BOOK OF PROCEEDINGS

1st International Conference on Built Environment

ICBE 2026

MAY 08th-09th, 2026
POLIS University, Tiranë

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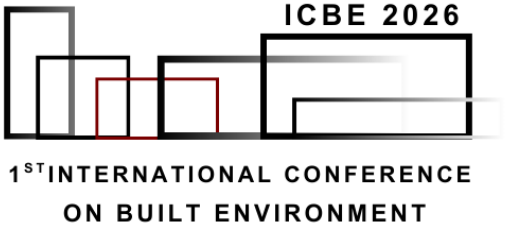
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1st International Conference on Built Environment

ICBE 2026

Conference Theme and Rationale

The 1st International Conference on Built Environment (ICBE 2026) was conceived as an international and interdisciplinary forum for advancing knowledge, critical discussion, and innovation across architecture, urban planning, engineering, construction, materials, design, and the wider built environment. Organized by POLIS University in collaboration with the National Agency for Scientific Research and Innovation in Albania (AKKSHI), the Academy of Sciences of Albania and the University of Ferrara in Italy, the conference brought together academics, researchers, practitioners, students, and industry representatives to exchange research findings, professional experience, and emerging perspectives on the transformation of contemporary cities and territories.

The conference theme reflected the increasingly complex challenges shaping the built environment, with particular attention to sustainability, resilience, technological innovation, heritage preservation, and socially responsive design. Contributions addressed sustainable architecture and green building, innovative construction technologies and materials, climate-responsive and energy-efficient design, disaster risk reduction, circular approaches to construction, and the integration of renewable energy. Equal emphasis was placed on digital transformation through Building Information Modeling, Geographic Information Systems, artificial intelligence, data analytics, automated solutions, digital fabrication, and advanced manufacturing.

ICBE 2026 also recognized that the future of the built environment cannot be approached through technological innovation alone. Urban transformation, cultural heritage, adaptive reuse, inclusive design, ecological thinking, art, and interdisciplinary research were therefore integral to the conference rationale. The scientific sessions examined topics ranging from seismic resilience, geotechnical engineering, and structural safety to urban fragmentation, public space, heritage conservation, adaptive environments, and new relationships between human and non-human systems.

Through keynote lectures, scientific presentations, case studies, and interdisciplinary debate, the conference encouraged connections between research and practice while promoting approaches capable of responding to environmental, social, cultural, and technological change. The breadth of contributions demonstrated the value of bringing engineering, architecture, urbanism, design, heritage, and emerging technologies into a shared academic framework for more resilient, sustainable, adaptive, and human-centered environments.

Held on 8-9 May 2026 at POLIS University in Tirana, with in-person and online participation, ICBE 2026 welcomed guest speakers and participants from Albanian and international universities, research institutions, professional organizations, and industry. Its sessions established a platform for presenting current research, exchanging expertise, strengthening meaningful collaboration, and identifying future directions for the built environment.

The event

The **1st International Conference on Built Environment (ICBE 2026)** is an interdisciplinary academic and professional forum dedicated to exploring contemporary challenges, emerging research, and innovative approaches shaping the future of the built environment. Bringing together researchers, academics, architects, engineers, urban planners, designers, practitioners, and industry professionals, the conference promotes the exchange of knowledge and encourages collaboration across traditionally interconnected disciplines. Its thematic scope encompasses sustainable and resilient construction, technological innovation, advanced building materials, urban transformation, cultural heritage, and interdisciplinary design approaches. Particular attention is given to the growing role of digital technologies, data-driven methodologies, intelligent design processes, and advanced analytical tools in supporting more informed and responsive approaches to architecture, engineering, and urban development. At the same time, ICBE 2026 recognizes the importance of environmental responsibility, cultural identity, social needs, and human-centered design in shaping contemporary cities and territories. Through keynote lectures, scientific sessions, case studies, and interdisciplinary exchange, the conference provides a platform for presenting current research, discussing professional experiences, and developing new perspectives capable of contributing to **safer, more sustainable, adaptive, inclusive, and resilient built environments**.

