

Master Thesis

**Reconsidering the Parking System in Ukrainian Cities through Global Best
Practices: Gap Analysis and Solutions for Kyiv**

Student: ASYA STUPACHENKO

Supervised by: TYMOFII NAHORNYI, PhD

Kyiv
June 2026

Table of Contents

<i>Introduction</i>	4
<i>1. Literature review</i>	5
1.1. Legislative and regulatory framework governing parking in Ukraine	5
1.2. Burning issues in the study of motor vehicle parking in Ukraine and around the globe	8
<i>2. Terms</i>	12
<i>3. Analytical framework</i>	13
3.1. Current condition of mobility in Ukrainian cities	13
3.2. Parking as an integrative part of urban economy and network	15
3.3. Features and influence of (post-)Soviet street design in Ukrainian cities on motor vehicle parking issues	17
The right to sidewalks	18
The problem of (un)safety on city sidewalks – the conflict between pedestrian and vehicle traffic in Kyiv	19
3.4. Hypotheses	23
<i>4. Research methodology design</i>	23
<i>5. Results</i>	25
5.1. Parking policy gap analysis (Ukraine vs EU cities)	25
On- and off-street parking price disparity in Ukraine	32
5.2. Overview of advanced parking solutions in the cities around the globe	35
Context peers	35
Global pioneers	40
5.3. Field observations	43
<i>Parking management proposals for Ukrainian cities during and after the war (case of Kyiv)</i>	50
Parking supply management	51
Parking demand management (cost/alternatives)	51
<i>References</i>	54
Annexes	60

Abstract. The current parking management in Kyiv is extremely weak and fragmented, showing a gap between formal regulation and actual practice; moreover, there is no clear strategic role of parking within the broader urban system. This results in ongoing conflicts between pedestrians and drivers and undermines urban livability and local economic performance. This research examines what and how governance and urban planning factors contribute to the root cause of the existing problems: through gap analysis, comparative benchmarking and grounding field observations in Kyiv. The findings prove the problem of existing parking pricing strategy as well as ineffective curb use which cause further systemic disruptions. This study suggests a set of parking management measures for a holistic parking policy model for Ukrainian cities, using Kyiv as a case study, to shift from reactive measures to addressing root causes. The suggested measures are split into 3 categories: supply management, demand management, and solutions for sustainable mobility. The demand management cluster is evaluated as the first priority for Kyiv.

Key words: right to the city, urban mobility, pricing strategy, on-street parking, parking demand management, parking policy

Word count: 14 620

Introduction

The current parking system (or what is meant to be a system) in Ukraine remains disorganized in terms of its formal legislation VS actual management, while also missing a clear goal, strategy, its role in the urban ecosystem and relevance to today's realities and challenges. As a result – it brings obvious constant inconvenience and social conflict both for pedestrians and drivers, as well as less obvious negative impact on local economy and big cities' well-being.

This study is grounded in fundamental economic theory concerning demand-supply equilibrium, which serves as the foundation for Donald Shoup's theory of the high cost of free parking. Additionally, it draws upon critical urban theory, particularly the concept of the right to the city as articulated by Henri Lefebvre.

The aim of this study is thus to define a conceptual framework for a holistic parking management model required in Ukrainian cities (Kyiv city as a study case) to transition from reactive symptom mitigation to the systematic elimination of underlying causes. For this purpose, three questions will be examined. **1.** How do existing Ukrainian regulatory frameworks and building codes (DBN) inadvertently contribute to the parking crisis rather than resolving it? **2.** What socio-economic and urban planning factors serve as the primary determinants of excessive and chaotic parking in Ukrainian cities? **3.** How can successful European parking policies and management models be adapted to the specific legal, economic, and social landscape of Ukrainian cities?

The research is exploratory: it starts with the ***theoretical part***, analyzing key documents such as policies, governing laws, state building codes (DBN) and national standards (DSTU) which shape the Ukrainian parking infrastructure. Based on the initial hypotheses and within the chosen theoretical context, root causes of the parking system dysfunction in Kyiv are being qualitatively examined.

The ***second part*** examines major gaps between Ukrainian parking status-quo and the global one. First - through high-level gap analysis, basing on study more precisely explores six specific benchmarking parking tools of European and global peer-cities. To ground the theoretical findings, this research conducts three field observations within Kyiv.

The ***third part*** summarizes the findings and outlines structured policy recommendations for Kyiv parking system development based on the theories applied, best global practices as well as the local context.

1. Literature review

1.1. Legislative and regulatory framework governing parking in Ukraine

Urban parking in Ukraine is framed by a several documents, most of which act on a national level, such as the following:

Law of Ukraine “*On Road Traffic*” No. № 3353-XII dated June 30, 1993, is a key document within the road traffic legislation. It defines the rights, obligations, and responsibilities of executive bodies regarding the organization of specified amount of parking lots within cities, their physical equipment and operating; The Law also determines responsible authorities for ensuring compliance with traffic Rules and how this is to be achieved.

According to this Law, the number of parking spaces must be at least 10% of the population for the Kyiv city and at least 5% of the population for Sevastopol, Simferopol cities, and cities that are regional centers.

Law of Ukraine “*About the accomplishment*” No. 2807-IV dated September 6, 2005 which defines principles of settlements improving and aims to create favorable conditions for human life The Law integrates parking elements organization into the urban settlements’ accomplishment.

The Resolution of the Cabinet of Ministers of Ukraine No. 1306 dated October 10, 2001, with latest changes #364 as of April 1, 2025, defines general *Road Traffic Rules*, particularly rules for the motor vehicle drivers and cyclists regarding permitted and prohibited places for parking within and outside of the cities as well as exact distances to be considered for a legal parking. It also describes road signs and markings guiding the road users.

The Resolution of the Cabinet of Ministers of Ukraine No. 1342 dated December 3, 2009 approves *Rules for vehicles parking* which regulate the organization, procedure, roles and responsibilities for paid vehicles parking on the urban streets and roads – so called on-street parking.

State building standards of Ukraine such as “ДБН Б.2.2-5:2011 Landscaping”, “ДБН Б.2.3-5:2018 Streets and Roads of settlements” and “ДБН Б.2.3-15:2007 Car Parks And Garages For Passenger Cars” define technical standards for the design and construction of urban parking elements. ДБН Б.2.2-12:2019 Planning and development of territories determines parking mandates for the new development and reconstruction.

In alignment with the above-described documents, city councils/authorities specify local requirements or organization for on-street parking. In Kyiv city the following list of regulatory documents completes the set of local framework for urban parking management:

“Accomplishment rules of the Kyiv city”, approved by the Kyiv City Council Decision No. 1051/1051 on December 25, 2008. The Rules specify roles and responsibilities for the paid parking lots and bicycle parking infrastructure organization.

Order of the Department of Transportation Infrastructure No. N-67 dated March 25, 2021, *“On the Approval of the List of Designated Parking Spaces for Vehicles on the Streets and Roads of the City of Kyiv”*

Resolution No. 242/5629 of the Kyiv City Council dated June 23, 2011, *“On the Establishment of Local Taxes and Fees in the City of Kyiv”*

The rates for vehicle parking services are established by Order No. 83 of the Executive Body of the Kyiv City Council (Kyiv City State Administration) dated April 26, 2026 *“On the Establishment of Rates for Paid Vehicle Parking Services Provided by the Municipal Enterprise ‘Kyivtransparkservice’”*

The paid parking zones for vehicles approved by Order No. 1528 of the Executive Body of the Kyiv City Council (Kyiv City State Administration) dated July 9, 2021, *“On Amendments to Order No. 1719 of the Executive Body of the Kyiv City Council (Kyiv City State Administration) dated October 2, 2012”*.

As a summary, the following stakeholders define the parking system for Kyiv.

National level:

- Verkhovna Rada (Supreme Council, the parliament)
- Cabinet of Ministers of Ukraine (the highest body of state executive power)
- Ministry for Development of Communities and Territories of Ukraine (Office for Urban Transport at Internal Motor Transport Division)
- Ministry of Internal Affairs of Ukraine (Department of Interaction with the National Police of Ukraine)
- National Police of Ukraine (responsible for traffic control and design approval, incl. parking lots)

Local level:

- Kyiv City Council (local legislative authority)
- Kyiv City State Administration (local executive body)
- Department of Transport Infrastructure (specialized Kyiv City State Administration unit)

- Municipal Enterprise “Kyivtransparkservice” (organizer of the arrangement and operation of parking areas in Kyiv) - Комунальне підприємство КП «Київтранспарксервіс» створене згідно з рішенням Київради від 15 березня 2007 року № 261/922
- Municipal Enterprise “Traffic Management Center” (comprehensive traffic design and modeling, including on-street parking lots)

1.2. Burning issues in the study of motor vehicle parking in Ukraine and around the globe

Parking problems emerged as a result of rapid automobile growth and urban sprawl during the second half of the 20th century. Over the past decades, the global parking research trend has shifted from a primitive parking supply increase need to comprehensive approaches of managing demand and reclaiming highly valuable urban land. The recent studies frequently cover the intersection of law, urban planning, economy and more recently – environmental science, to explore how modern cities struggle to balance the increasing number of private vehicles with limited urban space and the need for sustainable living.

Although there is currently no formal classification, several clusters may be identified within the worldwide parking-related study landscape according to the core idea it supports and/or is driven by:

Research that focuses on **spatial & land use aspects** look at the city level aiming to investigate how parking space shapes the city or vice versa. Such studies are often related to urban geography and/or GIS. Bondar et al. (2022) examine parking ecosystem in Vinnytsia city, Ukraine – concluding, among other, the necessity of planning and developing parking infrastructure comprehensively rather than on spot basis.

Within this, "Parking Minimums" vs. "Parking Maximums" remains the most known common global policy debate for the past decades. The minimums were “raised” in the 20th century in the US, where local governments have historically aimed to ensure new developments provide sufficient space for vehicles (those minimums are typically based on facility size and use) – subsequently this trend has expanded to the European continent. While parking minimums have greatly influenced urban development in US cities, researchers globally have also observed their negative effects and responded by shifting toward policies that favor parking maximums – to restrict land use and minimize environmental runoff. These upper limits are often flexible, allowing for more spaces if the developer incorporates eco-friendly features like permeable surfaces. Guo (2013) evaluating London’s shift from minimums to maximums from 2004 to 2010 argues that parking maximums support market-oriented approach and reduce excessive parking. While developers in most cities are still obligated to provide a certain minimum number of parking spaces, cities leading the way in parking reform are shifting towards lowering or eliminating these requirements altogether and instead introducing maximum limits. For the Ukrainian context, *DBN B.2.2-12:2019 “Planning and development of*

territories” sets what is called the minimum parking requirements for different types of urban areas. For the residential buildings the parking minimum calculation considers location (the closer to the center – the higher the ratio) and dwelling types. This parking maximum debate, however, is not supported in the Ukrainian research field the same way as globally – instead, in Ukraine we still recognize the deficit of parking lots provided together with developments.

To deal with the parking space deficit challenge, some studies supporting spatial & land use direction focus on the engineering point of view – such as Dukhniak and Terletska (2022) look for the most efficient constructions to maximize the space utilization and increase parking supply in dense urban areas.

Another big research pillar examines parking through **economic aspect**. Here Donald Shoup, once called a ‘Godfather of parking reform’ – with his key **statement** that there is no free parking and its cost is either absorbed or hidden by other costs, globally set the tone for both research and policymaking in the past decades. Shoup is also a founder for dynamic pricing model in parking including setting the right price for curb parking and applying real price for the cruising issue.

Supporting the “Shoupista approach” within demand management some scholars are searching for the most effective pricing strategy for urban parking. Vnukova et al. (2020) examine how the parking prices in Kharkiv may be adjusted to reach the target occupancy rate – this approach aligns with the Shoup’s theory of dynamic and market based pricing. Similarly, in the recent study (Osetrin et al., 2025) authors argue that the fixed rate parking system in Ukraine is outdated and inefficient while dynamic pricing strategies, driven by newest technologies such as smart parking meters and automated data collection systems, have the potential to significantly improve the efficiency of parking management.

While shifting from the approach of effectively developing parking supply, other scholars focus on working with **parking demand** – as per Shoup (2005) it is better to reduce demand rather than increase supply. Kholodova (2015) examined parking demand in the central area of Kharkiv, revealing unexpected peak hours for parking. More complex studies also provide recommendations to manage demand – for example, basing on gravitation and regression models, Kopytsia and Kvyetnyy (2025) also claim that behavioral model must be included in scenarios related to parking price and location adjustment.

The smart technology **(IoT) cluster** aims to study and develop hardware and/or software in order to manage and optimize parking supply. Such solutions may

increase efficiency through data transparency. Vast majority of Ukrainian studies are focused exactly on the IoT-based parking solutions which may be aiming to help users monitor and find free parking lots within the city area (Lysak et al., 2020) or to display available slots in real time (Kreshchenko & Yushchenko, 2023). Such solutions are dedicated to help making the parking process more convenient and predictable for the drivers – and it was proved to improve the cruising problem together with CO2 emissions (Kopytsia and Kvyetnyy, 2025). However, they are not touching the root causes of the field problems, neither managing parking supply nor demand.

