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SEASONAL URBANISM: LANDSCAPE ARCHITECTURE FOR WINTER-ACTIVE PUBLIC SPACES

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Abstract. The research explores the contemporary topic of landscape seasonality, with a particular focus on the winter period, which is often an 'afterthought' in landscape planning. The issues affecting the urban environment of many municipalities during the winter season are brought into focus by changing weather conditions, when roads become impassable, car parks inaccessible and pavements impassable. The collection or beneficial use of snow on site poses new challenges for urban planning, as creating a safe environment is an essential aspect of the speciality of landscape architecture, reducing any health risks for citizens in every possible way. In order to be able to adapt the infrastructure of public outdoor spaces to seasonal use, it is necessary to define qualitative seasonal urban planning approaches by looking at the existing problems, therefore it was developed criteria for the evaluation and analyses of specific landscape spaces. The study examines the experience of several municipalities in seasonal landscape planning, conducting a survey of citizens and interviews with experts in the field, thus looking in depth for solutions to these problems in Latvia. The study has led to the development of illustrative detailed urban examples for the seasonal landscaping and use of different public outdoor spaces.
Keywords: seasonality, urban landscapes, white landscapes, public spaces

Introduction

Despite the fact that cities have been planned since the beginning of urbanization, the term urban planning did not exist until the 1890s. Due to the broad international interest in improving industrial cities, it came to be used as a word for the layout and design of cities and residential neighborhoods. Planning was associated at the time with a number of social reform initiatives that sought to enhance working-class living standards. Land use planning, regional and spatial planning, and, more recently, environmental planning are some of the planning processes that have been linked to urban planning [1].

Urban renewal, which involves applying current best practices in urban planning to deteriorating cities, is another aspect of the urban planning process. With numerous application scales ranging from the block or street scale to the metropolitan and regional landscape scale, urban planning practice has grown increasingly complex in recent years. Numerous facets of modern public policy, such as multiculturalism, the ideals of healthy cities, environmental justice, economic growth, climate change, energy conservation, nature preservation, sustainable development, public involvement, and so forth, are confronted by urban planning. The foundational knowledge of urban planning today is derived from a long history of concepts, paradigms, principles, instruments, studies, and applications that have been enhanced by the influence of the social sciences, natural sciences, and electric humanities [2].

We can make a number of fundamental claims regarding urbanism in general and urban planning in particular. Prior to examining them through the lens of conventional planning standards on the usage of spaces and buildings, the shape and assessment of physical locations should come first [3]. The transient patterns of usage that buildings and urban open spaces undergo may change once a year, twice a year, or more frequently. The concept of the role and form of the urban environment has changed significantly over the past 50 years, especially in the USA. It is now acknowledged that planning for a certain region has frequently not been done with the evolution of the site complex in mind.

Urban design theories and real-world examples constitute the foundation of many modern urban design concepts. According to the American New Urbanists' initiatives to build more ecologically friendly and socially just cities, as well as the British government's policy on sustainable communities, traditional urbanism is the greatest way to foster a diverse and multicultural civic life. Because they are neutral and non-deterministic yet fundamentally human, spaces like the park, boulevard, square, and street serve this purpose. Because they are universal spatial kinds, they can fade into the background and let public life in all of its manifestations take center stage. This is significant because, in today's globalized culture, urban design aims to provide spaces where individuals of all ages can lead fulfilling lives. The numerous little, varied activities that comprise a community are best carried out as pedestrians, meeting and mingling with friends, acquaintances, and strangers on the street, in the plaza, or in the park, according to Danish urbanist Jan Gehl [4].

Community life revolves around informal interactions in public areas, and when urban areas are badly planned, people move through them as fast as they can without sitting, relaxing, or stopping. People who live there can also stay and engage in so-called "secondary activities" like relaxing in the shade for a while or, in the winter, taking a seat in a sunny nook if the public area is appealing and integrated with residences, businesses, and offices. Additionally, passersby may pause to get a cup of coffee, converse with friends, or take in a vista, sculpture, or fountain. Since community is centered on connection, this type of activity - meeting new people and trying something new - can validate and enhance the bonds between neighbors [5].

The field of urban planning is focused on the use of public space in urban settings as well as the design, administration, and regulation of the built environment. Various ideas have been developed over time to direct and influence urban design practice [6].

Urban planning in the 20th and 21st centuries differs from one another, according to these beliefs. In the former, the economic development model relied on expanding cities by whatever means, even if doing so could have a detrimental effect on the environment and the world. Finding the means to advance and alter urban behavior while preserving economic sustainability and environmental viability has become a new issue over time.

The literature on the nature of urban design places a lot more emphasis on design paradigms and product forms than on process forms. Numerous theories about new cities concentrate on the architectural design of locations rather than the processes that led to their creation or the dimensions that determine its success or failure. This is a result of place design's mimetic approach, which adapts well-known or

generic forms of urban design to particular contexts [7].
Land management and organization, land use, spatial morphology, resource allocation, and social and economic relations are all included in the broad category of spatial planning, of which urban planning is one type. According to modern definitions, spatial planning is a component of "place-making" initiatives, which use spatial development procedures to support and improve environmental attributes that people find valuable [8].
Around the world, the built environment has a significant impact on whether outdoor urban activities like "soft" mobility are supported or hindered. Public outdoor areas have the power to either inspire people to engage in outdoor social activities or deter them from doing so [9].
When designing human communities, seasonality is frequently taken into consideration. The way that urban public places fluctuate with the seasons and climate should be given more consideration in land-use plans and urban planning procedures. Because of its location and climate, Latvia experiences extremely little sunlight during the winter months. The Central Statistical Bureau of Latvia reports that there were barely six hours of sunlight in December 2023. Over the course of three months, the average duration of daylight hours drops by nine hours as astronomical winter sets in. As a result, public open spaces are used at varying intensities. People's preference to remain indoors is frequently caused by public areas that are not adjusted to the changing seasons, rather than the weather or the approach of night.
Cities serve as hubs for social interaction, employment, recreation, personal growth, and inspiration. Streets, squares, and plazas are managed by cities as areas for seasonal events. These significant areas are kept active and useful throughout the year thanks to winter utilization. It is uncommon to find locations in Latvia's public open spaces that are intentionally designed for seasonality or that are utilized year-round, irrespective of weather and seasonal factors.