Objectives

- Promote interdisciplinary collaboration among researchers, academics, practitioners, and professionals in architecture, engineering, urban planning, construction, design, heritage, and related fields of the built environment.
- Advance the use of digital technologies and innovative methodologies, including BIM, GIS, artificial intelligence, data analytics, digital fabrication, and parametric approaches, in research and professional practice.
- Encourage sustainable, resilient, and climate-responsive approaches to architecture, construction, and urban development through innovative materials, energy-efficient strategies, and environmentally responsible design.
- Address contemporary challenges affecting cities, buildings, and infrastructure through scientific research, applied case studies, evidence-based approaches, and innovative design solutions.
- Promote the conservation, transformation, and adaptive reuse of cultural heritage, balancing cultural identity, contemporary needs, structural safety, and responsible urban development.
- Support human-centered and socially responsive urban transformation, considering public space, mobility, ecological systems, community needs, and the wider social and economic impacts of the built environment.
- Provide a platform for knowledge exchange and emerging research, enabling scholars, young researchers, professionals, and students to present innovative ideas, strengthen international collaboration, and contribute to future directions in the built environment.

Main Conference Themes

- Sustainable architecture and green building practices.
- Innovations in construction technologies and materials.
- Heritage preservation and adaptive reuse in the built environment.
- Digital tools and smart technologies in architecture and construction (e.g., BIM, GIS).
- Climate-responsive and energy-efficient design.
- Disaster risk reduction and resilience in the built environment.
- Circular economy approaches in construction and material usage.
- Integration of AI and data analytics in building design.
- Acoustic and thermal performance in building design.
- Renewable energy integration in building systems.
- Advanced manufacturing techniques in construction, such as 3D printing.
- Innovations in construction technologies and materials.
- Heritage preservation and adaptive reuse in the built environment.
- Disaster risk reduction and resilience in the built environment.
- Digital tools and smart technologies in architecture and construction.
- Advanced manufacturing techniques in construction.
- Geotechnical Engineering for Sustainable Development.
- Cartography and Geographic Information System.
- Computer Automated Solutions for Built Environment.
- Reliability in Civil Engineering.
- Urban planning strategies for resilient cities.
- Climate-responsive and energy-efficient design.
- Regulatory frameworks and policies impacting construction and urban development.
- Design in the Era of Anthropocene (Rethinking the Relation between Human and Non-Human Species)
- Speculative Design (with Attention to “Discursive” and “Critical” Design)
- Design and Cross-Disciplinarity (with Emphasis on Processes rather than Design Outputs)
- Inclusive Design
- Art and Urban Regeneration (Focus on Participatory, Collaborative, and Research-Based Practice)
- Relational Art and Architecture
- Monuments and ‘Anti-Monuments’ (Particular Attention to the Process of Designing and Building the City)

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The conference is structured around six thematic sessions, each addressing a specific area of research and practice within the built environment.
Each session is coordinated by experts in the relevant disciplinary field and is open to professors, researchers, PhD candidates, and other scholars and professionals contributing to the conference themes.

SESSION I
Urban Planning and Societal Impact

Chair: Dr. Gent Avdija

This session examines the relationship between urban transformation, spatial development, and their social implications within contemporary cities. Contributions address rapid urbanization, urban fragmentation, the transformation and loss of public space, informal and spontaneous development, and the challenges associated with balancing growth and modernization with human-scale urban environments. Particular attention is given to the evolving conditions of Albanian cities and to planning approaches capable of supporting more inclusive, sustainable, socially responsive, and livable urban environments.

SESSION II
Sustainable Materials, Resilient Construction & Smart Design

Chair: Dr. Endri Duro

This session explores innovative approaches to sustainable construction, resilient structural systems, and environmentally responsive design. Particular attention is given to sustainable materials, energy-efficient and climate-responsive strategies, prefabricated and lightweight construction technologies, and human-centered approaches to structural and architectural design. The session investigates how material innovation, technological development, and responsible design practices can contribute to safer, more efficient, adaptable, and environmentally sustainable built environments.

SESSION III
Technological Advancements and Seismic Design for Resilient Places

Chairs: Dr. Seyyed Behrad Emadi & Dr. Ornela Şen

This session examines the role of technological innovation and advanced engineering methodologies in developing safer, more resilient, and adaptable built environments. Contributions address seismic hazard and risk assessment, digital fabrication, parametric and computational approaches, transformations of building envelopes and prefabricated housing systems, and emerging concepts for future urban mobility. The session highlights how the integration of engineering knowledge, digital technologies, and resilience-oriented design can strengthen the capacity of buildings, infrastructure, and urban environments to respond to contemporary and future challenges.

SESSION IV

Cultural Heritage

Chairs: Dr. Nikolla Vesho & Dr. Marsela Demaj

This session addresses the preservation, interpretation, and transformation of cultural heritage within contemporary architectural and urban contexts. Contributions explore conservation strategies for historic buildings and sacred architecture, seismic assessment and strengthening of heritage structures, adaptive reuse, and the social implications of urban regeneration and heritage loss. Particular emphasis is placed on achieving a responsible balance between conservation ethics, cultural identity, structural safety, and the evolving functional requirements of historic buildings and urban environments.