One of the most comprehensive perspectives on the parking issues in Ukraine is that of Roman Liubyt'skyi, whose research interest while being rooted in architecture and urban planning, also questions the chosen problem within related fields – such as history, urban economics, the earlier mentioned IoT (but only as a supporting tool) and others – providing in the dissertation (2018) a helicopter view so much needed in local urban studies. Liubyt'skyi (2016) also broadly incorporates such definitive terms as **on-** and **off-street parking** in his works. It is very valuable as the current Ukrainian legislative framework does not provide such simple classification – it operates by constructive and planning features of parking lots, unlike the legal documents and studies around the globe. These terms will later be frequently used in this study as such simple parking type classification analysis will uncover the possible weak spaces of the Ukrainian parking ecosystem. The author also poses a need and role for **Park-and-Walk** in-city parking, which is a rarely used term even for the global scholarship.

Summary on Ukrainian study context

With that being described, although Ukrainian scholarship mostly recognizes the common parking-related challenges such as deficit of parking lots, violation of parking rules, impact on urban traffic, the available pool of studies in this field still does not cover all the above-mentioned aspects and especially it lacks the interdisciplinary approach to seek the solution in between of those; the existing academic focus on parking in Ukraine remains largely directed to engineering solutions, technical and technological solutions for parking supply monitoring – which only helps to mitigate the consequences of status quo. Moreover, Ukrainian academic discourse lacks the studies working with the complex problem root causes of various natures rather than only seeking solutions that mitigate the consequences.

With that, a substantial gap exists concerning a comprehensive parking management framework. The lack of studies that integrate the analysis of driver behavioral factors, regulatory mechanisms, and spatial planning patterns prevents a transition from a “problem-reactive” strategy to a strategy of “addressing root causes”, which defines the necessity of this research.

2. Terms

ANPR — Automatic Number Plate Recognition (ANPR), a.k.a. License Plate Recognition (LPR);

APDS — Alliance For Parking Data Standards

BC — business center

DBN — State Building Standards

GIS — Geographic information system(s), a computer system that analyzes and displays geographically referenced information.

IDP — Internally Displaced People

KTPS — Kyivtransparkservice

ME — Municipal Enterprise

P+R — Park-and-ride; an off-street parking with connections to public transport that allow commuters and other people travelling to city centers to leave their vehicles and transfer to a bus, rail system or carpool arrangement for the remaining part of the journey.

SUMP — a sustainable urban mobility plan (SUMP), is a strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life.

TEN-T — Trans-European Transport Network

UBD — The status of a Participant in combat actions

3. Analytical framework

3.1. Current condition of mobility in Ukrainian cities

Mobility is essential in influencing the development of ever-growing urban areas; its efficiency determines a city's economic strength, social unity, and sustainable growth. Conversely, According to Urban Innovative Actions (n.d.), poor management can lead to greater congestion, higher expenses, and increased climate risks that negatively affect local GDP and livability. In recent decades, there has been an increasing emphasis on ensuring that urban mobility is both sustainable and resilient in the long term.

Urban mobility is also of social mobility aspect – as people move around, they connect not only with the destination but also with the places they pass through and the people they meet along the way (Sim, 2019).

Parking is frequently addressed as part of urban policy agendas, often integrated along with strategies for sustainable mobility and housing development. The Global Mobility Report 2022, published by Sustainable Mobility for All (SuM4All, 2023), explores sustainable mobility and highlights the importance of reducing dependence on private vehicles to tackle urban issues like parking shortages. As city space remains limited, the gap between parking supply and demand has become increasingly pronounced, especially in larger cities – making parking shortages a pressing concern for urban management. Researchers have investigated urban parking management extensively, focusing on topics such as the balance of parking supply and demand, technical approaches to solving parking issues, and policy strategies for addressing urban parking challenges.

At the UITP Summit 2025 in Hamburg, UITP launched a global Parking Transformation Working Group to better explore how parking can be used to incentivize sustainable urban mobility. Parking is now seen as the most powerful and cost-effective lever municipalities may use to drive modal shift (UITP, 2025). Due to the fact that every car trip begins and ends in a parking space, managing the availability, location, and price of parking directly influences a dweller's daily choice of whether to drive, use public transport or other mode.

SWOT analysis for Ukrainian cities

Strengths:

- Being historically developed, most cities have compact mixed-use centres which make it possible to develop micromobility on the same urban morphology as European peers;
- High digitalization level (already realized through the electronic tickets, mobile apps and open data for public transport traffic);
- existing transport network provides various types of public and private transport as well as engineers and drivers for each type;
- The historical context also contributed to a widespread electric public transport infrastructure — such as tramways and trolleybuses.
- Growing interest and attention towards the study of urban transport systems, supported by active civic groups and urbanist communities, whereas NPOs such as “Passengers of Kyiv”, “Pro Mobilnist” and “U-cycle” contribute with regular research and updates to public discourse

Weaknesses:

- Deterioration of infrastructure and rolling stock which require major repairs or replacement;
- Lack of public transport drivers, which has intensified under martial law;
- A large underground cash market for payments in marshrutkas;
- Lack of political will to manage the mobility demand rather than meeting it;
- Urban motorways development or construction is frequently prioritized over public transport and micromobility development;
- No municipal Park & Ride facilities with transit-ticket integration anywhere in Ukraine

Opportunities:

- The inevitable path of EU-integration and subsequent harmonization need for standards and strategies;
- Cities are being granted or sold used but still newer rolling stock for public transport system;
- Micromobility is being at a high focus and level of participation of the public;
- Wide city streets constructed during the Soviet period provide the necessary spatial capacity for accommodating dedicated spaces for all mobility modes.
- Dense and actively developing city suburbs will further intensify urban traffic and drive the need for management strategies that incentivize transit mode shifts.

Threats:

- Motorization rate grows due to the lack of convenient alternative transportation modes;
- Traffic safety is on declining trend over the past years;
- With the Ukrainian energy grid under regular attacks, more sustainable transport modes are at a high risk, including possible closure of certain networks;
- Widespread developers' non-compliance in terms of minimum parking requirements may keep resulting in under-supply for off-street parking;
- Car ownership - as - status mentality leading to weak public mandate for car-restrictive policy.

3.2. Parking as an integrative part of urban economy and network

It is important to shift focus from viewing parking as a mere commodity or a static infrastructure requirement to seeing it as an economic commodity and is subject to the basic laws of economics. Parking is a dynamic engine for land use, revenue, and behavior management.

If that is the case — the quantity and pricing of parking spaces are determined by an equilibrium point where the provider's cost aligns with the consumer's willingness to pay. However, the dynamics influencing this relationship are significantly more complex than outlined. Numerous factors can affect the supply-demand equation for parking. For instance, implementing policies that reduce the number of available spaces below the equilibrium level establishes a new balance, resulting in altered quantities and prices. Specifically, supplying fewer parking spaces leads to a new equilibrium, typically increasing the price consumers pay for parking. It is crucial to recognize that parking functions as an economic commodity, governed by fundamental principles of supply and demand.

When examined from the perspectives of land use and opportunity cost, the fundamental principle underlying urban economics is the notion of scarcity. Parking consumes valuable urban land that could be utilized for high-density housing, commercial activity, or public space.

From an urban economic perspective, a clear distinction emerges between the traditional "parking as a burden" approach and the "parking as an asset" model while comparing Ukraine to leading nations in urban mobility management.

- **Traditional parking view** aims on parking supply maximization, where parking space is often subsidized or even free, being however dedicated exclusively for

vehicle storage. With that, its economic role for the city budget is just being a cost center, thus – a burden.

- **The integrative economic view**, on the contrary, sets its goal to perform parking demand management to optimize turnover. With that, pricing commonly aligns with market rates and may be subject to dynamic adjustment. In terms of land use, parking space may be flexible and/or shared – so being multipurpose. As a result, this approach positions the parking system as both a source of revenue and an instrument for economic regulation.

If looking at urban land through an opportunity cost lens – it may be revealed that on-street parking lots are frequently a city's least economically productive asset. When the most valuable public space is occupied exclusively for vehicle storage, the city loses substantial property, business, and sales tax revenues that dense, mixed-use neighborhoods naturally generate. Apart from the financial balance impact, allocating scarce land to parked vehicles reduces the urban space available to communities for walkable areas, affordable housing, or climate-resilient infrastructure. Focusing on people-centered development, on the contrary, turns this burden into a community asset, highlighting that parking is never free – it often comes at the expense of surrounding neighborhoods.

Donald Shoup's theory of high cost of free parking

In his so named comprehensive parking work, urban planning professor Donald Shoup (2005) claimed a fundamental argument that urban parking is never free — meaning that if the driver does not pay for it directly (for example, via the street parking meter or mobile app), the significant costs associated with land, parking lot construction and maintenance are most likely bundled into higher property value, groceries price, restaurant or cinema bills, or even lower salaries. This common pricing set up promotes, what is called, a public subsidy for cars

Supporting his theory, Shoup presented a dynamic pricing approach, often conceptualized as **Performance-Based Pricing** - where Shoup argues that curbside parking should be treated as a scarce economic resource and thus managed through market-clearing prices rather than static municipal fees. For this purpose, parking prices are adjusted dynamically in response to observed demand rather than set administratively or politically.

Apart from the parking efficiency, the theory also addresses broader urban impacts, including reduced cruising time, lower emissions, and improved accessibility for short-term curb users. Importantly, Shoup advocates for the visible

reinvestment of parking revenues into local public goods, which enhances political acceptability and public support for pricing reforms.

Curb space management

Curbs play a crucial role as an interface between mobility and urban life accommodating parking, logistics, and micromobility. In dense urban areas it thus must be managed as a scarce, limited public resource - shifting its usage from passive vehicle storage to a flexible instrument which supports access, safety, and efficient mobility. The recent Susan Shaheen study (2022) suggests the following parking-related strategies:

A key goal would then be to reallocate the curb space to users with higher value. For example, if a parking space designated for carsharing only - it will reduce private car usage while maintaining access.;

Wisely located parking line would improve safety by separating pedestrians and cyclists from moving traffic;

Adequate demand-based prices encourage turnover, reduce long stays, congestion and cruising time.

Eventually, appropriate curb allocation influences travel behavior, accessibility, social equity, and the efficiency of last-mile logistics.

3.3. Features and influence of (post-)Soviet street design in Ukrainian cities on motor vehicle parking issues

The layout of most modern Ukrainian cities such as Kyiv, Dnipro, Kharkiv, Vinnytsia, and others, was largely shaped during the Soviet era. World War II left the biggest cities in ruins, creating a need for major reconstruction, sometimes “from scratch”. The era of mass construction (the 1960s–1980s) had the greatest impact on how cities look today (especially on the outskirts). Modernist trends resonated strongly with Soviet urban planning, which drew particularly on the ideas of Le Corbusier (Lorenzo, 2015), where the city was divided into zones for work, leisure, and housing – these zones, in turn, were to be served by wide avenues called “arteries”, connecting them. The width of the roads was calculated to accommodate the “growth” of the socialist city, where rapid public transport and state freight flows would prevail. In turn, wide sidewalks and vast gaps between buildings were intended to ensure sunlight and ventilation while simultaneously emphasizing the non-human scale of the cities.

This study does not evaluate modernist urban planning as such but rather examines its impact on the current issue of urban parking. Soviet Ukrainian cities of the modernist era, with their wide sidewalks, were designed at a time when car ownership in Ukraine was low. Urban planners did not anticipate that every family would own a car, or even more than one. In modern cities, wide sidewalks and roadsides, which remain insufficiently regulated, effectively turn into unauthorized free parking zones. We have inherited the legacy of Soviet modernism, which provided large pedestrian spaces that are now often subconsciously viewed as *terra nullius* – a territory without a clear functional purpose and owner, which becomes the site of illegal construction of small architectural structures or is used for parking vehicles. The issue of car-pedestrian conflicts in residential areas has been largely overlooked, making it a distinct and relatively unexamined subject for research (Popescu, 2022).

The right to sidewalks

The transformation of sidewalks into areas of unregulated parking in Ukrainian cities is not only a consequence of infrastructure shortages but also a manifestation of a systemic violation of the “right to the city,” where private cars’ prioritization over pedestrian space leads to the degradation of the street’s social function as a public good. A conceptual question arises: **who do sidewalks belong to, and to whom should they belong?**

On this issue, I initially refer to Henri Lefebvre’s (1968) concept of the *Right to the city*, which will help shift the discussion of parking from the realm of simply “a lack of parking spaces” to the realm of social justice and human rights. The right to the city is, in particular, the right to access urban life. Sidewalks in cities are often the main routes and places of daily presence and movement for basically all city dwellers – whether for regular necessary commutes, walks, or simply as places to meet and socialize. Jane Jacobs (1961) highlighted how essential sidewalks are to the social fabric of urban life.