Climate impacts on urban planning

In many parts of the world, European traditions follow a calendar of four seasons - summer, autumn, winter and spring - that reflect European culture and environment rather than the local one. Seasonality in a landscape context refers to phenomena and activities that occur or are available at certain times of the year, or to features of the physical environment that change with the seasons and are thus only visible in the landscape at certain times of the year. It also refers to changes in people's perception of their physical surroundings associated with the changing seasons. The European Landscape Convention, in force since 2004, defines a landscape as an area perceived by people, the character of which is determined both by nature and by the action and interaction of human factors. According to these criteria, strong seasonal changes are expected to be a determinant of Northern European landscapes and therefore require systematic research [10].
Settlements are generally thought of as being in a state of independent development or change, rather than as static or complete. Similarly, for those involved in open space design and planning, such changes are most often associated with physical, social, cultural or economic conditions, but are rarely explored in the context of seasonal climate change.
According to research, individuals think that a neighborhood's appearance and structure change in the winter. Those responsible for maintaining a location's connectivity should make an effort to comprehend these changes and develop a winter travel plan for the city. Similar to their summer counterparts, the goal of these locations should be to create a desirable winter urban fabric that includes high-quality and usable winter public open space along with connected streets and spaces that provide an understandable townscape. This will ensure easy mobility and activity throughout the winter months. Urban planners should also concentrate on minimizing the winter "whiteness" effect's impact on the public realm and look for design solutions that clear up any misunderstandings regarding local user priorities.
Attempts to create a climate-appropriate northern urban form are a relatively recent phenomenon, which has been the focus of a separate field of research. The international "winter cities" movement has created a need for clear, systematic research focusing on national and local measures to improve the comfort and lifestyle of all northern inhabitants. It is critical to realize that winter causes discomfort and that planning theory and practice must take this into account. Winter's negative effects must be minimized while its positive aspects must be increased for northern cities to operate more effectively. Not every summer activity should be abandoned, even though some cannot be done in the winter. Maintaining human life outdoors requires proper microclimatic management. Due to the high level of insulation inside, the outdoor season should also be prolonged [10].
Contact with nature, year-round usability, user involvement, cultural continuity, and the establishment of cozy microclimatic conditions in the majority of the city's open spaces are the main design tenets that should be included in the blueprint for a model "winter city." In adverse environmental conditions, it is essential to create the best possible conditions for human well-being, living, working, and intellectual development in each of the four seasons. Particularly during the lengthy winters marked by high northern latitudes and harsh cold, a climate-responsive approach to urban design and planning policies can reduce the stress of daily living [11].
People can experience several climate impacts at the same time, at different stages or times of their lives. A person's vulnerability to climate change impacts depends on three main factors: exposure, sensitivity and adaptivity.
Not all cities are constructed in the same manner - while many urban design concepts are taken from warm-climate nations, these techniques are not advised for cities that experience freezing temperatures and snowfall since they impact urban infrastructure and restrict community socializing and recreational options. The majority of the time, such urban planning fails to satisfy the year-round needs of the populace. It is reckless and irrational to disregard the arrival of winter. For the built environment to work more effectively, winter elements must be specifically considered in architecture, development policy, architectural design, and urban planning. This will lessen the negative effects of winter conditions on the environment while maximizing its good aspects. A city's ability to attract people, maintain economic growth, vitality, and civic pride can all be greatly impacted by the way it is planned, regardless of how safe, comfortable, desirable, and visually pleasing it is thought to be. Designing winter cities with thermal comfort in mind is crucial, particularly for outdoor and semi-public structures and areas. Planning the microclimate carefully is necessary to keep people from hibernating. Instead of fighting the climate, we should form partnerships with it [12]. Norman Pressman's work focuses on solutions such as wind protection and maximum access to natural light. He also argued that effective interventions in winter cities should take a holistic approach, addressing four different areas: the physical environment, local culture, human biophysiology and economics [13].
In addition to the harsh winters of today, winter cities are

also more likely to encounter erratic, high temperatures and the severity of their fluctuations. Significant health issues and thermal discomfort are already being shown by the effects of urban heat islands. Urban microclimates are already at risk, and estimates of climate change indicate that these risks will only increase. These concerns have arisen primarily because most cities are not built to handle the new difficulties brought on by climate change. By creating a winter urban planning strategy or modifying their public spaces to capitalize on the season and solve winter issues, certain winter cities have tackled this issue [13].

Methods

For the purposes of this comparative study, four cities within the Vidzeme region of Latvia were selected. This region was chosen due to its characteristically cold and prolonged winters, which are more severe than those in other parts of the country. Within each of the selected cities – Valmiera, Cēsis, Smiltene, and Limbaži – five representative urban locations were identified for investigation: a main street, a public institution, a school territory, a pedestrian zone, and a park. These locations were chosen as they represent the most intensively used public spaces and are central to daily urban life and public gathering.

The study employed a mixed-methods approach to assess and characterise the phenomenon of urban seasonality in Latvian municipalities.

Fieldwork was conducted using a structured **site assessment matrix**, organised around three primary evaluation categories:

- Functionality (adaptability, use, architectural small forms, management, availability);
- Aesthetics (diversity, structure, depreciation);
- Environmental Quality (precipitation, sun exposure, green structure, wind).

The selection of these criteria was grounded in theoretical considerations of seasonality within urban planning. Observations were conducted repeatedly throughout each season to evaluate how landscape spaces adapt to seasonal variations. Each location was assessed with regard to its spatial structure, landscaping, pathway network, maintenance quality, physical deterioration, and environmental responsiveness, with a focus on sustainability, quality, and cyclical transformation.

Geo-localised Photography – photographic documentation of the study sites was carried out concurrently with field assessments. These photographs served as visual records to capture spatial conditions, functionality, and quality of the selected urban areas across different seasons and weather conditions. The images were later analysed to identify and compare seasonal changes in the urban landscape.

Semi-structured **expert interviews** were conducted with municipal professionals from the selected Vidzeme cities, including urban planners, landscape architects, and real estate management specialists. The objective of these interviews was to gain insight into the planning and management challenges associated with seasonal dynamics in urban public spaces, as well as to gather expert perspectives on best practices and accumulated experience.

Public survey was conducted targeting residents of Valmiera, Cēsis, Smiltene, and Limbaži, although participation was also open to respondents from other Latvian regions. The aim of this survey was to capture public perceptions and experiences regarding the seasonal use and quality of outdoor urban spaces. A total of 144 individuals participated in the survey at the time of data collection.

Results

Valmiera is a dynamically developing urban centre, where continuous improvements are being made to enhance the quality of the built environment. Investments are directed toward maintaining and upgrading street infrastructure, improving blue-green networks, and renovating educational facilities, including both schools and preschools. In parallel, the city is experiencing growth in entrepreneurial activity and a diversification of its cultural life. These elements constitute integral components of the urban fabric, serving residents in both everyday functions and recreational use. The climatic conditions of Valmiera are characterised by relatively cool and humid weather, largely influenced by the proximity of the Gauja River. The average vegetation period in the region spans approximately 130 days. Snow cover typically lasts for 105 days per year, with an average thickness of 25 cm and a recorded maximum of 43 cm. Soil frost reaches an average depth of 70 cm, with extreme cases extending to 120 cm. On average, blizzard conditions are observed on 22 days annually, while fog occurs on up to 36 days. The predominant wind directions are from the south and southwest.

Considering the spatial diversity of Valmiera's public outdoor environments—many of which are structured around key social, educational, and commercial functions—five representative urban landscape sites were selected for detailed analysis within the framework of the research. These include: the territory surrounding the shopping centre "Valleta," the major thoroughfare Rīgas Street, the pedestrian street Ziloņu Street, Jāņparks (a central urban park), and the grounds of Valmiera Viesturs Secondary School. These sites reflect varied typologies of urban space and differing intensities of public use across seasons. The same choises of urban fabric made in other selected cities.

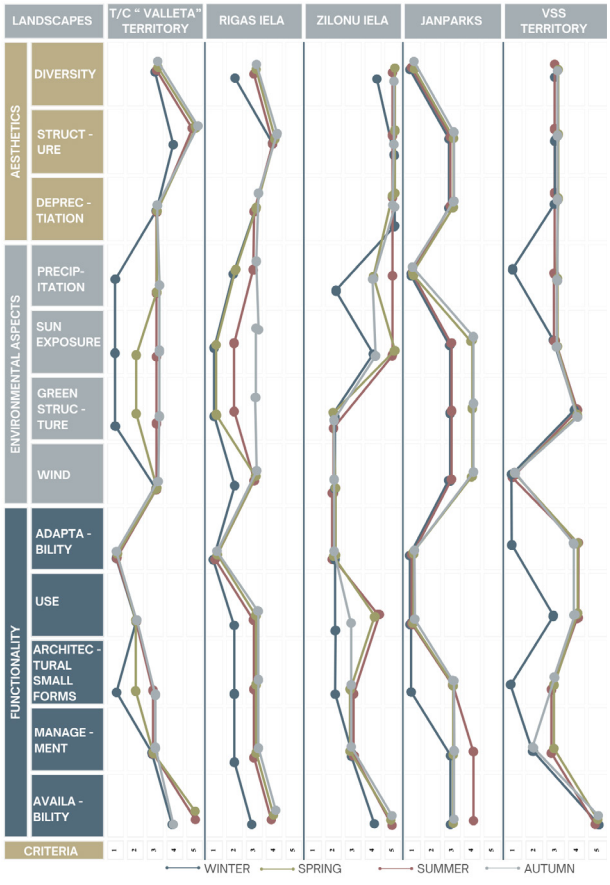

Fig. 1. Results of the Site Assessment Matrix Survey of the Case Study Areas in Valmiera [created by authors]