SESSION V

Spaces of Connection: Art and Design for an Interspecies and Interdisciplinary Environment

Chair: Dr. Francesco Scasciamacchia

This session explores the intersections of art, architecture, design, technology, and the built environment through interdisciplinary and experimental perspectives. It investigates changing relationships between human and non-human systems, spatial perception, adaptive reuse, post-industrial landscapes, urban representation, digital heritage, and environmentally and socially engaged design practices. Through critical, speculative, participatory, and research-based approaches, the session examines how art and design can generate new forms of connection, reinterpret existing environments, and contribute to emerging cultural and spatial narratives within contemporary cities.

SESSION VI

Next-Generation Pioneers of the Built Environment

Chair: Dr. Flogerta Krosi

This session provides a dedicated platform for emerging researchers and students to present innovative, experimental, and forward-looking approaches to the built environment. Contributions span architecture, engineering, urban planning, environmental resilience, design, and related creative disciplines, reflecting the interdisciplinary character of a new generation of researchers and practitioners. Through projects addressing topics such as bioclimatic design, flood-risk management, structural technologies, architecture-inspired design, and critical interpretations of objects and social space, the session encourages critical inquiry, experimentation, and new perspectives on the future of the built environment.

Layout & Design:

Dr. Kristiana Meço

Msc. Erjon Çobani

POLIS University Contact:

Rr. Bylis 12, Autostrada Tiranë-Durrës, Km 5, Kashar

Kodi Postar 1051, Kutia Postare 2995

Tiranë, Albania

Tel: +355.(0)4.2407420 / +355.(0)4.2407421

Fax: +355. (0)4.2407422

Mob: +355 (0) 69 40 88 111

Email: contact@universitetipolis.edu.al

Website: www.universitetipolis.edu.al

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Digital and computational technologies: Digital fabrication / Parametric methodologies / Computational design / Technology-assisted decision-making.

Adaptive building systems: Façade transformation / Prefabricated housing systems / Adaptive architectural solutions / Building-envelope innovation.

Resilient urban systems: Future mobility / Technology-driven urban transformation / Resilience-oriented planning / Safer and adaptive urban environments.

Tirana_ toward a (non) resilient city of the future

Re-shaping mobility and bring back “La raison d’être of the city”

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Ina MUSAI
ORCID 0009-0007-5515-1067
POLIS University, Albania; Archipartners Studio
ina_musai@universitetipolis.edu.al

Abstract

The rapid transformation of Tirana has intensified mobility pressures while disappearing its “locus”. Despite recent interventions—partly removal of on-street parking, expansion of bicycle lanes, and increased parking fees—private car dependency persists. The same humanity has developed in the digital era, the “self-correcting mechanisms” should be explored in reshaping mobility and bringing back to life “la raison d’être” of our walkable Mediterranean city.

We need to provide options. Mobility should be gender inclusive, for women and gender minorities have a better and safer life. So, we can embrace and implement a new philosophy of city planning. Bus stations can be the urban catalysts. We need switch mode areas, so come by car, take the bike at the station, use a bus later on, or get in a shared car again. As Carlo Ratti would state: “Welcome to the era of free choice of transportation means”.

The research question guiding the study is: How can gender inclusive and micro mobility reshape public space, foster walkability and impact the future of a vivid and yet breathing city?

The central hypothesis proposes that resilience in mobility is achieved through the “urban mobility artefacts” — multimodal nodes where public transport, shared vehicles, and pedestrian networks converge — supported by digital platforms enabling flexible choice. Such catalysts become the landmarks of social interaction re shaping mobility habits and public space.

Methodologically, the study combines theoretical analysis of resilience and mobility paradigms with actual urban context. It critically examines the relationship between infrastructural connectivity, and social impact, emphasizing how micro-mobility nodes and bus stations can function as safe social spaces being the “new urban artefacts”, for behavioral adaptation and spatial regeneration.

The paper contributes to the theory by conceptualizing mobility integration as a cultural and spatial strategy for reclaiming the heart of the city: accessibility, proximity, and social interaction.