In this context, parking on the sidewalk should be considered not only and not as much from the perspective of compliance, but also as an act of expropriation of public space for the benefit of private property (in this case a private car). Lefebvre’s ideas also criticized cities built exclusively for consumption and accelerated mobility: *“the modern capitalist city has turned into a gigantic machine for extracting profit, where space has become a commodity, and the inhabitant is merely a unit that must either consume or move efficiently between points of consumption”*. The car embodies speed and unconscious accelerated traffic, while the pedestrian on the

sidewalk embodies “strolling” (*flânerie*). Parking on sidewalks destroys the desire (and sometimes the opportunity) to stop, talk, or sit in a café. Thus, the city becomes a corridor between points A and B, rather than a living organism. However, according to Lefebvre, a city dweller is not just an “infrastructure user” but a subject with the right to unconstrained access to public space.

The distribution of urban space also reflects power relations – this argument is central to critical urban theory. In Ukraine, for a long time, car ownership was (and often still is) a status and power symbol, especially as a subconscious compensation for the deprivations of the Soviet era. Consequently, the interests of the “status-conscious minority” (motorists) have dominated those of the “car-free majority” In this context, the right to the sidewalk represents a demand for the democratization of society.

The problem of (un)safety on city sidewalks – the conflict between pedestrian and vehicle traffic in Kyiv

Now that it has been established that the sidewalk serves as a key shared space for city residents and, at the same time, an important tool for a democratic and dignified life in the city, the study suggests examining the safety of this space for its key users.

Ukraine’s Traffic Code does not prohibit parking on sidewalks – Section 15.10(c) of the Code allows the parking of cars and motorcycles, which may be located at the edge of sidewalks where at least 2 meters remain for pedestrian traffic. A similar exception also exists, for example, in Poland (1.5 m) or Romania – but, on the first, such policies are rather the exception in global practice; secondly, parking on sidewalks in Poland and majority of other European cities is well managed and minimizes the flow conflict as is shown on Fig. 5-7. It is not at all as chaotic and inconvenient as in Ukraine. As for Romania, the issues of overcrowding, inaccessibility, and danger on sidewalks are very similar to those in Ukraine. Raluca Popescu (2022), in her ethnographic study of Bucharest’s streets and sidewalks, asks precisely this question: **how did sidewalks become parking spaces for residents’ cars?**

Where do the dangers of Kyiv’s sidewalks lie? On the one hand, as noted, drivers are allowed to park under certain conditions – conditions that can easily be met on Ukraine’s widespread spacious sidewalks, but which can be interpreted in different ways (can we be certain that all drivers perceive a 2-meter distance with the same accuracy?). On the other hand, as of September 1, 2018, updated state building codes regarding the design of streets and roads in populated areas (DBN

V.2.3-5:2018 “Streets and Roads of Settlements”) came into effect, which, in particular, prohibit the design of official managed temporary parking lots on sidewalks. In practice, this means that completely free, unauthorized parking is legal, whereas controlled (and possibly paid) parking managed by the city is not. Since we are focusing our study on Kyiv, we can note the widespread practice of placing fences, bollards, or other objects at the edge of the sidewalk (as it is shown on Figure 1) – to separate the roadway from the pedestrian area, and, what may be assumed, to protect the pedestrian zone from vehicle access. However, the design of the streets often allows vehicles driving onto sidewalks from adjacent roads. This may occur for any purpose: short-term loading or unloading of goods, or picking up or dropping off passengers, as well as short-, medium-, or long-term parking. The photo evidence of such rooted parking pattern in several locations of Kyiv presented in Annex 1 and Annex 2.

In addition to the city’s inability to collect full data on the scale, location, and duration of such parking, there is a pattern that poses a danger to pedestrians: vehicles drive directly through the sidewalk to reach their parking “slots”, and we’re talking about thousands of cars across the city. Typically, cars are parked on sidewalks either parallel to the street or at an angle. Consequently, for both drive in and drive out, a vehicle inevitably uses the remaining area of the sidewalk – exactly those 2 meters that were left for pedestrians. Thus, a direct physical as well as psychological conflict arises between pedestrian and vehicle traffic. On the one hand, pedestrians have the priority on the sidewalk and are therefore entitled to continue moving without changing their path, speed, not to mention stopping. However, pedestrians feel psychologically uncomfortable when a vehicle is moving behind or toward them; moreover, pedestrians may expect a request or even a complaint from the driver to clear the way – so the most common reaction is to give way to a car to allow it to pass sooner along the sidewalk. A separate risk exists for people with small children, who cannot walk carefree on such sidewalks or let children walk ahead on their own, as they are forced to subconsciously monitor whether any vehicles are moving on the sidewalk too. We have a paradox where: on a sidewalk that is by definition and primary purpose a pedestrian zone, it is actually not the pedestrian who feels most confident and comfortable.

Apart from the direct dangers, it is also worth mentioning the indirect costs and externalities for the urban community- such as negative environmental impacts (exposure to exhaust emissions), reduced comfort when moving around and spending extended periods on sidewalks (which, in turn, negatively affects economic activity in these areas).

The issues described clearly highlight a conflict of rights: the “right to own an object” (a private motor vehicle in this case) vs the “right to use the environment” (the city). In a developed democratic, human-oriented society, the latter a priori takes precedence. Let us also recall Edward Soja’s thesis on spatial justice, where urban space is not merely a “stage” where events take place, but that which shapes social life. Space is produced (here he refers to Lefebvre) and therefore it can be “just” or “unjust”. In the case of parking, we are dealing more with endogenous (internal) injustice, which arises from the internal logic of capital. If we apply Soja’s framework to parking, critical questions arise: who owns the space along the curb? If it is free for private cars, isn’t this an injustice toward those who do not own a car but could use this space as a wider sidewalk or bike lane?

Therefore, for further discourse, we should shift the focus from “where to park all the available cars?” to “how can we return the sidewalk to city residents to better realize their right to the city?”



Figures 1-4. Commonly used physical objects to separate roadways and sidewalks, Kyiv



Figures 5-7. Municipal paid parking areas partially using the sidewalks in Prague, Czech Republic and Warsaw, Poland

3.4. Hypotheses

- Current urban policies prioritize the expansion of parking capacity focusing on accommodating and subsidizing – thus escalating parking demand while undervaluing the economic and spatial costs associated with the provision of parking infrastructure. The solution should support a shift from supply-oriented planning (just building more spots) to demand-oriented planning (managing the flow) – that aligns parking availability with broader urban mobility goals through the active regulation of user demand.
- Uncontrolled (and therefore de facto free) curb parking results in its use for all parking durations: short-, medium-, and long-term, regardless of cost considerations, the primary function of the area, or the specific advantages and key users associated with it (e.g., commercial, public, or residential zones).

4. Research methodology design

The study uses deductive (top-down) approach starting from policy level to identify possible structural gaps, which will define the search query for the study cases to be chosen.

To explore the discrepancies between existing legislative and regulatory mandates and effective parking outcomes, this research adopts a dual-lens methodology. First, it utilizes policy gap analysis to isolate core systemic inconsistencies. Second, it benchmarks these findings against successful global cases – within the European context as a priority. This analysis is also supported by qualitative field observations, which serve to ground the research and provide empirical evidence of policy performance within the chosen city.

Policy gap analysis

The research begins with regulatory mapping by defining the Ukrainian legislative and regulatory framework governing urban parking and mobility at both the national and municipal levels. This is followed by gap identification. Contrasting these domestic regulations against European Union directives and international "best practice" policies to isolate core systemic inconsistencies, legal vacuums, and misalignments with national mobility goals.

Comparative Benchmarking: the dual-bundle approach

To contextualize the Ukrainian framework, the study benchmarks it against international models categorized into two strategic "bundles":

Bundle 1 (contextual peers): This group comprises post-socialist cities in Eastern/Central Europe and the Baltics. These cities share a similar historical, political, and urban planning trajectory with Kyiv, offering realistic insights into transitioning legacy infrastructure into modern mobility strategies;

Bundle 2 (global pioneers): This group includes global leaders in parking management, selected for their innovative interventions – ranging from local demand-management tools to comprehensive national strategies. While their socio-economic contexts may differ, they serve as benchmarks for best practice "pioneer" policies.

Empirical grounding through **qualitative field observations**:

To validate the theoretical findings as well as initial hypothesis, the methodology includes two or three qualitative field observations in Kyiv. These are conducted in a residential area, a key infrastructure site (near the railway station), and mixed-use district. These site-specific investigations serve to bridge the gap between "de jure" policy (what is written) and "de facto" reality (what occurs on the street), providing empirical evidence of how regulatory deficiencies manifest as physical congestion, accessibility issues, and infrastructure mismanagement on the streets of Kyiv.

For each location the following **parameters** were audited:

- Parking occupancy & turnover: how full is the street/sidewalk? Are vehicles staying for 15 minutes, 30 minutes or longer?
- management category: whether it is an official paid parking zone or just permitted for free curb/sidewalk parking? If both are available – what is the approximate split of parking spots?
- Parking infrastructure condition of paid zones: signage, digital payment indicators (QR codes), and physical markings availability;
- compliance levels: percentage of normal VS non-compliant parking (double parking, blocking transit or bike lanes etc.)

- enforcement visibility: were any parking inspectors or police noticed within the observed area and time? If so, was there any evidence of enforcement such as tickets or evacuators applied?

Synthesis & **proposals** (case of Kyiv)

This final phase of this study will transform research findings into a multi-layered framework for modernizing Kyiv's parking ecosystem through the lens of urban planning, urban economy and sustainable urban mobility.

Possible **ethical problems** and their mitigation

The topic itself is not this much sensitive as well as the chosen methodology does not expect direct interaction with dwellers or drivers. However, **the researcher's bias** (on urban mobility or parking) may influence on how regulatory acts or "success" in case studies was interpreted – to minimize this the study will seek for multiple data sources (i.e. official documents, reports as well as observations and reviews). More likely a **representational bias** may occur while selecting specific European cities might – this may lead to "cherry-picking" evidence that confirms the expected theory while ignoring contradictory data. To mitigate this – the study will also search for negative cases/tools where the policy failed or was implemented differently. During the benchmarking phase there is also risk for **contextual misalignment** – when applying European policy models to Kyiv city without accounting for local socio-economic or cultural differences. This risk may be mitigated by defining the limitations of cross-cultural transfers.

5. Results

5.1. Parking policy gap analysis (Ukraine vs EU cities)

European policy framework

While car-centric development was dominating within American and European urban planning in the mid-twentieth century, it was sharply reconsidered in just a few decades. A report “Just the Ticket” released by The Transport Planning Society (TPS) (Potter, 2023) was arguing for the current parking system and policy that promotes car ownership and use.

To start with, there is no such a shared parking policy within the EU – it is largely of local municipal responsibility to draw the ones. Besides, the parking system is defined by a mix of high-level urban mobility frameworks, specific environmental directives, and technical standards. The primary policy source may be The European Commission (DG MOVE) which does not regulate local parking directly, but it sets the policy framework within which proposes measures to encourage EU Member States to develop urban transport systems that are safe, accessible, inclusive, affordable, smart, resilient, and emission-free and parking is treated as a mobility management tool. As for the EU, it now broadly refers to Sustainable urban mobility. With the revised TEN-T regulation entered into force in 2024, hundreds of European cities were defined as urban nodes within the TEN-T network, with respective requirements. Among others, they should have a strategic planning document called the *Sustainable urban mobility plan (SUMP)* which is prepared in collaboration with key stakeholders (including residents), aligned with different policy areas. While parking management has demonstrated significant value in promoting sustainable urban mobility within cities, it continues to be one of the least developed policy areas associated with Sustainable Urban Mobility Plans (SUMP). To support this the recent EU-funded *PARK4SUMP* project by CIVITAS was published in 2020 and which also treats parking management not as a storage problem but as a strategic lever to achieve wider urban mobility goals. The project originated from the recognition that although cities maintain detailed plans for bus and bicycle transportation, their parking policies frequently remain outdated or lack visibility. Park4SUMP seeks to address this issue by incorporating parking management within the Sustainable Urban Mobility Plan (SUMP) framework. Another project by CAVITAS is ParkPAD – a specialized tool developed to evaluate the effectiveness of current local on-street and partly off-street parking policies, serving as a foundation for future improvements. The audit tool accesses six key modules – Parking Policy, Parking Operation, Parking Innovation, Parking Information & Promotion, Parking Enforcement, and Parking Data, offering a holistic view of parking. Whereas Ukrainian parking system still remains not much integrated into broader Transport/mobility strategy, the European SUMP guidelines, as outlined by Rupprecht Consult (2019), encourage working with packages of measures which may positively reinforce each other and help to overcome implementation barriers. It provides an example of a measure package where a combination of measures to discourage car use, such as parking controls, is used together with measures to promote alternatives, such as improved bus services and cycling lanes. Supporting that approach, the municipality of Kraków may be a good

example as it integrates parking regulations, such as parking spaces elimination, with strategies to limit traffic (including restricted zones), and enhancements to public transport, like public transport service integration – according to the Push & Pull Project Consortium (2015). This coordinated approach reduces vehicle numbers and leads to better air quality and smoother traffic flow.