The territory surrounding the shopping centre "Valleta" is located in the very centre of Valmiera and holds strategic significance within the city's urban structure. Despite its central location and overall adequate maintenance and physical infrastructure, the space lacks adaptation for long-term recreational use throughout the seasons. Its functional potential is currently utilised in a limited and episodic manner—primarily during public events such as the city festival, when the area is temporarily activated through interventions such as street food stands, hammocks, and decorative lighting. However, seasonally responsive design solutions are largely absent. This limits the site's capacity to support everyday social life and reduces its potential to serve as a vibrant, multi-functional urban space that could contribute to the continuous activation of Valmiera's city centre.

Rīgas Street functions as the main arterial road in Valmiera, where during the summer season, the street is characterised by extensive sun exposure and a lack of shaded areas, limiting pedestrian comfort during periods of heat. The street's spatial and functional potential remains underutilised, and it lacks long-term activation strategies. Currently, Rīgas Street comes to life primarily during annual public events, such as the city festival, when it serves as a venue for parades and open-air cinema. However, the existing urban furniture and landscaping elements are not designed for year-round use, particularly lacking adaptability for the winter season.

Ziloņu Street (a pedestrian thoroughfare) was renovated in 2019 and designed as a multifunctional public space intended to host artistic, recreational, and cultural events, while simultaneously highlighting and preserving the scenic natural and cultural-historical values of Valmiera's central area. According to the results of the site assessment matrix, the street's functionality and aesthetic appeal significantly diminish during the winter season. Snow removal is inadequately managed in key zones, which leads to the degradation of plantings and green areas due to negligent maintenance practices. These impacts become especially evident in spring, when traces of vehicular damage—such as tire marks on grassed areas, broken ornamental shrubs, and worn lawn surfaces—are clearly visible. Given the site's location adjacent to a water body, it is also characterised by pronounced wind exposure. Nevertheless, the balance between sunlit and shaded areas is relatively even, as the spatial structure features both dense tree groupings and open hardscaped zones. The space currently lacks also features that support long-term recreational use throughout all seasons.

Jāņparks is located within a residential district primarily composed of detached single-family homes. Due to its spatial positioning and permeability, the park often functions as both a recreational area and a pedestrian transit route for local residents of the surrounding Jāņparka neighbourhood. According to the results of the site assessment matrix, the park demonstrates significant potential for the development of seasonally adaptable recreational infrastructure. The area is currently maintained on a regular and satisfactory basis, and its environmental conditions—such as a balanced distribution of sun exposure and shading, as well as natural wind ventilation—contribute to a pleasant and comfortable atmosphere for users. Despite these favourable conditions, Jāņparks currently lacks recreational offerings specifically adapted to different seasons.

According to the results derived from the site assessment matrix, the outdoor territory of Valmiera Viesturs Secondary School demonstrates seasonal imbalances in spatial quality and functionality. The southern part of the territory is predominantly shaded, while the northern section is highly sun-exposed and subject to noticeable wind corridors, resulting in a fragmented spatial experience. During the winter season, the usability of the area significantly declines, as no structured or long-term outdoor recreational opportunities are provided for students. The lack of winter-specific design solutions limits the functionality of the space during the colder months. Following the recent reconstruction of the school and associated landscape upgrades, improvements have been made to paved surfaces and urban furniture. However, the adjacent sports field area remains undeveloped, despite its considerable size and potential for adaptation to seasonal outdoor activities. Importantly, the school grounds are accessible to the wider public during evenings and throughout the summer period. Local residents frequently utilise the site's disc golf course, outdoor table tennis zone, and the basketball and sports courts, indicating the space's multifunctional potential beyond school hours.

Cēsis is one of the oldest towns in Latvia, located in the northern part of the Vidzeme Upland. The city's development has been significantly influenced by the Gauja River, which flows through the area, with the ravines of the Gauja Valley extending into the urban fabric itself. Cēsis is distinguished by a rich concentration of cultural and historical heritage, which forms a central component of its identity. The city's development strategy is oriented towards the well-being of its residents, aiming to ensure a high quality of life and overall prosperity. When comparing the climatic standard norm (1991–2020) with the reference period (1961–1990), the average annual air temperature in the Cēsis municipality has increased by 1.2 °C, while the total annual precipitation has risen by 50.2 mm. During the standard climate period (1991–2020), the average snow cover thickness was 6.4 cm. According to data collected by the Latvian Environment, Geology and Meteorology Centre, projections indicate a decline in snow cover thickness by the end of the century. In a scenario of moderate climate change, the average snow depth is expected to decrease to 3.2 cm, whereas under a significant climate change scenario, it could reduce to as little as 1.7 cm.

The "Globuss" shopping centre lies in close proximity to the Cēsis railway station, the intercity bus terminal, and several other key urban landmarks of significance to the city. According to the findings of the site assessment matrix, the spatial characteristics of the "Globuss" territory remain largely unchanged throughout the seasons. The site is currently used exclusively for vehicular parking, with no provisions made for public outdoor activities or seasonal engagement. The green structure within the area is minimal and lacks functional value, which contributes to an uncomfortable microclimate characterised by strong wind exposure and excessive sun. The spatial accessibility of the territory is limited due to the narrow layout of the parking area and variations in terrain, which become particularly problematic during the winter season. Despite these limitations, the territory is regularly maintained, and the immediate surroundings appear clean and orderly.

Piebalgas Street is one of the main arterial roads in the city of Cēsis. The is relatively monotonous and lacks designated public rest areas. The absence of basic urban infrastructure significantly reduces comfort and accessibility, particularly for older residents. Additionally, public transport stops along the street are not equipped with shelters, making it difficult for users to find protection from rain, snow, or intense sun. Although some tree plantings provide intermittent shade during the warmer months, longer stretches of the street

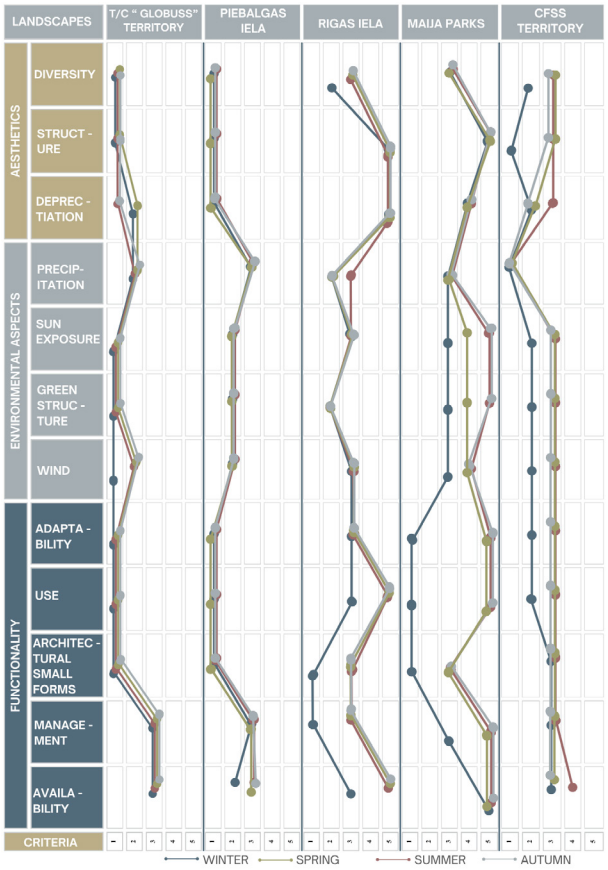

Fig. 2. Results of the Site Assessment Matrix Survey of the Case Study Areas in Cēsis [created by authors]

remain exposed, resulting in pronounced solar radiation and heat during summer. Wind exposure increases in several parts of the street due to a more open landscape structure, leading to uncomfortable microclimatic conditions such as drafts.