Keywords: *new urban artefact, transportation means, micro mobility, gender inclusive*

mobility, digital network

1. INTRODUCTION

1.1 Reshaping mobility paradigm through public transport and micro-mobility.

Tirana has historically been a city that offers sustainable mobility opportunities. The old neighbourhoods of the ottoman period give a typical example of dense areas with people on the main focus. During dictatorship of Hoxha (1944–1985) the vast majority of population did not have access to private cars so citizens would walk, cycle of use the bus and the total number of cars until 1990 was about some thousands. After the regime fall, private car users increased rapidly and as a result walkability faded as did the public transport use. The number of cars increased from 57.000 from 1993 to more than 450.000 in 2020, and nowadays this number has doubled already. The negative effect of this situation was already experienced with the heavy traffic, air pollution, narrow spaces for pedestrians and car parked everywhere occupying spaces that did not belong to them, threating safety and comfort.

Today, walking in the central Tirana the power of being present, mindful, enjoying the being and the urban vibe is really felt but soon after being far the central area, these emotions disappear as the chaos is recognized. This “magic effect” is relying on some urban spaces where the city seems to be developed physically and aesthetically but the periphery hits differently. There is everything in Tirana except going from A to B really quick, easy and cheap. Bike lanes the successful intervention once, are still dominated by the daily use of car parking and quick stops so they have lost their continuity as simple itineraries. Buses are in the urge to be renewed besides the fact new vehicles are needed. The layer beneath, the so called “missed city” which has easily walkable distances, hides its own infrastructure network in which buses and bikes can dominate again. The urban transformations in the last years have impacted the urban memory, so the physical spaces have changed, lacking orientation, safety and enjoyable itineraries. So how can we assure that everyone can feel not lost in some parts, of the city, safe and comfortable walking in Tirana? The result after all these years of changes and development, is a city that does not belong to anyone.

1.1.1 Gender equity in public transport is essential to facilitate access and enhance wellbeing in the society.

There is actually a lot happening but no “felicitous happening” at all. Bus stations as local market points, a place to host private business, books, music, painting, a place of events happening in the everyday life. Mothers can do the groceries while waiting the bus, going to the pharmacies or staying put and comfortable and enjoying it as a happy pause. The aim is to design bus stations, as a place to stop, rest and reset for the next destination trip. Public transport is not just a matter of infrastructure but it is essentially a social issue, we need to face and improve the approach to it. The young need to be promoted to a flexible, practical and still happy lifestyle without limitations.

We need to have back our liveable city by a sustainable network of urban mobility. The lack of parking places and options to that, is collapsing a lot of shops and small businesses. So, why not include the community in this new concept of urban mobility and infrastructure? A business incubator for simple ideas; local sellers of vegetables and fresh products can get their eligible place for free or symbolic fee, using these shelters to host their activities. This symbiotic connection of small producers and the public sector can be efficient in terms of the increase of public transport users. A top-down initiative to a bottom-up interaction might have a great impact in the urban life in general. Start- ups can benefit from generating ideas how mobile apps can work it out through getting the service and using the user's data even to get in touch with each other, by using this as a sharing, communicating or even a dating platform. Shared platforms for women only, can exist by giving them the chance of using their dedicated lines, dedicated timetables or special vehicles and stations. Gender inclusive mobility should be provided in full safety of using the public means of transport so the undeniable necessity of private car use can vanish.

2. LITERATURE REVIEW

Cars have been shaping the paradigm of urban development of the twentieth century since the time they were produced. The latest concept defining the new global identity is being questioned through the new concept of Ratti 3"Intelligens", an intersection of natural and artificial in order to address the climate change issue and the urban adaptation. We need to look back at humanity and evolve through mitigation and adaptation. AI can help create new patterns natural patterns adapting to this momentum.

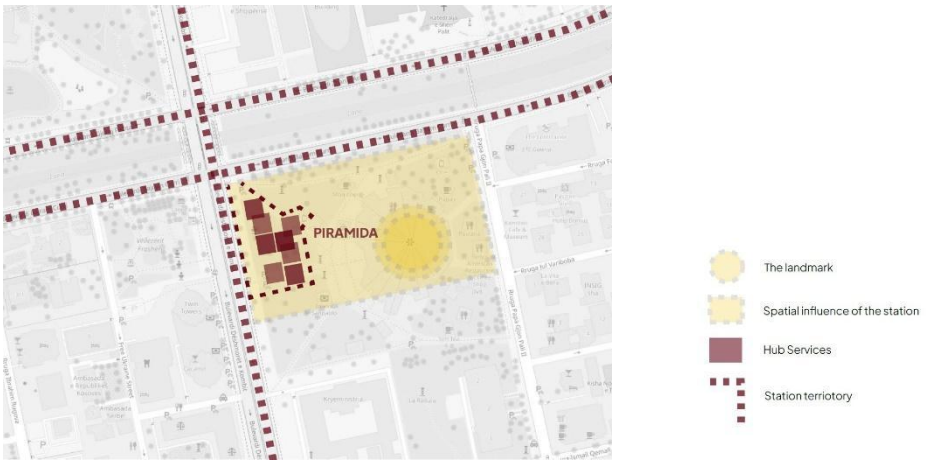
But can we adapt to the future through its memory? Referring to Aldo Rossi (1982) probably yes, we can.