In Ukraine, on the contrary, the regulatory framework is significantly less developed. There is no national SUMP equivalent and no national parking-policy doctrine: Ukraine signed the EU mobility acquis through the Association Agreement but has not yet transposed the SUMP requirement into domestic law.

The table below provides a comparative analysis of key elements of parking policy between the EU and Ukraine, highlighting areas where Ukraine's policies may demonstrate deficiencies. It is important to note that each city (i.e Kyiv compared to Lviv) may be at a different stage of parking management development – the reason is that local municipalities have enough freedom to adjust, supplement or specify national framework. For this research comparison is made against Kyiv, as a chosen case study.

Table 1. Gap analysis for parking system elements in Ukraine and in the EU

Policy aspect	Kyiv, Ukraine	European approach	The gap / Action needed
Legal and strategic alignment			
Primary goal/objective	Fiscal collection and basic parking compliance	Shape traffic flow and modes share; reducing parking demand	Reclaim urban parking and its tariffs as a behavioral and economic demand-management tool
Legal basis	Several documents are governing the current system, though no overarching mobility statute in place	SUMP as a binding planning document for TEN-T nodes from 2025; supplementary national or local laws.	Adopt a SUMP-equivalent framework law and oblige cities >100k to develop a SUMP.

Scope	Covers limited paid on-street zones and KTPS-contracted parking areas only loading, freight, residential and workplace parking remain out of scope	Holistic: curb (all users), residential, workplace, freight, EVs, shared mobility, P+R off-street parkings	Widen scope to all curb users and off-street segments.
Integration	weak relation to public transport, cycling, or land-use planning; no SUMP in place.	Parking is a sub-chapter of SUMP; aligned with mode-shift, low-emission zones and TOD policies	Integrate parking into a citywide SUMP coordinated with ME “Kyivpastrans” and ME “Kyiv metropolitan”, Ukrzaliznytsia
Governance and institutional capacity			
Governance model	Monopolistic operator (KTPS) and a separate enforcer	Unified strategic responsibility under a transport authority	Parking operator and enforcer to be under a single strategic body, with KPIs aligned across both
Local autonomy	Tariffs require Kyiv Council decision; judicial review forces “cost-based” justification, limiting Shoup - style pricing.	Cities have broad discretion to use pricing as a policy lever	Amend Ukrainian legislation making pricing policy to be established on local level
Stakeholder involvement	Limited formal public participation; experts (Passengers of Kyiv, Pro Mobility) engage informally	SUMP mandates formal participation (working groups, public hearings, CIVITAS	Institutionalize obligatory participatory SUMP process development at city level

		engagement toolkits).	
Land use / Spatial planning (supply management)			
Land use requirements	DBN B.2.3-5:2018 mandates minimum parking provision per dwelling and per office area	The minimum requirements were eliminated and replaced by maximums in central zones	the DBN may be updated by context-sensitive minimums depending on the city area type and public transit accessibility
On-street parking (curb use)	~8,000 official paid spaces in a city with ~300,000 free informal spaces - paid area is marginal	Most central curb is priced and zoned; local initiatives such as “Paris’s 60k-space removal” actively reclaim curb (O’Sullivan, 2024)	Expand paid zones aiming to cover majority of streets within current perimeter; pair with curb reallocation
Off-street parking	Mostly private, unregulated; off-street tariffs are set freely and not capped or coordinated with municipal ones	Developed network of cheap/free municipal Park & Ride facilities, located close to PT nodes at the outskirts	expansion of municipal off-street parking areas network
Public space	Massively occupied by vehicles parked for free; No systematic curb reallocation programme	Is reclaimed for pedestrians and micromobility; multifunctional and dynamic	Adopt a programmatic curb-reallocation plan with annual KPIs
Residential parking	Not measured nor managed; courtyard parking is informal,	Resident permit systems are widespread and often extend	Secure the dwellers by introducing a citywide resident-permit

	no citywide resident permit	beyond the city center	framework with monthly/ quarterly/ annual fee
Economic and pricing models (demand management)			
Pricing logic	Flat 3-zone tariff - no temporal or dynamic differentiation; paid Mon–Fri 08:00–22:00 only.	May be dynamic and differentiated: Stockholm and Madrid use congestion- and emission-based pricing, Paris vehicle-weight bases	Considering parking a management instrument define the price differentiation parameter(s)
Purpose of pricing	Fiscal and cost-recovery; tariff is treated as a “fee for service”.	Behavior-changing tool with explicit modal-shift objective	Amend Ukrainian legislation to recognize parking pricing as a legitimate demand-management instrument exempt from cost-recovery review.
Revenue usage	Pooled in the general city budget; no formal earmarking; KTPS retains operational margin	Revenue often earmarked towards public mobility funds or sustainable transport	Introduce a statutory earmarking mechanism for parking revenue
Residential parking	No residential pricing menu; resident parking is not secured and de-facto free in courtyards and on the curbs	Annual fixed or progressive permit fee to suppress private car ownership but also protect space for residents	Launch tiered resident-permit pricing aligned with car-ownership reduction targets.

Workplace parking	employer-provided parking is fully untaxed.	Employers are charged parking levy for the parking spaces provided	Pilot a workplace parking levy for offices with >10 dedicated spaces within zones I-II
System monitoring and enforcement			
Data usage	Majority of data provided via Kyiv Digital portal, no real-time occupancy data though Limited public data for commercial off-street parkings	Open real-time occupancy and pricing datasets	KTPS to cover data for all public parking locations, potentially with real-time occupancy rate
Technological infrastructure and	Kyiv digital mobile app as an infrastructure backbone; no physical meters	Meters are still commonly used; some cities provide real-time occupancy data through IoT sensors	Integrate IoT tools such as smart navigators, sensors; unify on- and off-street parking pool data under one ecosystem
Enforcement	~30 inspectors for ~8,000 paid spaces; 37–38% non-payment rate (Khmarochos, 2023)	Compliance >90% due to automated ANPR detection and enforcement (Amsterdam, Stockholm, Prague); enforcement complements tariff strategy rather than substituting it.	Introduce massive and regular automated enforcement via ANPR camera cars or similar systems;
KPIs	Operational metrics only: revenue, paid sessions, fines issued.	Outcome metrics: target occupancy %, modal-share shift, kilometres avoided, CO ₂ saved	Replace operational KPIs with outcome indicators tied to the future SUMP

Other			
Environmental	Low focus, except for dedicated paid parking lots quota for EVs; no emission-based pricing.	Low-emission zones tied to parking; emission-differentiated tariffs	Couple parking tariff and residential fee with vehicle-emission class; introduce a low-emission zone with parking access control

On- and off-street parking price disparity in Ukraine

Decisions regarding on-street parking (whether to create, retain, or remove it) must be deliberate and tailored to each street's unique characteristics and potential. Space allocation should prioritize diverse curb-side needs, including public transit stops, freight loading zones, passenger drop-off areas, car-sharing spots, commercial vehicle parking, bicycle racks and more. Ultimately, street parking should be strictly regulated and restricted to designated priority user groups, such as residents, customers, or employees (Liubytskyi, 2016).

On-street parking fees thus are designed to optimize curb space utilization, encourage vehicle turnover, and reduce traffic congestion caused by drivers searching for spots. Because drivers tend to park as close to their destination as possible even at the expense of blocking travel lanes and sidewalks, aligning on-street and off-street pricing is essential to incentivize the use of dedicated parking facilities. In recent 2022 work (Zhou et al.) argued that the extremely strong parking demand means that parking spaces in the city center of Lviv should always be charged.

This work suggests a hypothesis that parking price imbalance on Kyiv streets promotes inadequate parking demand as well as subsequent parking violations. Although such classification is neither used in Ukrainian legal or regulatory documents, nor commonly used by scholars, the current parking system in Kyiv is clearly divided into two key segments: on-street and off-street. They differ significantly not only in terms of location but also in terms of ownership, legal regulation, and pricing approaches.

On-street parking (covers all official parking lots located within the roads or partially on sidewalks) is exclusively owned by the city's municipality. The sole

authorized operator responsible for maintaining and managing these areas in Kyiv is the municipal enterprise Kyivtransparkservice. According to 2026 Kyiv.Digital portal aggregated data, the municipality operates over 40 thousands of official parking spaces, which are geographically divided into three tariff zones. According to the updated (April 2026) rates of the Kyivtransparkservice municipal enterprise, the hourly rate is as follows:

Zone I (Downtown): 40 UAH/hour

Zone II (inner city): 30 UAH/hour

Zone III (Some residential areas and outskirts): 10 UAH/hour

Off-street parking. This segment is dominated by private (commercial) ownership. Such parking facilities consist of underground and multi-level above-ground complexes located within large shopping and entertainment centers, business centers, and residential complexes. The vast majority of these facilities are concentrated in the central and near-central parts of the city (Pecherskyi, Shevchenkivskyi, and Holosiivskyi districts), where demand for land and purchasing power is the highest. When it comes to off-street parking, there is no single, consistent approach behind pricing: prices are not set based on the alternative cost of on-street parking principle, but rather as a purely market-based, derivative of the business model of a specific commercial facility (some subsidize parking using revenue from commercial space tenants, while others charge full market cost).

A key anomaly in Kyiv's parking market is that on-street (municipal) parking is significantly cheaper than private off-street parking, which is completely at odds with the principles of sustainable urban mobility. At the same time, in the private sector in the city center, during working hours prices range from 50 to 150 UAH/hour. For clarity, some specific spatial cases were examined where on-street and off-street parking lots are located directly within the same block.

On-street parking	On-street price per hour, UAH; tariff zone	Off-street parking	Off-street price per hour, UAH	Price delta
Mechnykova str.	40 (I)	BC Parus, BC Gulliver, no name	50 (limited access)	25%
Palats Sportu metro station area	40 (I)	BC Gulliver, Mandarin	50 - 60	25 - 50%

Besarabska Square	40 (I)	BC Arena City	60-80	50 - 100%
Lybidska metro station area	30 (II)	Ocean Plaza	75	150%
Khreshchatyk str.	40 (I)	TSUM department store	150	375%

None of the neighborhoods surveyed exhibit the pricing pattern where on-street parking is treated as the most valuable and thus more expensive than off-street parking. In all cases, the trend is the same: on-street parking is 25–100% cheaper than surface or covered alternatives, which systematically “pushes” demand drastically toward on-street parking – it appears significantly more occupied, while more expensive off-street parking often remains partially empty.

Special attention deserves the issue of **Park & Ride** facilities in Kyiv. A distinct and particularly problematic component of Kyiv’s transportation system is the park & ride (P+R) system. In the global and European practice in particular, municipal park & ride facilities deeply integrated into urban transport system being a strategic tool as they are located at city entrances near major transit hubs (subway and train stations), have low or no cost when a public transit ticket is purchased, and encourage drivers not to drive into the city center. The status quo in Kyiv remains desperate. De jure, the municipal enterprise “Kyivtransparkservice” has repeatedly reported on the opening or plans to develop municipal park & ride facilities (near the “Akademmistechko,” “Teremky,” “Syrets,” and “Vydubychi” metro stations). However, de facto, a fully integrated P+R system does not yet exist in Kyiv. Instead of modern multi-level hubs with a single ticket system, these locations are ordinary flat asphalted parking areas. As a result, their role has been forced to be taken over by commercial areas (for example, parking lots at shopping centers on the outskirts, such as the former “Magellan” shopping center or other malls near metro terminal stations), or drivers simply park chaotically and/or illegally in the curbs, green areas and courtyards of residential areas adjacent to the metro stations.

Parking price imbalance consequences in driver behavior

In a European city, the average driver chooses to leave the car at a P+R or in some off-street paid parking based on roughly the following logic: on-street parking may cost up to 4 - 8 EUR per hour, with a daily maximum of 30 – 60 EUR, whereas a

P+R with a metro ticket costs up to 5 EUR, and a climate package can sometimes reduce this amount to zero. The economic incentive for parking consumers is clear – he is willing to park on the outskirts and continue the commute by transit.

In Kyiv, the driver's logic is exactly the opposite. Free (and often legal) informal parking has ~ 300 000 slots in courtyards, on the curb, sidewalks – being the best and default choice. Whereas in option 2, municipal street parking in the city center costs 30-40 UAH/hour, and the likelihood of a fine is low (as was mentioned, 37–38% of drivers do not pay, and not all of them are fined). The real expected cost of parking is even lower than the formal one. Option 3 – flat or covered commercial lots that are more expensive, require additional time to enter/exit. Option 4 – P+R facilities integrated with the public transport network – are either absent in the required areas or face significant shortages of parking spaces.