Rīgas Street holds a distinctive role within the urban structure of Cēsis, as it is seasonally transformed into a pedestrian and cyclist-friendly zone. From June 1st, each weekend throughout the summer, the street is closed to motorised traffic and temporarily adapted with various public realm enhancements, including benches, tables, planters, and outdoor terraces, effectively revitalising the street and fostering vibrant public life. The transformation of this space is closely tied to the city's resident- and culture-oriented development strategy, which places emphasis on tourism, creative industries, and the quality of public space. As a result, Rīgas Street features a high concentration of cafés, cultural venues, and outdoor dining areas, contributing to its identity as a dynamic social and leisure destination. Based on the site assessment matrix, the adaptability and management of the street significantly improve during the spring and summer seasons. The diversity of small-scale architectural forms increases, and temporary installations enhance the vibrancy and usability of the space. However, during autumn and winter, maintenance becomes more challenging due to the reintroduction of motor vehicle traffic and the narrow, irregular street geometry characteristic of historic city centres. Snow removal, in particular, is complicated by both parked vehicles and the confined spatial layout. The street contains limited permanent green structure – only a few individual trees – therefore, its visual and ecological qualities are seasonally supplemented with ornamental plants in movable planters. Despite the dense built environment typical of the old town, Rīgas Street maintains a relatively high degree of accessibility. It accommodates a designated bicycle lane, organises one-way vehicular traffic, and ensures pedestrian movement along both sides of the street, supporting inclusive urban mobility.

Maija Park is one of the central urban green spaces in the city of Cēsis, located along Valmieras Street. It functions both as a key pedestrian connector to nearby cultural and recreational destinations and as an accessible everyday leisure space for residents and visitors alike. According to the results of the site assessment matrix, the park features a diverse and well-integrated path network, with multiple access points that ensure year-round permeability and connectivity. The park offers a wide range of recreational amenities. Overall, the area is well-maintained; however, during the spring season, surface erosion and the formation of informal footpaths due to pedestrian shortcuts are observed. In the summer months, these issues are mitigated through the use of temporary barriers. The park is characterised by a rich and layered green structure, including ornamental plantings and numerous tree groupings that provide a visual identity and a balanced microclimate. The presence of mature vegetation ensures an effective distribution of sun and shade, contributing to thermal comfort and wind mitigation. As a result, the park environment is generally perceived as pleasant and inviting throughout the warmer seasons. Despite the park's vibrant character in spring and summer, its functionality declines significantly in winter. Most amenities and uses are oriented toward the warmer months, and as vegetation sheds its foliage, the elevated topography – particularly noticeable from the northwestern side of the city – leaves the area more exposed to wind, increasing discomfort and reducing the attractiveness of the park during the cold season.

Cēsis City Secondary School is located adjacent to the Cēsis Sports Complex. Overall, the territory exhibits low spatial diversity and lacks adaptation to seasonal changes. Winter snow cover enables informal use of the sloped terrain for recreational activities, while spring reveals worn-out lawn areas and soil erosion. The school's main entrance zone has been renovated with flower beds, benches, and bicycle shelters, also featuring the highest concentration of greenery – most notably, aligned linden trees along streets. In contrast, the eastern section suffers from limited vegetation, creating a noticeable heat island effect in warmer months. The path network is varied in surface type, with worn concrete slabs forming puddles during wet weather. The stadium in the northeastern area is accessible to the public outside of school hours. The terrain's relief offers partial wind protection, though some areas remain wind-exposed, particularly during leafless seasons.

Smiltene is a well-maintained, traditionally Latvian small town located in northern Latvia. Its urban structure is defined by low-rise residential buildings, distinctive hilly terrain, green spaces, and several lakes formed by damming the Abuls River. The town has seen notable infrastructural and economic development due to its favourable geographic location, enabling local enterprises to compete successfully in both national and European markets. Smiltene lies within a moderately humid Atlantic–continental climate zone. It is characterised by relatively cool summers and mild winters with frequent thaws. The town experiences more stable winter temperatures and lower precipitation levels compared to the surrounding Vidzeme Upland. Due to the undulating terrain, the local microclimate is cooler, with shorter growing seasons, fewer frost-free days, and a longer-lasting snow cover. The average January temperature is +6.2°C, while in July it reaches +16.3°C. Temperature fluctuations are most pronounced in summer, with more stable conditions during

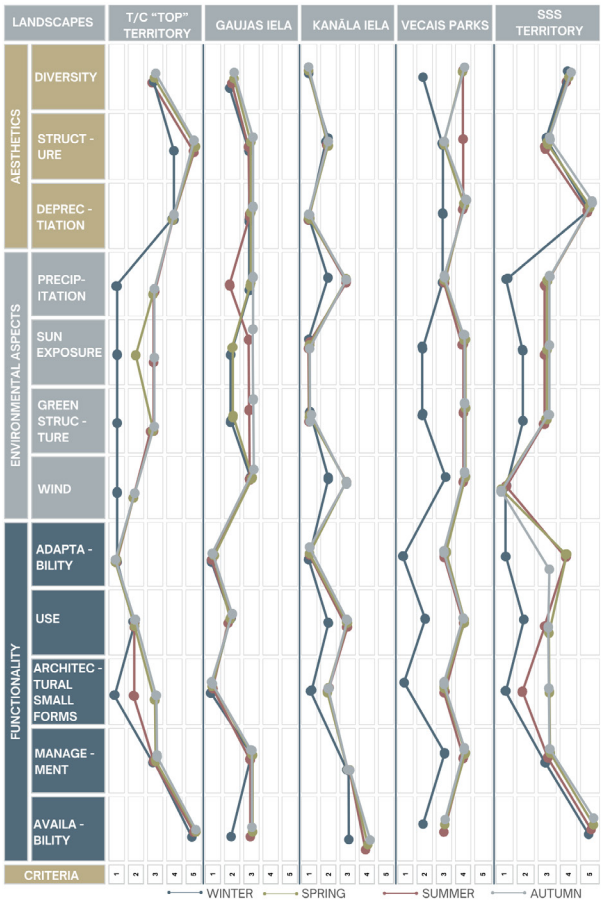

Fig. 3. Results of the Site Assessment Matrix Survey of the Case Study Areas in Smiltene [created by authors]

winter. The average snow depth is approximately 26 cm.

The "TOP" shopping centre is located in the heart of Smiltene, adjacent to the bus station and the Evangelical Lutheran Church. The building's scale and appearance contrast with the surrounding historic small-town low-rise development. According to the site assessment matrix, the area is well-maintained, featuring cohesive and high-quality urban elements, including large flower pots, benches, waste bins, and information stands. Recently planted tree lines, supplemented by flower beds and seasonal arrangements in large metal containers, contribute to visual greenery. However, these green elements are visually and functionally outweighed by the expansive adjacent parking lot, which causes significant sun exposure and reduces comfort in warm seasons. The area lacks seasonally adaptable public space activities throughout the year. Nevertheless, accessibility is ensured for various user groups, with nearby parking spaces and a designated cycle lane running alongside the site.