This overlapping of the individual and the collective memory, together with the invention that takes place within the time of the city, has led me to the concept of analogy. Analogy expresses itself through a process of architectural design whose elements are pre-existing and formally defined, but whose true meaning is unforeseen at the beginning and unfolds only at the end of the process. Thus, the meaning of the process is identified with the meaning of the city.

In an urban artefact, certain original values and functions remain, others are totally altered; about some stylistic aspects of the form we are certain, others are less obvious. We contemplate the values that remain—I am also referring to spiritual values—and try to ascertain whether they have some connection with the building's materiality, and whether they constitute the only empirical facts that pertain to the problem. At this point, we might discuss what our idea of the building is, our most general memory of it as a product of the collective, and what relationship it affords us with this collective.

Based on this theoretical approach, the resilience in mobility is achieved through the "urban mobility artefacts" — multimodal nodes made by micro mobility devices, car sharing and ridesharing, and public transport as flexible choices. These artefacts of the city, which hold the

mobility program are used as catalysts reshaping memories and places. So, despite redesigning the Pyramid into TUMO center and reshaping its silhouette through cubes and color, the core remains there and a certain area of this public place can be integrated in a mobility hub station, bringing another use of its public space.



Example of a multimodal-node using the Pyramid as core landmark



Example of a multimodal-node using the Parku "Rinia" as core landmark



Example of a multimodal-node using the market as cross section in an old street as core landmark

"Cities are a product of time" (Lewis Mumford, 1938). From this saying we should consider is time to shift the mobility paradigm to another level. Through AI by collecting the necessary data we should make public transport and any other mean of micro mobility the utmost

natural way to its users.

The complexity of micro mobility as the new way of thinking and defining mobility with a human use purpose could be simplified in two main aspects: the simple vehicle/device or the mode of transport. E-scooters are the new human and technological invention in terms of mobility, facilitating movement in the urban areas.

The recent years face an increase number of e-scooters all over the world, especially in Europe, being used by both men and women, mostly young generation. It was quickly developed as a simple and easy mobility mode to survive the heavy traffic. Although collective data from the Ministry of Internal Affairs has shown that in our country there had been almost 991 accidents reported from the Emergency Room due to e-scooter which led to the decision of banning them from the streets.

Referring to EIT study, there were several case studies which are considered crucial to this paper, to be taken as reference in term of policy and regulations.

Case study: The city of Madrid

The city consequently conceptualized an Urban Mobility Ordinance in October 2018, which empowered new rules, governing the occupation of public space for all electric kick scooters in parking and circulation. The regulation has since prohibited e-kick scooters from riding on pavements, bus lanes, roads with more than one lane in each direction, and from most orbital motorways, whereas they were allowed to use cycle lanes, as they were treated the same as bicycles. Moreover, the ordinance introduced a minimum age for users of 15 years and the mandatory wearing of safety helmets, in order to avoid accidents. Concerning the parking of electric kick scooters, the new regulation stated that only designated parking areas for motorcycles and bicycles could be used.

Case study: The city of Paris

Paris in some ways has become one of the most important open living labs for shared 60 micro-mobility services. France announced the legalisation of the use of electric kick scooters and similar devices. Before there was no law regulating the use of this new type of vehicle. According to these new regulations, the e-kick scooters are bound to a speed limit of 25km/h and are obliged to use bicycle lanes or roads with speed limitations. Moreover, due to the new regulations riding the electric kick scooter requires a minimum age of 12 years, wearing headphones is prohibited as well as transporting other passengers. According to the introduced set of regulations, e-kick scooters must be equipped with front and rear lights, a horn and a retro-reflective system (The Mayor, 2019).