As a result, due to on- and off-street parkings operate in different institutional mechanisms, for a Kyiv driver, the rational choice is to seek for the street parking space as a more convenient and advantageous alternative to any off-street location, meaning to drive into the city center by their private car and look for a street parking spot, even if it means cruising for 5 - 10 minutes. This is exactly the type of behavior that parking policy should discourage – yet in Kyiv, it is encouraged.

5.2. Overview of advanced parking solutions in the cities around the globe

Context peers

Warsaw and its expanded paid parking zones

Warsaw operates a highly regulated and rapidly expanding parking network known as the Unguarded Paid Parking Zone (*SPPN — Strefa Płatnego Parkowania Niestrzeżonego*), which operates since mid-1999 and is managed by the Municipal Roads Authority (*ZDM — Zarząd Dróg Miejskich*). The city is aiming to reduce congestion discouraging private vehicles traffic within the city while pushing drivers towards public transport use; it is also focusing on securing parking availability for residents in heavily crowded urban areas. The main objective of the SPPN is to increase the turnover of parking vehicles (which also makes it easier for the driver to find a free parking spot) and implement the city's transportation policy.

Warsaw's SPPN has undergone a monumental territorial expansion strategy over the past years. Initially, coverage was limited to the inner downtown and

historic districts of the Downtown (Śródmieście). The following expansion in 2020 covered enlarged zones of Wola, and Praga-Północ, and then the 2024 launch of paid zones in Kamionek and Saska Kępa. Now SPPN covers a substantially larger area than Kyiv's Zone I + II combined and what is more important – the Warsaw districts are included entirely, meaning that parking on each street becomes paid. While in Kyiv, although paid zones I-III cover the whole city, the districts are not fully covered – there are still a lot of streets where parking remains free and unmanaged by the city – some examples will be presented in the following chapter.

Warsaw's parking system also uses a progressive hourly rate scale designed to disincentivize long stays and ensure spaces turn over quickly: first hour costs 1 EUR (disregarding the district), second - 1,27 EUR, third - 1,51 EUR, fourth and subsequent hours – 1 EUR each.

Prague and its sophisticated tiered permit parking system

Prague offers a highly structured, automated paid parking zone (ZPS – *Zóny placeného stání*) system managed by the Technical Road Administration (TSK) on behalf of the Prague city council. The system is designed to prioritize residents, reduce traffic congestion in historical areas and encourage commuters to use the city's robust public transit network.

On-street parking throughout Prague's regulated districts is split into three primary, color-coded categories. These zones are indicated by vertical traffic signs and colored road surface markings.

Blue zones — for prioritized residential parking. Its primary purpose lies in unlimited parking for residents, property owners, and local businesses holding a valid long-term parking permit for that specific district – permits may be bought for 3, 6 months or a year. Short-term visitor parking is also allowed though limited to 3 hours. As these parking areas are focusing on regular users with parking permits — there are no physical parking meters in blue zones – visitors must pay exclusively via online portals or mobile apps. The price menu here is highly progressive, tiered in two ways — category of permit owner and number of vehicles. The cheapest permit is for senior residents (65+ years) and residents with disabilities, the most expensive — for property owners and those who are legally doing business in that zone. The lowest price would be for the 1st vehicle, while for 2nd, 3rd and following the price will increase substantially — Prague aggressively disincentivizes multi-car households, which naturally reduces parking demand within the city dwellers.

As an example, the below matrix represents 2026 parking price list for Prague central parking zones, price sector I:

User type	Order of car	1 year	6 months	3 months	1 month	1 week
Regular resident	1st vehicle	50 EUR	25 EUR	12 EUR	-	-
	2nd vehicle	289 EUR	145 EUR	72 EUR	-	-
	3rd and following vehicle	1487 EUR	826 EUR	413 EUR	145 EUR	37 EUR
Resident of age 65+ years, resident with disabilities	1 st vehicle	15 EUR	7 EUR	4 EUR		
	2 nd vehicle	289 EUR	145 EUR	72 EUR	-	-
	3 rd and following vehicle	1487 EUR	826 EUR	413 EUR	145 EUR	37 EUR
Business or property owner	1 st vehicle	289 EUR	145 EUR	72 EUR	37 EUR	10 EUR
	2 nd and following vehicle	1487 EUR	826 EUR	413 EUR	145 EUR	37 EUR

Purple zones are intended for the mixed parking as a balanced allocation for both permit holders and visitors. These zones also allow unlimited parking for residents with permanent residence, business or property owners provided they have a long-term parking permit for the relevant section of the parking zone. Visitor parking is allowed for a maximum of 24 hours for other motorists, and payment is possible at a parking meter or via the mobile application.

Orange zones are intended for the high-turnover — they are oriented on short-term visitors for parking near hospitals, public administration buildings, and commercial centers. Long-term residential and business permits do not apply here. Stays are strictly capped, usually at a maximum of 2 to 3 hours. For the visitors convenience such zones are 100% payable via street meters or online applications.

For all 3 zones parking is only regulated during the specific "operating hours" displayed on the zone's street sign (e.g., Monday to Friday, 08:00 – 20:00). Outside of these specified hours, parking in Purple and Orange zones is generally free and open to everyone, while Blue zone restrictions may also ease depending on the district.



Figures 8 and 9. Blue and Purple on-street parking signs in Prague, Czech Republic

Comparing Prague's and Kyiv's parking permit architecture, cities represent different administrative philosophies. While Prague is focusing on protecting residential spaces district-by-district, Kyiv operates with concentric geographic rings and subsidy terms depend on the taxpayer localization. Kyiv does not restrict *who* can park in a given space based on the boundaries of specific micro-neighborhoods. The recent April 2026 changes to tariffs basically introduced a discount model for Kyiv taxpayers, which offers a highly subsidized (90% discount) long-term parking permit and further encourages both dwellers and Kyiv visitors to use private vehicles to commute and park on street in the dense urban areas for the unlimited periods of time. Though it is expected more drivers will pay for the parking, the updated approach still does not impact parking demand in the proper way.



Figure 10. Secured residential parking lots for disabled - Prague, Czech Republic

Budapest effectively adopting parking SUMP goals

Budapest was among the first Central-European capitals to translate the EU SUMP guidance into a robust city plan. BKK (*Budapesti Közlekedési Központ* — Budapest Transport Center) published the first Budapest Mobility Plan (Balázs Mór Plan) in 2019. The first 2019 version approached parking primarily as a "push" mechanism to disincentivize driving into the city center, thus the core strategy relied heavily on constructing Park & Ride (P+R) facilities at peripheral metro and train stations to intercept commuter vehicles early. Though being evaluated as successful in general, its implementation has been chronically uneven because parking was regulated at district level (each of Budapest's 23 autonomous districts sets its own tariffs and rules) causing massive confusion and cruising traffic — the recommendation was to standardize zones.

Since then, Budapest has extended paid zones, introduced district-level permit systems, reduction targets for downtown districts curb parking and rolled out the updated BMT 2030 in 2023, in which parking is explicitly framed as a demand-management tool: *"In Budapest, the place of car parking is not public space, and the capital is the first to reduce public parking capacity in the inner city,*

introducing short-term public parking to meet customer needs, with pricing in line with supply and demand". The new 2023 Budapest SUMP actively supports the previously described CaaS approach while parking lots in the densely populated areas are no longer static — these now have various functions supporting micromobility and logistics needs. The document also recognizes residential parking as the largest demand contributor which is a vital part of the desirable parking policy. With that, parking policy in Budapest is seen as a strategic tool for shaping mobility patterns and influencing mode choice and well-designed SUMP with clear goals ensures that parking policy will be fully aligned and supporting broader mobility goals.

A logical conclusion for Kyiv would be the essential requirement to develop a comprehensive SUMP that clearly establishes the role of parking within the city's mobility framework.

Lviv as the close contextual peer

As of 2026, Lviv's urban parking system represents one of Ukraine's most dynamically modernized, decentralized, and socially adaptive municipal frameworks. Managed under the umbrella of the central transport operator LKP Lvivavtodor, the city has systematically shifted from a rudimentary setup with cash and meters to a highly regulated, digitally native network designed to actively discourage private vehicles overcrowding its historic city center.

Although parking rates remain linked to maximum legislative limits based on the national minimum wage formula, they have consistently been higher than those in Kyiv until recently. Lviv, however, offers a clear residential permit system which considers driver's registration address, vehicle ownership and special status (if any) – the permit is valid only within the parking zone closest to the registration address.

On May 1, 2026, the Lviv City Council officially implemented a landmark digital equity initiative for combat veterans (UBD) and individuals with war-related disabilities: veterans registered within the Lviv community get 100 hours of completely free municipal street parking every month. Though being in the same challenging national legal, economic and social context with Kyiv, Lviv demonstrates how the parking system may consistently develop and adapt to the new needs.

Global pioneers

San Francisco (US) implementing dynamic pricing policy via SFPark system

San Francisco was the pilot city to implement and validate Donald Shoup's theory for dynamic, demand-responsive parking pricing by adopting (Pierce, G., &

Shoup, D., 2013) both the biggest price reform and new technology for on-street parking during 2011-2013.

SFpark project technical part required installing 7,000 sensor-equipped meters across city-owned parking zones in central districts, which collected and displayed real-time updates on availability of each curb parking space of each block, allowing drivers to find free spots quickly. To keep parking occupancy optimal (~60-80% as per Shoup), SFpark system regularly (about every two months) changed parking prices based on demand as well as differentiating by hours of the day – the process later named performance pricing. Adjusting prices according to demand encouraged people to park in less crowded areas and garages, which eased congestion in busy locations. By combining real-time data with demand-based pricing, SFpark helped shift parking habits in the city, making it easier for everyone to find parking.

Apart from the obvious parking supply and demand management, authors of this project also recognized that it depoliticized parking by setting a clear parking policy with transparent, data-based rules – prices are set the lowest possible to not have parking shortage.

Although San Francisco contextually is far away from Kyiv (in terms of urban landscape and mobility patterns), the dynamic or at least market parking price may be partially implemented to shift from subsidizing parking for everyone to prioritizing valuable street space for those who value it the most. However, the primary bottleneck for adopting new approaches would be the national and local legal framework that must be adjusted significantly, allowing different bases and algorithms for price calculation.

Tokyo, Japan where vehicle owners must secure parking space by themselves

Most known as Proof-of-Parking rule (車庫証明書, *shako shomeisho*) (Barter, 2021) and officially named as “1962 Garage Act” Japan's law was adopted back in 1962 as soon as rising car ownership in Japan resulted in streets occupied by private vehicles.

The idea of the rule is that every motorist willing to register a car or changing the address as a car owner must provide a “garage certificate” proving they have long-term access to an off-street parking space within the registration neighborhood — not necessarily own it, renting is also acceptable. Initially the Law was applied to the big cities only but later was expanded more widely. To mitigate the possibility of cheating or getting the certificate illegally, Japan also implemented a twin policy — an absolute overnight on-street parking ban (Barter, 2014).

Japan's parking regulation successfully shifted residential vehicle storage to a market-priced leasing model, becoming an alternative for increased parking minimums, residential permits, or widened street standards. It also indirectly slowed down vehicle ownership growth in dense urban areas well-covered by public transport — where private vehicles are least necessary. This, however, establishes a symmetric dependency: the policy is effective because it is implemented alongside a world-class transit network – otherwise, adopting only the regulation without the transit, would simply suppress urban mobility.

Japan's experience with proof-of-parking regulations offers valuable lessons for Ukrainian cities, including Kyiv. Over the medium and long term, implementing similar policies has the potential to drive a significant cultural shift among vehicle owners. Currently, many car owners in Ukrainian cities expect the municipality to provide parking spaces for their vehicles. By adopting Japan's approach, this expectation would gradually change – instead of relying on the city/developers for parking, vehicle owners would come to recognize their own responsibility to secure parking spaces as well as encourage broader consideration of the total cost associated with car ownership in the city. Such shifts, in turn, could raise the need and drive the development of both private and municipal off-street parking facilities for those who are ready to pay for them.

Given the current war condition, Kyiv would especially benefit from underground dual-purpose facilities — that serve both as parking areas and primary shelters. Here we may also reference Spain cities which developed a robust underground off-street parking pool to secure streets for humans.

Amsterdam getting rid of (on - street) parking

Along with other progressive measures for urban mobility, the city of Amsterdam (Gemeente Amsterdam, 2020) presented its *“The Agenda Amsterdam Autoluw”* (directly translated as Agenda Amsterdam “nearly car free” or “car-lite”) in 2019 which contained measures to make Amsterdam a cleaner and more livable city. The document specifically outlines strategies for lowering the need for parking spaces and the developed initiatives could allow the ambitious removal of around 10,000 parking spots between 2019 and 2025 roughly 1,500 spaces a year and reallocating the curb to bicycles, trees, loading bays, and pedestrian space – supporting the idea of “creating and utilizing street space” Modacity (2023). This was achieved by providing additional off-street parking in garages and at P+R facilities, as well as by making shared- and micro mobility options more appealing.