Gaujas Street is one of Smiltene's four main thoroughfares, extending across much of the town and connecting with Atmodas Street in the city center. According to the site assessment matrix, Gaujas Street features many positive elements but also areas needing improvement. The road infrastructure is well-developed, with tactile guiding lines at intersections for visually impaired pedestrians. Both sides of the street have green structures, though these require enhancement to better mitigate sun exposure. The right side hosts an electric vehicle charging station, a skate park, and a children's playground; these areas would benefit from seasonally adaptable recreational activities. Currently, the street segment contains only one waste bin and a single bench, indicating a need for additional urban furniture. The street is regularly maintained. During winter, roads and sidewalks are cleared of snow, and no significant water accumulation is observed during rainfall. Adjacent green spaces on both sides hold potential for development into more functionally diverse zones.

Kanāla Street is one of several pedestrian streets in Smiltene, connecting to a smaller pedestrian section of Dakteru Street. The Abuls River flows alongside Kanāla Street, passing near the adjacent Tepera Lake. The street runs parallel to Smiltene's territorial boundary and lies close to the Sports Complex and Smiltene Old Park. The street surface consists of two types: asphalt concrete from Dakteru Street to the bridge, and gravel beyond. During spring, rising water levels in the Abuls River slightly affect the adjacent gravel section. Kanāla Street is fully exposed to sunlight year-round, causing notable discomfort during summer due to the lack of green structures. The area experiences pronounced wind flow. On the southern side, a large meadow is regularly mowed. Throughout the year, the street remains very quiet and primarily serves as a connection between the residential area of Smiltene and Tepera Lake.. The riverside area lacks significant amenities or small architectural elements, though lighting poles are installed along the street.

Vecais Park is one of Smiltene's largest green spaces, situated between Tepera and Vidusezers Lakes, and shaped by prominent terrain with the Abuls River flowing through it. The park features diverse green structures across multiple levels, with a significant presence of mature trees providing extensive shade. Thanks to the dense greenery and varied topography, the park is sheltered from strong winds, and rainwater drains effectively into the Abuls River without pooling. A well-developed network of asphalt paths ensures accessibility for both pedestrians and cyclists. The park's small architectural elements are harmonious and varied, contributing to its unique character. During winter, the park lacks seasonally adapted leisure options. Maintenance is consistent throughout the year, with organized autumn leaf collection involving local community participation.

Smiltene High School is located near Vecais Park, surrounded by detached houses. The recently developed and well-maintained school grounds feature a spacious main square and decorative landscaping. According to the site assessment matrix, the area is in good condition with a diverse network of paths ensuring accessibility. However, many paved areas are exposed to intense sun during the hottest parts of the day. The school grounds include various sports fields, offering opportunities for students and locals to engage in physical activities. To increase usability throughout the year, more seasonal activity options are recommended. The open layout results in noticeable wind exposure. Maintenance practices lack strategic planning, such as uniform lawn mowing without zonal variation in summer. Rainwater is managed through lawn infiltration and drainage systems.

Limbaži is one of the oldest towns in Latvia, located within the North Vidzeme Biosphere Reserve's landscape protection zone. The town is situated on a hill, with Limbažu Lielezers lake nestled in a valley depression. The historic city layout, established in 1385 following the construction of protective walls, is largely preserved. The Old Town, developed in the 18th and late 19th centuries, is a nationally significant urban monument. Climatically, Limbaži belongs to the Northern Latvia region, with an average January temperature of –6°C and July around +17°C. Annual precipitation ranges from 750 to 900 mm, higher than in many other parts of Latvia. The growing season lasts about 180–190 days. Prevailing winds come from the south and southeast.

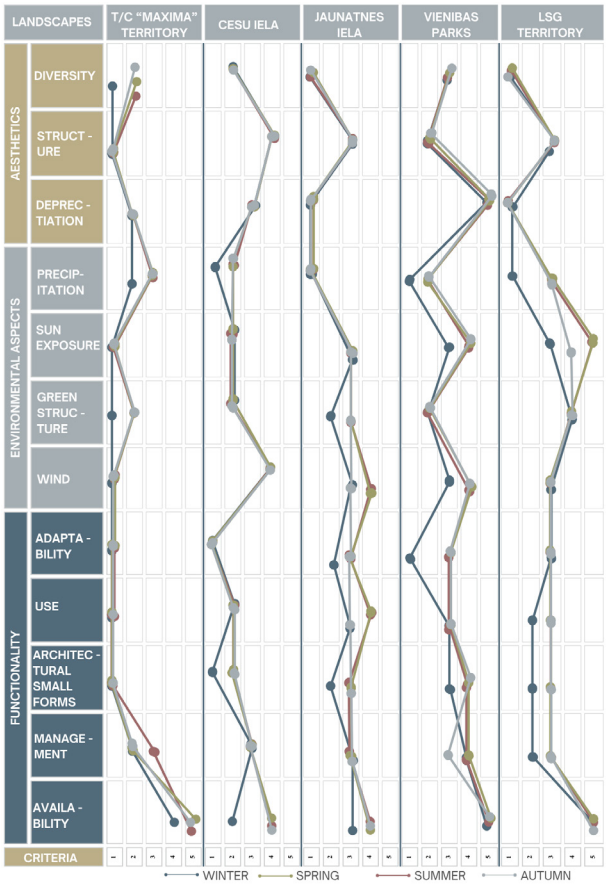

Fig. 4. Results of the Site Assessment Matrix Survey of the Case Study Areas in Limbaži [created by authors]

The Maxima shopping center is located in the center of Limbaži, near various public service buildings, multi-story residential areas, and industrial zones. According to site assessment results, the public outdoor space around the center is of low quality. The area is easily accessible to pedestrians and cyclists and is maintained but lacks seasonally adapted innovations. The center is surrounded by a large parking lot, which negatively impacts the functional and visual quality of the landscape. Due to missing green structures, the space feels highly exposed to sunlight and wind. The area remains monotonous throughout the year, with limited diversity in use, few architectural small forms, no highlighted sightlines, and lacks seasonally adapted activities.

Cēsu Street is one of Limbaži's seven main streets, running through the historic old town toward Valmiera. According to the site assessment matrix, the dense old town buildings define clear sightlines and prevent wind drafts along the street. However, the entire street suffers from strong sun exposure due to a lack of green structures, especially around Baumaņu Kārļa Square. The street also lacks small architectural elements, and there are very few benches and trash bins in the studied section. Some parts of the street have been renovated with sidewalks featuring bicycle lanes and tactile paving, but most sidewalks remain narrow. The street shows visible signs of wear, with outdated asphalt causing water accumulation during rainfall. In winter, snow accumulation on sidewalks limits accessibility. Seasonal activities are missing. Overall, the street is clean and well-maintained but requires updates to its infrastructure and street furniture.

Jaunatnes Street stretches from Rīgas Street to Lielezers and is divided into three sections: the middle part for motor vehicles, while the beginning and end are reserved for pedestrians and cyclists. Nearby are the Limbaži Open-Air Stage, Main Library, and Swimming Pool. The site assessment shows the area is accessible to diverse social groups. The street is lined with extensive tree plantings, which reduce wind and balance sun exposure, though the variety of greenery is limited and could benefit from seasonal decorative plants. Linden tree rows along parts of the street create defined sightlines. Due to the pronounced relief, the street does not accumulate much rainwater and serves as a winter activity spot for sledding and skiing. Outdoor sports like disc golf are available, and various events take place at the nearby open-air stage. Overall, Jaunatnes Street is well-maintained and regularly managed.

