, forcing individuals to navigate around obstacles, potentially leading to disorderly and unsafe conditions. This situation may drive people towards motorized transportation options, exacerbating issues like traffic congestion and pollution. In response, tactical urbanism offers strategies such as converting pavements to plazas and implementing pop-up bike lanes, using temporary measures like paints, traffic cones, and barricades to create safer and more accommodating pedestrian and cyclist pathways.

Recommendations

1. Preliminary surveys accounting for the number of pedestrians/ cyclists/ non-motorised road users should be conducted to increase the credibility of the intervention
2. Group discussions/ brainstorming sessions/ feedback forms etc can be carried out to gain a better understanding of the requirements and needs of the current and potential new users
3. On-street parking spaces can be converted to pop-up bike lanes or extended pedestrian paths by providing alternate parking spaces
4. Smooth flow of traffic should be ensured in order to prevent encroachment of the temporary lanes
5. These interventions can be used to promote non-motorized transport
6. The area chosen for the intervention should be such that it has a high demand for Pedestrianisation such as near MRT/BRT stations, near important institutions such as schools, market areas, etc.
7. Proper enforcement has to be done to prevent encroachment of the pathways by other vehicles

Criteria 2: Reducing Conflict between Mobility and Livability

Issues such as the speeding of vehicles at intersections, leading to increased conflicts and accidents, compounded by the lack of proper signals and signages causing confusion among road users, the absence of zebra crossings exacerbating pedestrian safety concerns, and traffic congestion indicating potential operational challenges are significant. Speeding vehicles heightens the risk of accidents between vehicles and pedestrians, necessitating measures to control and reduce speeds within intersections. Proper signals and signages are vital for traffic regulation and pedestrian safety, and their absence contributes to disorderly traffic conditions. The lack of zebra crossings further compromises pedestrian safety, hindering safe crossing points. Traffic congestion indicates operational inefficiencies, necessitating strategies like intersection redesign and traffic calming to alleviate congestion and improve

safety. Tactical urbanism tactics such as intersection redesign, installation of zebra crossings, traffic calming measures, and parking reorganization offer solutions to address these issues, utilizing colorful road markings, barricades, and optimized layouts to create safer and more efficient intersections.

Recommendations

1. Colourful paints and designs that reflect the local significance can be adopted to gain the attention of the drivers
2. Local partners should be included not only to ensure their needs are reflected in the project goals but also to gain community support and local mobility knowledge
3. Studying the intersection (accident rates, traffic flow, etc), lasting up to a few months, is essential to communicate the need for the intervention
4. Commercial stakeholders should be carefully planned to keep them informed about the redesign as plans unfold.
5. While reorganizing parking spaces, ensure that alternate parking spaces are available and keep the commercial partner well-informed about the changes
6. At intersection fixes, the redesign should be as per standards pertaining in the locality
7. The redesign should be such that it can properly accommodate the incoming flow of traffic at the intersection

Criteria 3: Improving Access to Public Transport

Key issues such as delayed public transportation due to mixed traffic flow, hindrance to traffic flow caused by transit buses moving in and out of traffic, lack of convenient access to Mass Rapid Transit (MRT) or Bus Rapid Transit (BRT) stations, and poor rider experience leading to low dependency on public transportation are significant challenges. Mixed traffic conditions can cause delays for transit services, impacting reliability and punctuality, while transit buses maneuvering through traffic can disrupt flow and contribute to congestion, affecting all road users. Limited access to MRT/BRT stations discourages public transportation usage, reducing ridership. Negative rider experiences, including delays and crowded vehicles, further deter people from depending on public transportation, fostering a greater reliance on private vehicles. Tactical urbanism tactics such as pop-up seating arrangements, modular bus stop improvements, and tactical transit measures like designated bus lanes offer solutions to address these issues, utilizing temporary interventions like movable chairs, modular boarding platforms, and marked bus lanes to enhance public transportation accessibility and rider experience.