Comparative takeaway

The seven chosen cases illustrate that there is no single model or policy that is perfect and entirely adoptable for Ukrainian context and goals. However, the identified common measures which were proved as strategically effective may be considered as a desirable patterns for future Kyiv parking policy/strategy to support broader sustainable urban mobility:

- Urban parking is never free – which is demonstrated by expanding paid parking areas;
- Street space, including curbs and sidewalks, is considered as highly valuable; however, parked vehicles prevent effective use of this potential.
 - o On-street parking is typically reduced or eliminated, and any remaining spaces are appropriately priced to reflect their value.
- High focus on residential parking cluster management – through complex parking permit system considering the transit network, urban landscape and other;
- On-street parking restrictions are complemented with visible and convenient off-street parking and transit alternatives;
- Implementing digitalization and automation for parking payment and enforcement is essential to accommodate the volume of parking system users in the big cities;

5.3. Field observations

Field observations were performed as a final stage of the practical part of this research with the purpose of proving, disproving or clarifying previously received theoretical results. 3 locations were chosen to cover diverse parking purposes and scenarios as well as various street designs although this obviously cannot be treated as a comprehensive field parking evaluation for Kyiv city – meaning these sites were chosen because they represent the “front lines” of the policy gaps identified earlier.

Parking around Kyiv Pasazhyrskiy railway station

This area was examined as a part of a big city-lead project aiming to reorganize the square near the Pivdennyi railway station. Field observations as well as data analysis were performed by the small team of students and a supervisor representing Traffic Management Center ME. The observations were performed

during January and February 2026, morning and evening peak hours specifically for this railway station to catch the most intense parking traffic.

The observed area, according to the Kyivtransparkservice map, does not have any designated on-street paid parking slots, nor does it have K+R zones. Furthermore, parking is strictly prohibited throughout the entire area, as indicated by the respective road signs. However, as it was observed, the occupancy rate of the curb is almost 100% — at the observation start there were slightly more than 120 vehicles illegally parked as is illustrated on Figure 11.

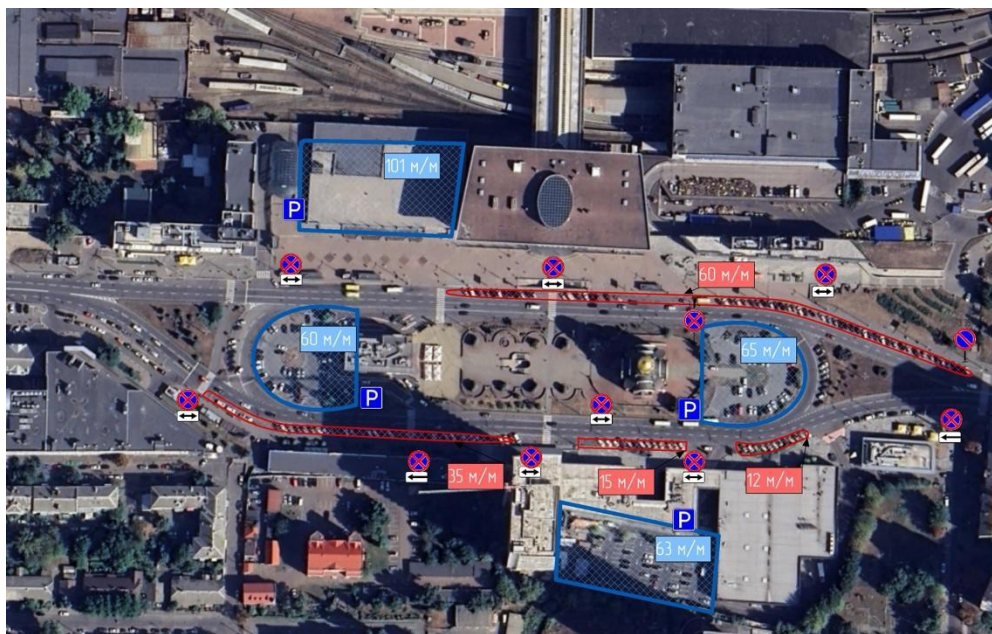


Figure 11. Google Maps screenshot of the parking area around Pivdennyi railway station, with road signs and number of actual vehicles parked

During the first 15 minutes $\pm 50\%$ of the lots showed active turnover – 41 parked vehicles drove away, while new 56 immediately arrived and parked. Additionally, the same number of vehicles (52) stopped at the second lane for drop-off – de facto they performed K+R type of parking. The remaining 50% of vehicles remained parked for 30+ minutes. Some of them had the driver inside, while others seemed to be parked here hours before. The assumption was that such vehicles are either taxis or those who work or live nearby meaning that area plays a workplace parking role for them.

Although there were clear and massive violations of parking regulations, no parking inspectors or police were observed during the monitoring period. The first lane which is normally used by public transport – is always occupied by the parked vehicles, however the city does not get any revenue from this.

This observation confirmed the following hypothesis:

- De facto free and uncontrolled (though illegal) on-street (curb) parking substantially prevails over the legal paid off-street parking;
- Off-street parking is mostly commercial, market-priced and its supply only covers the commercial spaces but not the key public space demand – main railway station visitors;
- As the city does not manage the curb space based on its core users and purpose, it has naturally evolved into both short-term K+R and long-term parking types.

Business/mixed area: Sichovykh Striltsiv str.

This area was chosen for observation and evaluation due to:

- its location — central city area with expected permanently medium-to high parking demand;
- its urban design — although being a historically formed area, the street has quite spacious sidewalks;
- mixed-use urban corridor role of the street – there are residential buildings, commercial buildings of different scale, and the various public spaces (grocery stores, cafes & restaurants, cultural infrastructure) inducing various parking purposes which creates a necessity of high-quality parking management approach;

Observation was performed on the section of street shown on Figure 12, on April 20th, 2026 in the afternoon hours in order to catch casual traffic and parking flow thus considering that peak hour may be different, with the more intense parking issues.

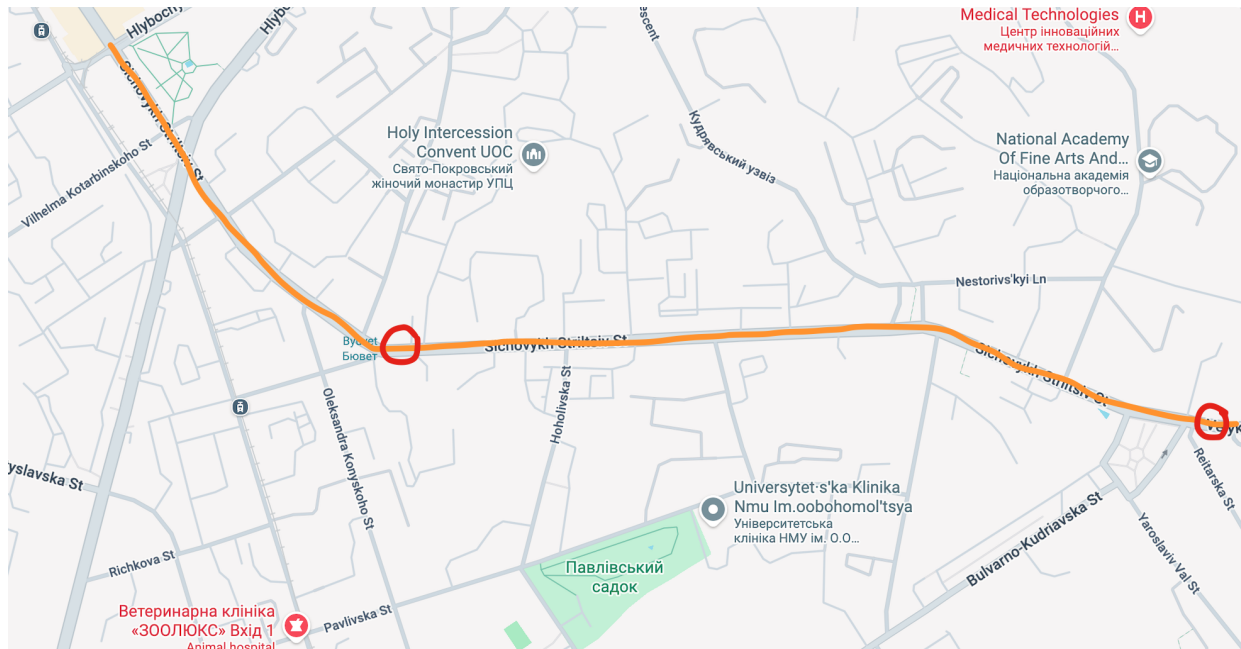


Figure 12. Observation area on Sichovykh Striltsiv str. Orange line — total observation area; red circles — spots for 30 minutes observation

The observed area, according to the KTPS map (2026), does not have any designated paid parking slots within Sichovykh Striltsiv street due to the reason that cycle lanes are established on the street, separated by edge line markings, which, under the Traffic Code, prohibit vehicles from parking alongside the curb. Given that sidewalk parking on that street was unregulated, there were no signs, road markings as well as no parking infrastructure. There are though a couple of paid areas on the surrounding streets — these were briefly inspected as well and had 100% occupancy rates.

Within a high-level evaluation, actual parking was detected all along the observed area, on the sidewalks — vast majority among that was parallel parking, and less common angle parking — photo evidence represented in Annex 1. As expected, in the vast majority of cases parked vehicles did not obstruct pedestrian flows nor the Traffic rules directly as there were 2+ meters still available. However, this street demonstrated common design having fences, bollards, trees or just high enough curbs so that access for vehicles directly from the roadway was either inconvenient or impossible. This proved the previously claimed assumption that vehicles have no other option rather than using the whole sidewalk area to park in or park out — challenging the right for the sidewalk.

During the observation there were actually no such movements detected. To ensure, at 2 selected points (marked with red on Figure 11) a 30 – 40-minute observation

period was maintained which confirmed that vehicles are parked for a long period, assuming that drivers parked near their workplaces thus the parking duration is ~8 hours daily.

Vatslava Havela blvd.

This boulevard was chosen as it covers both residential buildings of different storey number as well as the well-developed old industrial and new commercial amenities (business centers) which are complemented by public spaces such as cafés, grocery stores, banks etc. If curb space was treated as a service, there would have been various parking types organized to support the local economy, manage parking demand and secure key users (residents).

Observation was performed on the section of street as shown in Figure 13 on regular Monday working hours in May 2026. The observed area, according to Kyivtransparkservice map, does not have any designated paid parking slots within Vatslava Havela blvd. The Kyiv Digital app map displays 40 commercial on-street parking spaces. Additionally, several private on- and off-street parking locations were identified; however, there were no signs indicating whether these are open to everyone, their price list, what is the total capacity, or the number of spaces currently available.

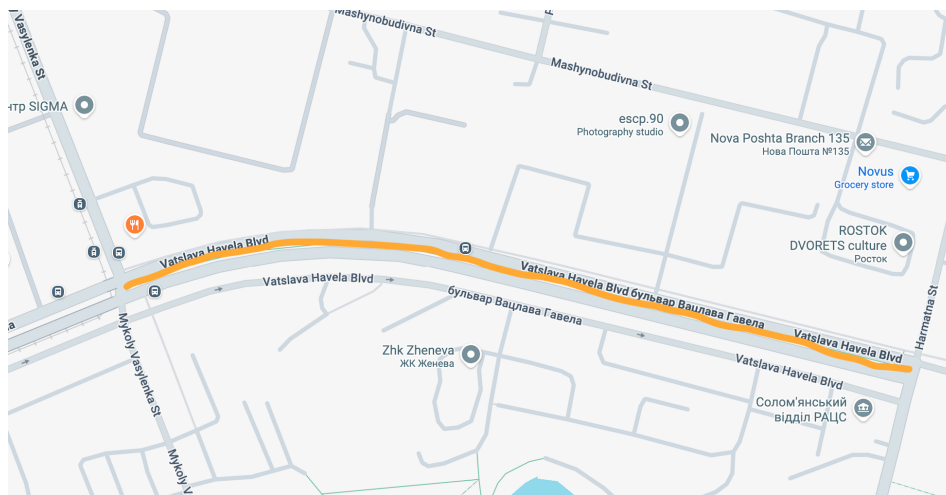


Figure 13. Observation area on Sichovykh Striltsiv str. Orange line — total observation area

Although there were no road signs prohibiting parking, it should be noted that parking on the left side of the boulevard is prohibited in accordance with section 15.3 of Ukraine's Traffic Code.