Located in the city center near the Culture House and municipal administration, Vienības Park features a theater house and a children's playground. The park has been renovated, with well-maintained paths and facilities showing no signs of wear. While there are enough small architectural elements, increasing their variety would enhance the park's seasonal usability and overall diversity. The extensive pathway network ensures full accessibility. Large tree clusters create heavy shading in some areas, causing uneven light distribution, though sunlight reaches the decorative flowerbeds mainly in the park's center. Thanks to the mature trees, wind is minimal. The park is clean and well-maintained year-round. Incorporating seasonal innovations could improve management by adopting smarter maintenance practices.

Limbažu Valsts ģimnāzija outdoor public space around the school is noticeably outdated and in need of improvements to create a more interesting and motivating environment for students. The area has a diverse network of paths that provide good access to the school, but the pavement is worn out and should be replaced. Due to the poor quality of the surface, water tends to accumulate during rainfall. Large tree plantings cover much of the area, creating extensive shade. While the northern part of the territory receives sunlight, this space is not utilized to create pleasant spots for relaxation or free time. The outdoor environment lacks clear sightlines and is quite monotonous, with a shortage of varied small architectural elements such as benches, shelters, or decorative features. During the winter season, an outdoor ice rink is set up nearby, which is publicly accessible to residents of Limbaži. Maintenance during the warmer months is generally adequate; however, in winter, snow accumulation sometimes makes parts of the area difficult to access.

During the **interviews** with specialists from Vidzeme municipalities the main focus was on identifying seasonal urban planning and maintenance challenges in their respective cities, highlighting that:

- Most attention to seasonality is given from a maintenance rather than urban planning perspective.
- Winter-specific planning is lacking; public spaces are often designed for warmer months.

So, when it comes to adapting infrastructure for different seasons, most municipalities prioritize maintenance aspects such as mechanized cleaning. However, winter season considerations are often overlooked in the initial design and planning phases. Public outdoor spaces tend to be optimized mainly for use from early spring to late autumn. Some municipalities, like Cēsis and Smiltene, do incorporate planning for snow storage and seasonal plantings to balance usability, safety, and aesthetics throughout the year. The specialists reported several recurring challenges, primarily adverse weather conditions—such as heavy snow, strong winds, and rain—and a lack of sufficient funding to respond

adequately to emergencies and routine maintenance. Safety concerns, like icicles forming during winter (noted in Cēsis), also complicate maintenance work. Additionally, the unpredictability of weather makes budgeting for maintenance difficult. Maintenance activities include regular inspections of roads, sidewalks, green zones, and playgrounds. In Valmiera, inspections during winter happen as often as hourly to ensure safety and timely snow removal, while Limbaži aims to minimize snow removal to save resources. Leaf collection is organized both mechanically and manually, with leaves composted afterward. Community initiatives, such as Smiltene's annual "Spodrības mēnesis" (Clean-up month), engage residents in city maintenance efforts. Examples of good practice:

- Valmiera aims to design multifunctional outdoor spaces usable year-round.
- Cēsis considers snow storage during the planning phase to avoid conflicts with green zones.
- Smiltene emphasizes seasonal plantings that do not hinder visibility or winter maintenance.

To optimize costs, municipalities employ strategies like reducing the frequency of cleaning and focusing snow removal efforts based on snow depth thresholds. Some maintenance contracts fix costs regardless of weather fluctuations, providing financial predictability. Suggestions from specialists include reducing mowing areas in warmer months and promoting flower meadows to lower maintenance expenses. Munucipal specialists highlighted difficult-to-maintain areas:

- Historic centers (Cēsis, Limbaži) require manual cleaning due to dense layouts.
- Valmiera struggles with poorly executed work at intersections.
- Narrow streets and parking areas in Smiltene require night shifts in winter.

Historic city centers present particular challenges for both development and maintenance due to their dense structures. Collaboration between planners and maintenance teams is emphasized to create solutions that are both functional and manageable year-round. The interviewed specialists expressed strong support for developing seasonal urban planning guidelines. Such guidelines would provide continuity during staff changes and help preserve the city's character while guiding year-round design and maintenance.

The survey aimed to gather opinions from residents and visitors of several Latvian cities regarding the seasonal use, aesthetic, and functional quality of outdoor spaces. Most respondents (47.9%) were aged 19 to 29. A total of 144 people participated, including 49 from Valmiera, 20 each from Cēsis, Smiltene, and Limbaži, and 35 from other regions of Latvia.

Key findings showed that a significant portion of respondents experienced issues with insufficient and low-quality outdoor facilities—ranging from 15% in Smiltene to 48.6% in other Latvian regions. Environmental negative impacts on people were also frequently reported, especially in areas outside the four main cities. Poor maintenance was a notable problem, particularly in Valmiera (40.8%). The most commonly identified issue across all cities was the lack of seasonal activities tailored to outdoor spaces. Regarding public involvement in planning outdoor spaces, opinions were mixed. Only a small percentage (around 8% in Valmiera) strongly supported active citizen participation, while most respondents chose a moderate level of involvement. When asked about the availability of seasonally adapted activities, most respondents gave mid-range ratings. Valmiera respondents tended to rate outdoor space adaptability between 6 and 8 out of 10, while Limbaži respondents rated it lower, indicating a perceived lack of seasonal activities. Smiltene received relatively higher ratings for seasonal adaptability.

Overall, the survey highlights the need to improve outdoor space quality and maintenance and to develop more seasonally adaptable activities, while also considering greater public involvement in planning processes. When summarizing respondents' opinions on the use and maintenance of outdoor spaces during the winter season, clear views emerge about several areas and their upkeep. Most complaints concern insufficient clearing of streets and pedestrian paths from snow. This issue is partly attributed to changing weather conditions and the transition from manual cleaning (by street cleaners) to mechanical clearing with tractors, which often results in lower quality. Respondents from Valmiera specifically mentioned that pedestrian path maintenance in the areas around Rīga Street and the "Valleta" shopping center is critical, especially regarding snow accumulation. The promenade near Dzirnavu Lake received praise for adequate maintenance of some trails, although many places lack cleanliness and proper care during winter.

Respondents emphasized a lack of maintenance in playgrounds and recreational zones, noting that despite the winter season, children still want to use these spaces, which are generally not adapted for year-round use. Sports and active recreation areas were reported to lack skiing opportunities. Several improvements are needed, including better lighting installations, to make outdoor spaces usable during dark winter evenings. Residents expressed willingness to use disc golf courses in winter if snow-cleared tracks were purposefully created.

Many respondents indicated that city infrastructure is insufficiently adapted to support quality outdoor leisure activities in winter. For example, ice formation on sidewalks creates hazardous conditions for safe movement. There is a strong desire for better-adapted and well-maintained outdoor spaces specifically designed for the winter season. Targeted organization of activities such as skiing, sledding, and walking would be important to encourage greater use of outdoor spaces during winter months.

As a result of the research, development **models** and proposed seasonal landscape solutions were created. These include targeted **recommendations** for improving specific outdoor spaces for both summer and winter use. The proposals aim to enhance aesthetic and functional quality by integrating seasonally appropriate design elements, promoting year-round use, and fostering a more inclusive and engaging public realm.

When designing **primary urban streets**, it is crucial to integrate considerations of seasonal variability and weather conditions. Street networks and pedestrian routes should provide multiple routing options and incorporate structural elements that mitigate prevailing wind effects. Urban areas that are sheltered from wind and exposed to direct sunlight tend to offer higher environmental comfort and extended usability throughout the year.

In pedestrian and transit-dominated zones, the inclusion of wide, unobstructed sidewalks is essential to ensure barrier-free movement. Street layouts must also allocate sufficient space for municipal maintenance equipment, particularly in winter conditions. From a functional and economic standpoint, boulevard configurations are preferable to uninterrupted linear streets, as they can accommodate snow storage during winter, thereby reducing operational costs associated with snow removal.