Case study: The city of Berlin

After the use of electric kick scooters on German roads was permitted by the enactment of the Ordinance on Small Electric Vehicles, a chaotic start took place in Berlin, with almost no municipal measures regulating the e-kick scooters and accident rates, violations of road traffic laws (Tagesspiegel, 2019) and numbers of acts of vandalism (B.Z. Berlin, 2020) underlining the

situation in the best possible way. Consequently, the municipality established no-parking zones at the most congested sites and locations, so that important point of interest in the city could remain their functionality, regarding their touristic and civil value as well. For this reason, bilateral agreements were concluded between the operating companies and the municipality, which are not legally binding on the partners. In these agreements, restricted areas were defined where users could not log out, which could be achieved by using geofencing technologies (Berliner Zeitung, 2020). As a further measure, the municipal administration planned to transform 500 parking lots for cars in dedicated parking zones for rental bikes and e-kick scooters (Redaktionsnetzwerk Deutschland, 2020). Interestingly, the city of Berlin has opened several mobility hubs in an iterative process, where e-kick scooters can be rented since June 2019 using the "Jelbi" app, which enables users to search, book and pay for a bunch of different mobility services. These mobility hubs are located at important public transportation nodes, where shared vehicles from different providers can be rented locally to cover the last mile.

Replaced Modes of Transportation	Free-floating e-kick scooter sharing (n = 757)	Privately owned e-kick scooters (n = 329)
Public transportation	29.2%	30.2%
Car	26.7%	28.4%
Walking	26.1%	21.1%
Bicycle	14.2%	15.5%
Electric bicycle	1.5%	1.6%
Additional trips	1.8%	1.5%
Other	0.1%	1.1%
Motorcycle	0.4%	0.6%

Figure 1. Modes of transportation replaced by the use of free-floating and personal e-kick scooters (adapted from Moreau, et al., 2020).

All three case studies, have one thing in common: they try to fix the legal framework in order to make micro mobility mode survive the urge reducing traffic. New technology needs new approaches to be implemented. Special lanes, parking areas, apps and safety measures lead to recognizable benefits to take advantage from this new mean of transport in micro mobility use.

The overview gap analyses can be done through certain addressed issues in which our city context has: Firstly, all the above measures taken, need some time to be tested in order to achieve a certain impact in the city. Secondly, it is also needed that the urban planning mechanisms and policy makers of the city take in consideration these new indicators while rethinking any traffic measures taken. Cycle lanes need to be redesigned to be an integral part

of the micro mobility infrastructure which leads to other urban interventions that can be affected by cycling and pedestrian itineraries including traffic lanes and public spaces also. Last, although our prominent new age of population and the technology usage, the apps use as a crucial part of this system need to be tested if the whole infrastructure can rely on it.

This quote from Lina Ghotmeh (2026) “Architecture is about people first”, frames another point of view of the discussion whether we should feel the responsibility to provide wellbeing inside our cities.

The INSTAT (Institute of Statistics in Albania) data from 1st January 2025 shows that 32.2% of the country population is living in Tirana, so the urge to find safe solutions to women using public transport is immediate. There is a slight advantage in the percentage of the female population so they need a lot of focus in the given options.

A study of IDRA, Research & Consulting with UN Albania (2000?), mentioned in even in the city of Durrës in 2018, that from 200 asked women, 50% had experienced harassment in the streets and they could not walk on their own after 8 pm due to darkness and the lack of street lighting. This leads to approach this case studies: “In order to achieve the dominance of women use in public transport and the safety comfort is important to understand how this initiative has taken place in other cities and how they have implemented their standards to this stereotype”.

An UCLA study of 2023 regarding the theme of Designing Streetscapes for Gender Inclusivity shows several case studies which this research paper found in interest to address as they refer the same issue in another country although more developed.

Case study Seattle

Pedestrian street lightning: Why it is important for gender equity?

- Uniform illumination provided by pedestrian – scale lightning allows for clear visibility of one’s surroundings while walking or waiting at transit stops at night.
- Women more often than men are fearful of street crime and harassment and the presence of well-lit settings helps lessen this fear.
- Adequate street lighting increases feelings of comfort and safety especially among women and gender minorities (Boomsma &Steg, 2014; Loewen et al., 1993.)
- Poor lighting near transit stops has been associated with increased risk of sexual violence against women and LGBTQ + individuals (Ceccato et al,. 2020)



Figure 2. From Citywide Pedestrian Lighting Plan, by SDOT, 2012, p. 18.

The Seattle Department of Transportation (SDOT) released its Citywide Pedestrian Lighting Plan in 2012 to apply a data-informed approach to siting pedestrian lighting and to improve its planning, design, and implementation (SDOT, 2012).

The calculation of these areas took into account:

Key takeaways for pedestrian street lighting:

- Including pedestrian-scale lightning in street improvement projects and development standards can help get more light on the ground when funding is limited
- Night time walk audits, especially with local community members, should be used in the planning of projects to identify lightning needs.
- Consistent colour temperature and light distribution along with the minimization of glare can create a more comfortable night time environment
- Public space analyses grounded in observation can be used to identify populations that may be underrepresented, such as women, girls, and gender minorities, and determine improvements that should be made to make all population feel safe and comfortable

Case study NYC DOT

Public seating: Why is this important for gender equity?