Actual parking was identified along the whole chosen area, both on the left and right sides of the road, in both directions of the boulevard (except for the public

transport stops) — curb occupancy rate was over 95% (Figure 14). The wide sidewalks were fully occupied by parked vehicles as well (sometimes in two or more rows blocking each other), however, as it often happens, there were 2+ meters remained for pedestrians so there were no rules violated (Annex 2). The even side of the street (where the majority of commercial buildings are located) was more occupied than the other one. As per the rough estimate, there were over 250 vehicles in total parked at that time, ~30% of which were by the left side of the boulevard road meaning parked illegally. No parking inspectors nor tow trucks were working within the examined area.

During the 30-minutes observation, only around 5 vehicles drove off, while about 10 new arrived and parked either on the free curb/sidewalk or on the second lane for passenger or cargo drop-off.

The second brief observation was performed in the evening (~19.00) on the same day — the curb occupancy decreased to almost 50% of what was seen in the midday.

Based on the above observed it may be concluded that:

- the vast majority of on-street parking is unmanaged and de facto free which encourages driver as the rational consumer to commute to work by private car rather than use the alternatives (taxi, public transport which is well represented in this area);
- the off-street parking supply is 100% private, its capacity and terms are unknown, at least for visitors – which reduces the likelihood that off-street parking space will be utilized at peak hours at maximum;
- the curbs and sidewalks are fully occupied during work hours which is not the case for the nighttime and weekends meaning that vehicles are parked mainly near the workspaces;
- the lack of secured short-term (up to 5-15 minutes) parking zones that may be used for local commercial stakeholders for the smooth last-mile logistics.



Figure 14. Curb parking on Vatslava Havela blvd., Kyiv

Field observation insights

Synthesizing the findings from three field observations conducted across distinct locations in Kyiv, a consistent pattern in on-street parking behavior emerges. With the absence of effective regulation, the existing system incentivizes drivers to occupy high-valued curb space for medium- and long-term parking, irrespective of the competing needs and priorities of pedestrians, public transport, and other street users. Notably, such use of space frequently remains legally permitted, addressing a critical misalignment between the current regulatory framework and contemporary principles of sustainable urban development.

Parking management proposals for Ukrainian cities during and after the war (case of Kyiv)

The high-level gap analysis has demonstrated that Kyiv's parking system dysfunction is mainly structural/institutional, and not technological. The city has a capable digital payment backbone — Kyiv Digital mobile app and an acceptable parking data aggregator — Kyiv digital portal. The system currently operates in a sort of pre-SUMP legal frame: considering parking minimums as per DBN; tariffs are judicially treated as a recovery fee for maintenance cost of an on-street municipal parking space; there is a parking operator and enforcer institutional split. Kyiv lacks integrated Park & Ride facilities as well as does not manage residential and workplace parking. Given no SUMP has been adopted so far, any reform package must play a double role — both as a realistic interim part of the mobility strategy and as a relevant pillar for the future plan.

The SWOT analysis for Kyiv urban mobility and current parking system together with comparison against successful global peers sends direction for solutions priorities: existing complex public transport network seeks for the appropriate P+R locations, while existing Kyiv Digital app as a digital citizen ecosystem — will make software-and-policy measures relatively low-cost and realistic. While the acknowledged weaknesses such as a fragmented governance, low compliance and enforcement, free-parking culture, underdeveloped permit cluster — may define the first wave of reform. The dominant opportunity would be the harmonization needed for potential EU integration — politically costly legislative changes may be turned into vital agenda. The major threats coming from wartime challenges, institutional and behavioral car-centricity should be respectively mitigated.

Field observations conducted in Kyiv have both validated and elaborated the initial study hypotheses, highlighting in particular the land-use conflict among private vehicle users, pedestrians, and public transport, as well as the limited effectiveness of parking demand management resulting from an inadequately calibrated on-street pricing strategy.

With that, the study suggests a three-pillar architecture of parking solutions backboned by the Pillar 0 which is regulatory and institutional enablers as each measure depends on a set of legal and governance reforms.

Regulatory and institutional enablers

- Adopting a Kyiv SUMP with a clear transit and micromobility priority as well as with quantified mode share and on-street parking reduction targets;

Transposing the EU SUMP into Ukrainian law through the accession agenda;

- Resolve the current sidewalks' parking contradiction – either by amending the DBN V.2.3-5:2018 and enabling back organizing a paid municipal parking zones there; or totally restrict sidewalk parking by the respective changes into Ukraine's Traffic Code;
- Apply statutory recognition of urban parking tariff as a demand-management tool, exempt from cost-recovery audits;
- Earmark parking revenue for public transport and micromobility development, thereby making the benefit of politically hard parking reforms visible and credible to the wider public.

Parking supply management

- To make the whole city parking capacity public through mandatory submission of all public on- and off-street inventory into a single public GIS layer with the APDS data standard;
- Construction of balanced network of municipal off-street multi-level P+R facilities at termini metro stations (Akademmistechko, Syrets, Chervonyi Khutir, Lisova, Heroiv Dnipra, Teremky), potentially also at other stations with intense traffic (Vydubychi, Sviatoshyn, Pochaina, Boryspilska), focusing on dual-purpose underground facilities to address wartime challenges;
- Reform on curb reallocation through visible pilots in parking Zone I. The projects may include the defined percentage of curb and sidewalks converted into multifunctional space for bike racks, last-mile logistics spots, EV charging and greening;
- Enforce for developers the existing obligation to build a fixed minimum of off-street parking lots per dwelling in all new developments and reconstructions – although remaining paid and unbundled from residential cost, this will allow shifting supply-demand curves for off-street parking and thus optimize the average parking cost.

Parking demand management (cost/alternatives)

- Subject to successful legal and regulatory adjustments, expand paid parking zones across the city, ensuring that curbs and sidewalks in all high-density areas are fully managed by the municipality and that free on-street parking is no longer legally permitted;

- For the suggested P+R facilities apply a subsidized base tariff (to compete effectively with commercial parking) along with a deep discount for holders of active public transport monthly passes;
- Further differentiation of the parking tariff structure by replacing the current three-zone grid with micro-sections on district or neighborhood level with tariff aligned to assessed demand;
- Introducing a robust resident, property and business owner permit system with ownership and registration verification through Diia and Kyiv Digital apps. Permit pricing is dynamic by vehicle type and quantity: base tariff for the first vehicle and drastically escalating for each subsequent vehicle; A subsidized rate for seniors, disabled and veterans – but only for a first vehicle registered;
- Introducing a workplace parking levy for BC in Zones I–II, with revenue earmarked for public transit development;
- For visitor parking at high-demand areas apply a progressive in-session tariff where the hourly rate escalates with each additional hour. This measure will discourage long-lasting on-street parking, while increasing turnover and reducing average occupancy rate. In turn, this enables more drivers to access available spaces, reducing cruising time and overall traffic. The local economy also benefits from increased customer turnover;
- Launch a demand-responsive pricing tariff for a pilot area in Zone I targeting 80–85 % occupancy. The selected area should be a high-intensity commercial and public space where the high visitor turnover is desirable;
- Strengthen enforcement by multiplying the number of parking inspectors and deploying ANPR scan cars for high-traffic areas with intensive parking demand.

Parking solutions for a sustainable city

Following the SUMP approach in policymaking, Kyiv may also adopt relevant measures informed by European peer-city experience:

- Low-Emission zone in central historical districts (potentially also in sensitive green and recreational areas) with access fee linked to a tiered system of parking permits;
- Introducing a differentiated tariff by vehicle weight (following urban SUVs challenges — so-called “autobesity”) (European Commission, 2024) or vehicle emissions — as was recently adopted in Prague and several cities in the UK (BBC News, 2026).

The war as a constraint — or a policy window?

While comparing Kyiv to other peers, especially from abroad, the war context applies its challenges but also opportunities which is important to consider when evaluating and prioritizing the needed measures.

Dual-use parkings. Construction of each new underground lot (including the potential P+R facilities) must conform to civil-defence shelter norms, which obviously raises its capital expenditures but also qualifies such projects for reconstruction-funding flows thus the resulting marginal cost for Kyiv may be lowered.

IDP administration. For Kyiv, as well as for the other Ukrainian cities, it is essential that future resident permit system explicitly cover registered IDPs at their place of residence; otherwise these already vulnerable residents may remain outside of policy reach, potentially exacerbating existing inequalities.

Reform window. With the ongoing EU-accession harmonization and the donor-financed reconstruction, Kyiv holds a unique opportunity to bundle regulatory, legal and strategic planning amendments into a comprehensive legislative package on parking.

Taken together, the proposed measures constitute a balanced framework aimed to mitigate the structural inefficiencies of Kyiv's current mobility model — shifting from the car-centric and supply-oriented approaches to demand-managed strategies aligned with sustainable mobility development.

However, such factors as political risk of visible tariff increase, wartime budget pressure, and social habit of free parking may impact the implementation and acceptance of these measures by the public. Therefore, considering all of the above, the study recommends starting with the first wave by removing regulatory contradictions, introducing the resident permit system, applying ANPR-supported enforcement and developing municipal P+R infrastructure.

References

1. Amado Lorenzo, A. (2015). *Le Corbusier and the automobile*. Paper presented at A Swiss in the Mediterranean – International Le Corbusier Seminar. Academia.
https://www.academia.edu/33712737/Le_Corbusier_and_the_automobile
2. Barter, P. (2014, June 25). *Japan's proof-of-parking rule has crucial lessons for the rest of us*. Reinventing Parking.
<https://www.reinventingparking.org/2014/06/japans-proof-of-parking-rule-has.html>
3. Barter, P. (2021, March 15). *Japan's Proof-of-Parking rule (shako shomeisho)*. Parking Reform Atlas.
[https://www.parkingreformatlas.org/parking-reform-cases-1/japan%27s-proof-of-parking-rule-\(shako-shomeisho](https://www.parkingreformatlas.org/parking-reform-cases-1/japan%27s-proof-of-parking-rule-(shako-shomeisho)
4. BBC News. (2026, January 27). *Town's emissions-based parking set for roll-out*<https://www.bbc.com/news/articles/cdjn70npx1mo>
5. Budapesti Közlekedési Központ. (2019, 2023). *Budapest mobility plan: The sustainable urban mobility plan (SUMP) of Budapest*.
<https://bkk.hu/en/about-bkk/strategy/budapest-mobility-plan/>
6. Burchell, J., Ison, S., & Enoch, M. (2015). The Smeed Report 50 years on: a role for the workplace parking levy? *Transportation Planning and Technology*, 38(1), 62–77.
<https://doi.org/10.1080/03081060.2014.976986>
7. Burchell, J., Ison, S., Enoch, M., & Budd, L. (2019). Implementation of the workplace parking levy as a transport policy instrument. *Journal of Transport Geography*, Volume 80. <https://doi.org/10.1016/j.jtrangeo.2019.102543>
8. City of London Corporation. (n.d.). *On-street parking*. Retrieved May 3, 2026, from <https://www.cityoflondon.gov.uk/services/parking/on-street-parking>
9. European Commission. (2024, February 12). *Paris introduces triple parking fees for SUVs*. EU Urban Mobility Observatory.
https://urban-mobility-observatory.transport.ec.europa.eu/news-events/news/paris-introduces-triple-parking-fees-suvs-2024-02-12_en
10. Gemeente Amsterdam. (2020, January 22). *Low-traffic Amsterdam* [Agenda]. openresearch.amsterdam.
<https://openresearch.amsterdam/en/page/49784/low-traffic-amsterdam>
11. Guo, Z., & Ren, S. (2013). From Minimum to Maximum: Impact of the London Parking Reform on Residential Parking Supply from 2004 to 2010? *Urban Studies*, 50(6), 1183–1200. <http://www.jstor.org/stable/26144279>
12. Jacobs, J. (1961). *The death and life of great American cities*. Random House.