Sidewalks in areas of commercial activity should be designed with designated furnishing or equipment zones to maximize

Fig. 5. The main street development model during the summer season [created by authors]

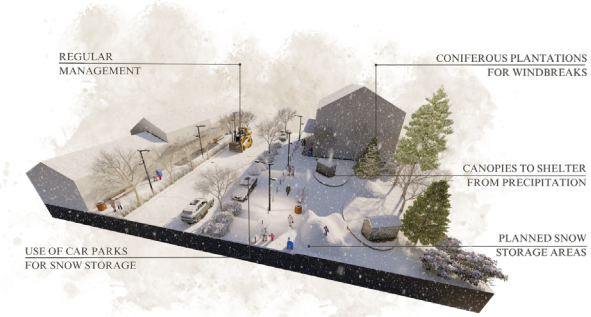

Fig. 6. The main street development model during the winter season [created by authors]

Fig. 7. A pedestrian street development model for the summer season [created by authors]

Fig. 8. A pedestrian street development model for the winter season [created by authors]

pedestrian circulation capacity. In zones prioritized for non-motorized mobility, the width of vehicular lanes should be minimized to promote a more balanced and user-friendly streetscape.

The most critical component of seasonally adaptive public space in winter is consistent and effective maintenance. Strategies should include designated snow storage areas within open lawn spaces or the temporary reduction of on-street parking. The decision between snow retention and removal should be informed by the specific urban context.

Vegetative planning should incorporate evergreen species to provide wind buffering and visual structure during dormant seasons. Street trees not only reduce wind speed but also enhance the spatial separation between pedestrian pathways and vehicular traffic. Tree species should be carefully selected for tolerance to de-icing salts, and protective measures – such as temporary guards – should be installed to shield trunks from mechanical damage during snow clearance operations. Additionally, the integration of seasonal infrastructure – such as shelters or canopies – can enhance comfort by offering protection from wind and precipitation, thereby extending the usability of public spaces during colder months.

When designing **pedestrian streets**, it is essential to consider a range of guidelines that enhance both the functional and aesthetic quality of the street throughout all seasons. Bicycle traffic should be separated from pedestrian flows using buffer plantings, thereby improving safety and contributing to a more visually appealing streetscape.

Along the pedestrian corridor, provisions should be made for cafés and weather-adapted pavilions to support commercial functions year-round. In proximity to these pavilions, the integration of parklets can foster a stronger sense of community and offer residents opportunities to enjoy food and beverages outdoors. The inclusion of multifunctional public spaces that can accommodate small-scale events further increases the adaptability and vibrancy of the pedestrian environment. Appropriately scaled street furniture and pedestrian-oriented lighting enhance comfort and safety, reinforcing the identity of the street as a space designed for people.

In winter, pedestrian streets can transform into ideal locations for Christmas markets that complement existing cafés and businesses. To maintain visual interest and attract users during colder months, streetscapes should incorporate environmental enhancements such as murals, string lighting, heated canopies, and other seasonally responsive elements. Allocating designated zones for snow storage ensures that pedestrian routes remain accessible and safe even following heavy snowfall.

Seasonal lighting is particularly effective in creating a distinctive winter ambiance. Broader sidewalk margins may serve as temporary snow storage zones during the winter season. Slightly elevated pedestrian crossings help slow vehicular traffic and prevent the accumulation of melted snow or ice along curb edges. Buffer planting zones should be sufficiently wide to accommodate snow buildup and should be raised above the level of adjacent parking areas to reduce salt infiltration from surface runoff.

Finally, building placement should be carefully considered to prevent excessive shading of pedestrian zones that are frequently used throughout the year, thereby enhancing thermal comfort and spatial quality.

In **park** design, the inclusion of a diverse and interconnected pathway network is essential to ensure accessibility for all users. Parks should feature multifunctional zones that can adapt to different seasonal needs. For example, artificial mounds may serve as sledding hills in winter, while in parks lacking natural water bodies, lawn areas can be seasonally transformed into ice rinks.

Multifunctional sports fields, outdoor gym areas, and picnic zones equipped with designated fire pits should be incorporated to enhance recreational use throughout the year. Heated shelters and cafés with restrooms represent a crucial park infrastructure component, offering not only user comfort but also space for storing maintenance equipment such as ice-clearing devices, pumps, and control systems.

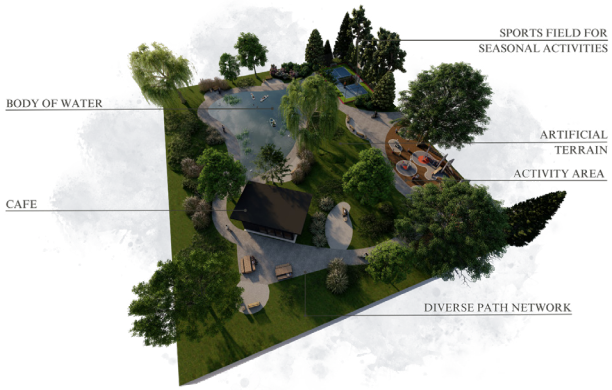

Fig. 9. The park development model for the summer season [created by authors]

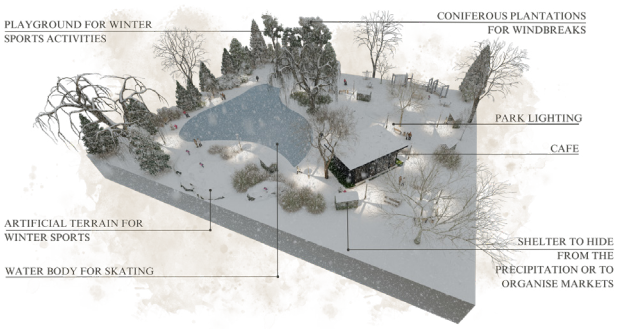

Fig. 10. The park development model for the winter season [created by authors]

Fig. 11. A development model for an educational institution territory during the summer season [created by authors]

Fig. 12. A development model for an educational institution territory during the summer season [created by authors]

Designated zones for winter sports – such as cross-country skiing, ice hockey, or snowman building – encourage year-round use of public outdoor spaces. Heated pavilions may provide refuge from precipitation and also serve as venues for seasonal events and small-scale commerce. In winter, areas used for summer activities (such as multifunctional sports fields) can be repurposed for snow-based recreation.

Planting strategies should include coniferous trees along the northern and western boundaries to serve as windbreaks, while deciduous trees in more central areas allow sunlight to penetrate and warm the most actively used zones. To further enhance winter ambiance, parks should incorporate seasonal lighting or decorative illuminated installations that create a welcoming and visually engaging environment.

The integration of solar-powered infrastructure can increase the park's environmental sustainability. Snow storage areas must be appropriately sized and located to accommodate pathway dimensions and maintain circulation. Ideally, snow piles should be situated in sun-exposed areas to accelerate melting and reduce the burden of manual removal.

The integration of outdoor classroom zones into **educational environments** supports a more diverse and experiential learning approach. These zones should be designed to accommodate seasonal variation, enabling educational activities throughout the year. Allocating areas for school gardens further enriches the curriculum by allowing students to engage in seasonal horticultural practices and hands-on environmental learning.

A spacious, multifunctional gathering area should be included to serve as a representative outdoor venue for events such as graduation ceremonies, the first day of school celebrations, and other school-wide gatherings. Artificial topography can be strategically integrated into the landscape to connect play and sports zones, enhancing spatial diversity and encouraging creative interaction. Due to varying weather conditions, a covered bicycle shelter is also essential.

The inclusion of public outdoor space in educational processes remains important during the winter season. Activity zones should remain functional year-round by incorporating elements such as artificial ice rinks, sledding hills, and designated winter sports areas. Building façades should include large windows to maximize natural daylight and support a healthier indoor learning environment.