- People who are pregnant, have a disability, or are older may need to stop to rest while out walking, whether it is for exercise, to access public transit, or run household errands.
- Women often have greater care responsibilities and public seating can serve as spaces to care for dependents or older companions while out in public
- Public seating for women, girls and gender minorities of all ages to socialize comfortably in the streets

NYC DOT launched its City Bench program in 2012 to provide public seating on sidewalks throughout the city. All reports pointed out the need for public seating to increase

walkability, support older adults and people with disabilities, and improve street life (Office of the Mayor, City of New York, 2011).



Figure 3. Left: example of a City Bench; Right: a previous style of bench on an NYC sidewalk

Key takeaways for public seating:

- In addition to transit stops, public seating should be installed at locations such as commercial corridors, senior centers, and civic institutions like schools, libraries, and healthcare facilities.
- Benches with backs, wide seats, and armrests offer increased support and personal care.
- The use of imagery software like Cyclomedia can simplify the process of identifying appropriate locations for sating installation and for checking the condition of street furniture.

Case study TriMet

Bus stop amenities: Why is this important for gender equity?

- Bus stop shelter provide protection from direct sunlight and inclement weather, which is especially important for more vulnerable populations such as pregnant people, children and older adults.
- Seating at bus stops provides these populations with a place to sit and rest while waiting for transit
- Trash cans can deter littering and help maintain a pleasant transportation environment

TriMet is the regional public transit agency serving 26 cities in the Portland, Oregon metropolitan area. The agency owns all of its bus stop amenities and prioritizes their installation at locations that will have the greatest benefit to their ridership.



Figure 4. Example of seating and bus shelters used by TriMet. Credit: Transit Center

Key takeaways for bus stop amnesties:

- Sitting bus stop shelter and benches where they are most needed, not where they will result in the highest advertising revenues, can help to ensure they are placed where they will best support transit riders.
- The minimum number daily weekday boardings for installing bus shelter should be lowered in underserved communities and at locations serving high numbers of vulnerable customers such as older adults or people with disabilities
- Forming partnerships with businesses and community groups to maintain bus stop amenities such as trash cans can help to increase the provision of amenities at locations that do not meet minimum daily weekday boarding requirements.
- Using a GIS-based equity analysis that includes factors such as Limited English Proficiency populations and limited vehicle access households, for example, can aid in identifying locations where the addition of bus stop amenities should be prioritized.

Case study Minneapolis Department of public works

Pedestrian infrastructure: Why is this important for gender equity?

- Wide, level sidewalks with pedestrian curb ramps provide barrier-free access for people travelling with strollers, carts, or mobility devices.
- Curb extensions and pedestrian safety island increase the visibility of pedestrians and shorten the crossing distance at intersections, which supports traveling with dependents and older adults.

When curbside uses are altered, such as reducing the number of parking spaces for a mid-block crossing, the DPW often receives a lot of push back from the community. In these situations, it can be easier to move forward with a project if the curb lines are not altered. Ultimately, “safety is a big goal for [the DPW] and if you’re not able to influence the way people cross the street, then you’re not helping anyone”



Figure 5. High-visibility continental crosswalks and quick-build curb extensions. Credit: City of Minneapolis

Key takeaways for pedestrian infrastructure:

- Creating and regularly updating inventories of pedestrian assets can aid in forming a baseline of existing conditions, identifying disparities in the condition of infrastructure, and developing action plans to bring all infrastructure up to standard.
- Developing detailed equity-focused prioritization criteria can help ensure that funding for projects goes to communities where investments are most needed
- Establishing a Capital Improvement Plan can help to target investments years in advance and create a roadmap for achieving larger goals such as improving gender equity
- Initially prioritizing quick-build treatments can help to make wide scale improvements in a short time frame.

3. METHODOLOGY

This research analyzes qualitative data from diverse case studies, comparing successful international strategies and addressing their application within the specific urban context of Tirana. This approach intends to connect this philosophy and the emergent situation of a city in the limit of urban suffocation.

Cities are engines of opportunity where citizens choose and switch between modes of living and moving comfortably. However, development has overpassed human scale, so a moment for reflection is needed. Tirana's core identity as a city is rapidly vanishing. Children lack spaces to play, the elderly have lost their access to relaxing in greenery, and mothers urge their kids to drive despite traffic, and the oil price increase, in order to survive the urban life—a burden that is far from a luxury.