Recommendations

1. Tactical transit projects can be tested on a small span of less than 1 km
2. The projects can be tested in phases, such as initially during peak hours/ during alternate days, and extend the duration upon the impact of the project
3. Bus drivers should be notified about the possible interventions
4. An adjustment period of at least 6 months has to be allotted for all road users and traffic patterns to normalise
5. Efficient user group participation can ensure that their needs are reflected in the project
6. Tactical transit projects often require removing parking lots or reducing space for private transport, hence the traditional outreach process can be skipped to prevent the initial resistance to the project
7. Pilot projects spanning a few days to a week can be used to test the idea
8. Proper enforcement is required as private vehicles have a tendency to occupy the TTL during peak

hours

9. Quantifying the benefits of the project is required to communicate the benefits of the project

Criteria 4: Wayfinding to Improve Legibility

Issues such as streets being difficult to navigate due to complex layouts, insufficient signage, unclear road markings, and inadequate lighting, leading to frustration among road users and increased traffic congestion, as well as the lack of indicators to nearby locations due to insufficient signage or wayfinding information, hindering mobility and accessibility are prominent concerns. Complex road layouts and inadequate signage can make navigation challenging, impacting drivers, pedestrians, and cyclists alike, potentially resulting in congestion as individuals struggle to find efficient routes. Additionally, the absence of indicators to nearby locations complicates navigation further, making it difficult for residents, visitors, and commuters to locate important facilities or landmarks. Tactical urbanism tactics such as Walk Your Street, incorporating signboards, floor signage, and trail markings, offer potential solutions to improve navigation and wayfinding, enhancing overall mobility and accessibility within urban areas.

Recommendations

1. The indicators and signs should be designed keeping in mind the destination
2. The signs should include key markings such as distance to destination, travel time, and possible mode of travel
3. It should be legible and easy to understand
4. It can be used to promote NMT by indicating walking/cycling time

Implementation of TU in Transportation

Strategic Choice of Location

1. The interventions should be located at critical points: such as intersections with high conflict rates, paths with high pedestrians, etc.
2. The interventions should be context-specific, depending on the local traffic and needs of the users, even though they could be inspired by various examples at different locations

Documenting the Process

1. To communicate the need of the project, essential preliminary survey has to be conducted such as traffic surveys, accident rates, pedestrian counts, etc.
2. Before and after surveys can be conducted to document success and act as case examples for similar interventions in different parts of the city

Communicating Clear Goals & Objectives

1. Defining clear goals, like prioritizing space for pedestrians and improving safety, can help focus discussions during and after the co-design workshops on the most plausible elements for implementation.
2. It is important to recognize not only existing users but also potential new users. Understanding the challenges and needs of potential new users early on will help inform more accurate project goals.

Collaboration with Stakeholders

1. Constant communication should be maintained with the local stakeholders and road users about the potential benefits of the project
2. Consistent communication should be maintained with local stakeholders to ensure that the needs of the community are reflected in the project

3. Law enforcement officials such as police, traffic officials, etc should be kept in the loop in order to restrict possible violations
4. The implementation can be carried out with maximum public participation, by taking leverage of any community events

Potential Long-Term Change

1. Multiple trial projects can be conducted to get a better understanding of the benefits of the new intervention
2. Every intervention should be made by keeping in mind the existing users as well as potential new users.
3. Implementing the project in stages can allow for driver adjustments and prevent the initial resistance to the interventions

Conclusions

In conclusion, this research has delved into the multifaceted realm of tactical urbanism, with a specific emphasis on its application within the transportation sector. Tactical urbanism has existed across the world in various forms and names throughout the years. Tactical urbanism is the short-term interventions made by various organizations and public bodies in society to bring about lasting change in the community. The study commenced with a comprehensive exploration of the foundational concepts of tactical urbanism.

The study mainly focused on tactical urbanism interventions specifically within the transportation sector. The case studies from around the world included successful implementations that have significantly contributed to positive transformations in urban mobility. These global case studies facilitated the identification of key recommendations for the strategic implementation of tactics within the transportation domain. These recommendations underscore the potential of tactical urbanism not only to address immediate concerns but, more importantly, to instigate enduring and positive long-term changes. Urban development is a complex phenomenon and the transportation sector is a key element. The study provides recommendations on how to tackle key challenges, such as reducing the initial resistance to projects and increasing the credibility of the project, while implementing the short-term intervention, and finally having a long-lasting impact on the urban environment

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