13. Lefebvre H., 1968: *Le droit à la ville*. Anthropos, Paris
14. Modacity (2023) *Amsterdam is currently removing 1,500 on-street car parking spaces per year—a phenomenon that has been happening since* [Video]. Facebook. <https://www.facebook.com/modacitylife/videos/amsterdam-is-currently-removing-1500-on-street-car-parking-spaces-per-year-a-phe/601609988584161/>
15. O'Sullivan, F. (2024, November 18). *Paris climate plan targets emissions by replacing parking with trees*. Bloomberg. <https://www.bloomberg.com/news/articles/2024-11-18/paris-climate-plan-target-s-emissions-by-replacing-parking-with-trees>
16. Osetrin, Mykola & Tarasiuk, Volodymyr & Bupalov, Dmytro & Myroshnychenko, Oksana & Vasylyshyn, Mykola. (2024). Development of pricing policy for car parking in Ukrainian cities. *Systemy Logistyczne Wojsk*. 61. 37-52. 10.37055/slw/203435
17. Pierce, G., & Shoup, D. (2013). *SFpark: Pricing Parking by Demand*. UC Berkeley: University of California Transportation Center. Retrieved from <https://escholarship.org/uc/item/0j41t7rz>
18. Popescu, R. (2022). The culture of parking on the sidewalks. *Cities*, 131, Article 103888. <https://doi.org/10.1016/j.cities.2022.103888>
19. Potter, A. (2023). *Just the ticket!: Delivering parking policy*. Transport Planning Society.
20. Push & Pull Project Consortium. (2015). *Parking management and incentives as successful and proven tools for energy efficiency: Final catalogue of the Push & Pull project*. European Parking Association. https://europeanparking.eu/wp-content/uploads/2024/12/20150608_push_pull_a4_en_web-1.pdf
21. Rupprecht Consult. (Ed.). (2019). *Guidelines for developing and implementing a Sustainable Urban Mobility Plan* (2nd ed.). European Commission. https://urban-mobility-observatory.transport.ec.europa.eu/document/download/87adaa0c-cd13-4ce0-9a15-d138ea31bb2c_en?filename=sump_guidelines_2019_second%20edition.pdf
22. Shaheen, Susan et al. (2022). *Managing the Curb: Understanding the Impacts of On-Demand Mobility on Public Transit, Micromobility, and Pedestrians*.
23. Shoup, D. (2005). *High Cost of Free Parking* (1st ed.). Routledge. <https://doi.org/10.4324/9781351179539>
24. Shoup, D. 2005. "The High Cost of Free Parking". APA Planners Press.
25. Sim, D. (2019). *Soft city: Building density for everyday life*. Island Press.
26. Sustainable Mobility for All. (2023). *Global mobility report 2022: Tracking sector performance*.

https://www.sum4all.org/sites/default/files/d7/global_mobility_report_2022_04052023_final.pdf

27. Technická správa komunikací hl. m. Prahy. (2025, May). *Excerpt from parking permit price list*. City of Prague.

https://cdn.parking.praha.eu/parking-praha/2025/05/Excerpt-from-parking-permit-price-list_EN_.pdf

28. Technická správa komunikací hl. m. Prahy. (n.d.). *Parking in zones*. Parking in Prague. Retrieved June 1, 2026, from

<https://parking.praha.eu/en/parking-options-in-prague/parking-in-zones/>

29. UITP. (2025, June 3). *Why parking is essential to a successful sustainable mobility strategy*.

<https://www.uitp.org/news/why-parking-essential-successful-sustainable-mobility-strategy/>

30. UITP. (2025, June 3). *Why parking is essential to a successful sustainable mobility strategy*.

<https://www.uitp.org/news/why-parking-essential-successful-sustainable-mobility-strategy/>

31. Ukraine. Cabinet of Ministers of Ukraine. 2001. On Road Traffic Rules. Resolution of the Cabinet of Ministers of Ukraine # 1306. Adopted on October 10, 2001. (in Ukrainian) <https://zakon.rada.gov.ua/laws/show/1306-2001-п#Text>

32. Ukraine. Cabinet of Ministers of Ukraine. 2009. On Rules for vehicles parking. Resolution of the Cabinet of Ministers of Ukraine # 1342. Adopted on December 3, 2009. (in Ukrainian)

<https://zakon.rada.gov.ua/laws/show/1342-2009-%D0%BF#n12>

33. Ukraine. Department of Transportation Infrastructure. Order No. N-67 “On the Approval of the List of Designated Parking Spaces for Vehicles on the Streets and Roads of the City of Kyiv” adopted on March 25 th, 2021. (in Ukrainian)

34. Ukraine. Kyiv City Council. Order of the Executive Body of the Kyiv City Council No. 1528 “On Amendments to Order No. 1719 of the Executive Body of the Kyiv City Council (Kyiv City State Administration) dated October 2, 2012”. Adopted on July 9th, 2021. (in Ukrainian)

https://kyivcity.gov.ua/npa/pro_vnesennya_zmin_do_rozporyadzhennya_vikonavchogo_organu_kivsko_misko_radi_kivsko_misko_derzhavno_administratsi_vid_02_zhovtnya_2012_roku_1719/hp6lklarm_kmda_1528/

35. Ukraine. Kyiv City Council. Resolution No. 242/5629 “On the Establishment of Local Taxes and Fees in the City of Kyiv” adopted on June 23th, 2011. (in Ukrainian)

[https://kmr.ligazakon.net/document/mr110254\\$2025_01_30](https://kmr.ligazakon.net/document/mr110254$2025_01_30)

36. Ukraine. Kyiv City council. Resolution of the Executive Body of the Kyiv City Council (Kyiv City State Administration) No. 83 “On the Establishment of Rates for Paid Vehicle Parking Services Provided by the Municipal Enterprise ‘Kyivtransparkservice’” adopted on April 26th, 2026. (in Ukrainian)
https://kyivcity.gov.ua/npa/NPA_1044302/kmda_83_1044307/
37. Ukraine. Kyiv City Council. Resolution on “Accomplishment rules of the Kyiv city” 2008. Approved by the Kyiv City Council Decision No. 1051/1051 on December 25, 2008. (in Ukrainian)
https://kyivcity.gov.ua/publiczna_informatsiia_Tag_166122/proyekt_rishennya_kivs_ko_misko_radi_pro_pravila_blagoustroyu_teritori_mista_kiyeva/pravila_blagoustroyu_teritori_mista_kiyeva/
38. Ukraine. Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine. DBN B.2.2-12:2019 "Planning and development of territories" (2019). Adopted on April 26th, 2019. (in Ukrainian)
https://e-construction.gov.ua/laws_detail/3260441209981634046
39. Ukraine. Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine. DBN V.2.3-5:2018 "Streets and roads of settlements" (2018). Adopted on April 24th, 2018. (in Ukrainian)
https://e-construction.gov.ua/laws_detail/3199686959802877315?doc_type=2
40. Ukraine. Verkhovna Rada of Ukraine (2005, September 6th). Law of Ukraine “About the accomplishment” No. 2807-IV. (in Ukrainian)
<https://zakon.rada.gov.ua/laws/show/2807-15#Text>
41. Urban Innovative Actions. (n.d.). *Urban mobility*. Retrieved June 4, 2026, from <https://uia.urban-initiative.eu/en/urban-mobility>
42. Verkhovna Rada of Ukraine (1993, June 30th). Law of Ukraine “On Road Traffic” No. № 3353-XII. (in Ukrainian)
<https://zakon.rada.gov.ua/laws/show/3353-12?lang=en#Text>
43. Vnukova N.M., Okhtamysh T.O., Yagolnitskiy O.A., and Hranko K.B. Innovative Approach to Estimating Costs of Vehicle Parking Services. *Nauka innov.* 2020. V . 16, no. 6. P. 95—104. <https://doi.org/10.15407/scin16.06.095>
44. Zarząd Dróg Miejskich w Warszawie. (n.d.). *Kamionek i Saska Kępa – SPPN*. Retrieved June 1, 2026, from <https://zdm.waw.pl/sprawy/parkowanie/kamioneksaskakepasppn/>
45. Zellmann, M. & Lanzendorf, M. & Johansson, F. (2026). Innovative parking management through Mobility Benefit Districts: a systematic review of academic evidence and an exploration of European case studies. *Transport Reviews*. 1-27.
<https://doi.org/10.1080/01441647.2026.2635035>

46. Zhou, C., Petryshyn, H., Liubyskyi, R., & Kochan, O. (2022). Optimization of On-Street Parking in the Historical Heritage Part of Lviv (Ukraine) as a Prerequisite for Designing the IoT Smart Parking System. *Buildings*, 12(6), 865.
<https://doi.org/10.3390/buildings12060865>
47. Бондар, А. В., Максименко, М. А., & Дремлюга, С. О. (2023). ДОСЛІДЖЕННЯ СТАНУ ПАРКУВАЛЬНОГО ПРОСТОРУ МІСТА ВІННИЦІ. *Сучасні технології, матеріали і конструкції в будівництві*, 33(2), 153–162. (in Ukrainian)
<https://doi.org/10.31649/2311-1429-2022-2-153-162>
48. Духняк, І., & Терлецька, Ю. (2022). АНАЛІЗ СВІТОВОГО ДОСВІДУ ПРОЕКТУВАННЯ ПАРКІНГІВ У МІСЬКОМУ СЕРЕДОВИЩІ. *Містобудування та територіальне планування*, (80), 166–179. (in Ukrainian)
<https://doi.org/10.32347/2076-815x.2022.80.166-179>
49. Копиця, В., & Кветний, Р. (2025). Аналіз підходів до вдосконалення інтелектуальних технологій управління паркуванням. *Оптико-електронні інформаційно-енергетичні технології*, 49(1), 157–167. (in Ukrainian)
<https://doi.org/10.31649/1681-7893-2025-49-1-157-167>
50. Копиця, В., & Кветний, Р. (2026). Підходи до управління перерозподілом паркувального попиту при зміні міської інфраструктури. *Оптико-електронні інформаційно-енергетичні технології*, 50(2), 87–95. (in Ukrainian)
<https://doi.org/10.31649/1681-7893-2025-50-2-87-95>
51. Крещенко Т. О., Ющенко Ю. О. (2022). Розпізнавання вільних місць для паркування автомобілів із використанням глибинного навчання. *Наукові записки НаУКМА. Комп'ютерні науки*. Т.5. С.72-78. (in Ukrainian)
<https://doi.org/10.18523/2617-3808.2022.5.72-78>
52. Лисак, В.В & Derkach, Maryna & Skarga-Bandurova, Inna. (2021). Інтеграція алгоритмів транспортної логістики для сервісу паркування. *ВІСНИК СХІДНОУКРАЇНСЬКОГО НАЦІОНАЛЬНОГО УНІВЕРСИТЕТУ імені Володимира Даля*. 5-9. (in Ukrainian) 10.33216/1998-7927-2020-264-8-5-9
53. Львівська міська рада. (б. д.). *Абонементи на паркування*. Портал мешканця міста Львова. (in Ukrainian) Retrieved June 1, 2026, from <https://city-adm.lviv.ua/portal/transport/parking/abonimenti/>
54. Любицький Р.І. (2018) Формування мережі об'єктів паркування індивідуального автотранспорту в історично сформованих містах (на прикладі м. Львова). (in Ukrainian)
<https://lpnu.ua/sites/default/files/2020/dissertation/1582/dysertaciyaadlyasaytu.pdf>

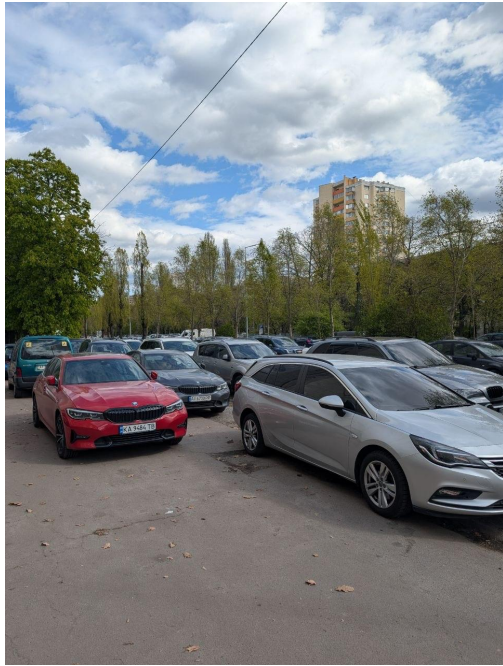
55. Любицький РІ (2016) "On-street parking" в історичному місті. Сучасні проблеми архітектури та містобудування: Наук.-техн. збірник, КНУБА 45:253–263. (in Ukrainian) <https://library.knuba.edu.ua/books/zbirniki/01/201645.pdf>
56. Паркувальний простір
<https://data.kyivcity.gov.ua/dashboard/parkuvalnyi-prostir> (in Ukrainian)
57. Хмарочос. (2024, Жовтень 17). Кияни платять вдвічі більше за штрафи за неправильну парковку, ніж за саме паркування (in Ukrainian)
<https://hmarochos.kiev.ua/2024/10/17/inspekciya-z-parkuvannya-kyyeva-postavyla-rekord-nadhodzhen-vid-avtovlasnykiv/>
58. Холодова, О. О. Результати експериментальних досліджень визначення попиту на паркування в центральній діловій частині міста (2015). Вісник Харківського Національного національного автомобільно-дорожнього університету. Вип. 70. С. 99–105. (in Ukrainian)
<https://dspace.khadi.kharkov.ua/items/51705e7b-9c42-41ac-bd9c-409d68bf8845>

Annexes

Annex 1 — Parking style on the wide sidewalks on Sichovykh Striltsiv str, Kyiv



Annex 2 — Parking style on the wide sidewalks and curbs of Vatslava Havela blvd,
Kyiv



Annex 2 (Continued) - Parking style on the wide sidewalks and curbs of Vaclava Havela Blvd, Kyiv