Could micro mobility be the answer? Having back a city enjoyable after all? Car sharing and ridesharing are actually crucial to be part of the whole transport system. E-scooters which are although banned from the government need to be seen as an integral part of the new urban mobility system. Although the negative effects they have brought due to accidents in the

streets, this new means of transport urges its regulation to be eligible and fully efficient. Cargo bikes involvement in public services and private sector, pedestrian infrastructure concept and redesign of sidewalks, using space rationally to create specific cycling lanes, in order to really be of use in the everyday circulation are the objective and the scope of this study.

Multimodal stations and bus stops should be the focus of a new urban planning strategy and design, where "the magic happens". Public space in its best quality was not experienced before. "Felicitous happening" should be the new identity of each artefact. Community can also be of use by interacting with retired people who want to be still active, do volunteer work and get benefits from it in e.g. free transportation, paid beverages, etc, this way of cultivating social life could be proficient to working mothers, so in some of the most crowded mobility hubs, there could be areas of use as a quick day care until the next bus arrives, while parents do the shopping, they can have their babies taken care and pay the extra fee service in the season ticket.

Bus stops can be considered a public ground, especially by providing safety for women and children. A program inside these hubs is a game changer. Filling these spaces with services could lighten peoples' life and make use of their time. These physical spaces can get ephemeral design approach through the AI technology, moving and changing facades, to be enclosed or turn them into encapsulated spaces provide safety and protection.

Despite all, Tirana remains a monocentric city. Infrastructure lacks in all the new areas built which are still "dormitories". A 15-min walk city concept could be the result in a series of these multimodal stations, as new urban artefacts full of amenities to get near people on their way home.

This can seem as a feminist approach, but it is time to face the truth. Through gender equity in transport, we can move toward a resilient city which self-corrects last year's chaotic development and improves the air quality by reducing pollution and traffic. This is actually a global issue to women and gender minorities who are in the same situation. Our system and government policies must persist and support the issue.

A feminist approach city means a social friendly city for all. The example we are experiencing today with the dedicated bus lines for women from their factory are increasing. A lot of companies use this strategy in order to persuade women to accept the job and feel safe during their way back and forth. This example is crucial to be used as an initiative in rethinking our public transport in general and give women more access in this sector as users, providers and policy makers.

4. RESULTS AND DISCUSSIONS

The findings on the analysis of the case studies highlight the potential of micro mobility, multi modal hubs as a core element of the city and the socially inclusive planning through gender equity to address the city' s chaotic situation.

Micro-mobility options are vital components in creating convenient public transport and

reducing private car dependency. Reconsidered infrastructure of cycle lanes is crucial to provide safety measures to the integral modes of mobility. Tirana's current lack of fully settled and connected cycling infrastructure could be a significant barrier, yet redesigning sidewalks to allocate space for cycling by all means and walking freely would encourage more sustainable mobility habits and improve everyday circulation.

Redesigning bus stations in Tirana into multimodal urban artefacts can foster community interaction and make waiting time efficient, pleasant and socially interactive. The inevitable AI use and adaptation to the new technology offers dynamic design and public space use to respond to people's needs for safety and comfort.

Adding a program to each station or multimodal node, depending on the size can help give these space meaningful design and use. As safety concerns are universal, the inclusion of gender equity issues and gender minorities enables them to foster the initiative of public transport use and give a practical solution to urban mobility.

Tirana's rapid expansion into new residential areas presents both opportunities and challenges. Case studies show urban development supported by balanced, multi-nodal transport systems connecting these new poles with the city centre. This approach leads to a polycentric city at last.

5. CONCLUSIONS AND RECOMMENDATIONS

This study outlines strategies which are based either on theoretical approach or practical case studies globally. The mobility paradigm can be transformed and be a fundamental part of urban mobility through public transport and micro mobility measures, by redesigning public spaces as mobility hosts and also the transport modes to its core identity. Through urban planning and design approach, public space can be an integral part of the new urban artefacts functioning as multi modal nodes and bus stations, creating a floating space with no physical limitations between waiting platforms, cycle lanes and pedestrian itineraries.

The gender equity focus is crucial to foster public transport use, facilitating women's life especially mothers' needs and caregivers, which is essential to a better and healthier lifestyle. The 15-minute walk can finally let the city breathe again, evoking the past when walking as a necessity and joy.

This proposal requires both actor parties of policy making and urban planners designing and implementing this strategy of new and freeways of the transportation era.

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