To enhance the spatial experience during the darker months, seasonal lighting fixtures and decorative light installations can be employed to create a warm and inviting atmosphere. Additionally, the incorporation of solar energy solutions can improve the environmental sustainability of school

Fig. 13. A development model for public centre areas during the summer season [created by authors]

Fig. 14. A development model for public centre areas during the summer season [created by authors]

infrastructure.

The facades of shopping centres should be designed with expansive glazed windows, allowing natural sunlight to penetrate indoor spaces while visually connecting the public outdoor environment with the interior.

These commercial areas offer excellent opportunities for diverse greenery integration. Vertical landscaping can be employed not only to enhance air quality but also to enrich the architectural expression of the building façade. Seasonal plantings in flower boxes enable the creation of visually appealing compositions even during the winter months. Large-scale planting containers, suitable for hardy species, may also serve a dual function as urban furniture.

To ensure pedestrian comfort and safety, broad planting strips should be used to separate car parking zones from footpaths. For optimal use of the outdoor space, south-facing terraces equipped with seating areas should be established to take advantage of sunlight exposure.

During winter, it is essential to designate specific areas within commercial centre precincts for snow storage to prevent obstruction of parking areas and primary circulation routes. Maintaining the functionality of terrace shelters during colder seasons allows for the hosting of local markets or simply for weather protection. Grouping trees enhances their resilience against strong winds and contributes to reduced surface evaporation, ensuring improved water retention for root systems. When planning ground cover, salt-tolerant shrubs and perennials should be prioritized. Raised planting beds further reduce salt absorption and protect vegetation during winter maintenance operations.

Conclusion

The study highlights how public outdoor spaces are often poorly adapted for winter use. Experts and respondents identified key problems such as insufficient snow removal, icy sidewalks, limited lighting, and a lack of winter-specific infrastructure like sledding hills, skating areas, or heated shelters. To improve usability and comfort in winter, the study proposes:

- Designing multifunctional spaces usable in all seasons (e.g., artificial hills, skating rinks).
- Using evergreen vegetation for visual appeal and wind protection.
- Installing lighting, seasonal décor, heated pavilions, and promoting outdoor events (e.g., Christmas markets).
- Ensuring safe, barrier-free access for all user groups, including seniors.
- Adapting streets, parks, schools, and commercial areas with better planning, maintenance zones, and snow management solutions.
- More specific, based on these findings, the research proposes seasonal development models for public landscapes, offering spatial and functional solutions for both summer and winter use. These recommendations include:
- In the context of urban development planning, it is crucial to account for the seasonal functionality of primary public spaces. Based on research findings, outlinedF spatial and functional strategies to enhance the usability of public environments during both summer and winter periods:
- Street and Transit Planning: Streets should be designed with seasonal climate conditions in mind. Pedestrian and vehicle routes must allow for multiple alternatives and incorporate wind-blocking structures such as buildings or evergreen tree lines. Boulevards, rather than wide continuous roads, are preferred for snow storage and cost-effective maintenance.
- Pedestrian Streets: Prioritize barrier-free movement with wide sidewalks and integrate seasonal commerce such as cafés and parklets. Elevated crossings and buffered planting strips improve pedestrian safety and provide snow storage in winter. Seasonal lighting and public art installations enhance spatial quality during the darker months.
- Parks and Green Spaces: A diverse pathway network should ensure accessibility, while multifunctional zones – like artificial mounds or skating rinks – support year-round recreational use. Parks should also feature outdoor gym equipment, picnic spots with fire pits, and heated shelters that double as storage for maintenance tools.
- Education and School Grounds: Outdoor classrooms promote experiential learning throughout the year. Spaces for school gardens, sports, and seasonal events (like graduation ceremonies) can enrich student engagement. Key infrastructure includes protected bicycle storage, large windows for natural light, and sustainable energy solutions such as solar power.
- Commercial and Public Centres: Shopping centres can support vibrant outdoor space design through glazed façades, vertical greenery, and planters for seasonal vegetation. South-facing terraces and designated snow storage areas help maintain functionality and comfort in winter. Salt-tolerant species and raised planting beds are recommended to withstand harsh conditions.
- Thoughtful landscape planning that accommodates both summer and winter dynamics can significantly enhance public space usability, safety, and attractiveness throughout the year.

References

1. **Bibri, S. E. un Krogstie, J.** Smart sustainable cities of the future: An extensive interdisciplinary literature review. *Sustainable Cities and Society*, 2017, 31, 183–212. Pieejams: https://www.sciencedirect.com/science/article/pii/S2210670716304073
2. **Banerjee, T. un Loukaitou-Sideris, A. Companion to urban design**. London: Routledge, Taylor & Francis Group, 2011.
3. **Stokmane, I.** Landscapes within urban environment. *Acta Horticulturae*. International Society for Horticultural Science, 2022, 285–290. Pieejams: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85141863489&doi=10.17660%2FActaHortic.2022.1345.38
4. **Gehl, J.** *Life between buildings: Using public space*. Copenhagen: The Danish Architectural Press, 2001.
5. **Walters, D. R.** *Designing community: Charrettes, master plans and form-based codes*. London: Routledge, 2007.
6. **Urban Design Lab.** *Top 15 Theories in Urban Planning*. 2003. Pieejams: https://urbandesignlab.in/top-15-theories-in-urban-planning/
7. **Lang, J.** *Urban design: A typology of procedures and products. Illustrated with over 50 case studies*. Oxford: Architectural Press, 2005.
8. **Huxley, M. un Inch, A.** *Urban Planning*. Kobayashi, A. B. T. (ed.) International Encyclopedia of Human Geography (Second Edition). Oxford: Elsevier, 2020, 87–92. Pieejams: https://www.sciencedirect.com/science/article/pii/B9780081022955102288
9. **Chapman, D.** *Urban Design of Winter Cities: Winter Season Connectivity for Soft Mobility.* 2018. Pieejams: https://www.researchgate.net/publication/327768380_Urban_Design_of_Winter_Cities_Winter_Season_Connectivity_for_Soft_Mobility
10. P**alang, H., Sooväli-Sepping, H., Printsmann, A.** *Seasonal landscapes*. Dordrecht: Springer, 2007.
11. **Bergum, C., Beaubien, L. A.** *Smart growth and winter city design. Smart Growth Bulletin*, 2009, 1. Pieejams: https://carrefour.vivreenville.org/storage/app/media/publications/Articles-de-fond-Encyclopedique/design-actif-en-contexte-hivernal/smart-Growth-and-winter-city-design.pdf

12. **Pressman, N.** *Developing climate-responsive winter cities*. *Energy and Buildings*, 1988, 11, 11–22. Pieejams: https://www.sciencedirect.com/science/article/pii/0378778888900199
13. **Nuttall, S.** *Crafting a Winnipeg Winter Planning Strategy with Lessons from Other Cities*. 2022. Pieejams: https://umanitoba.ca/architecture/sites/architecture/files/2023-02/CP_Capstone2022_Nuttall%28report%29.pdf

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Kopsavilkums

Pētījums aplūko aktuālu ainavu arhitektūras un pilsētplānošanas tēmu – ainavas sezonalitāti, īpašu uzmanību pievēršot ziemas periodam, kas praksē nereti tiek uztverts kā sekundārs vai maznozīmīgs aspekts ainavu plānošanā. Mainīgie klimatiskie apstākļi ziemas sezonā aktualizē virkni problēmu pilsētvidē, tostarp transporta infrastruktūras nepietiekamu funkcionēšanu, autostāvvietu nepieejamību un gājēju kustības apgrūtinājumus. Sniega uzkrāšanās un tā apsaimniekošanas jautājumi rada jaunus izaicinājumus pilsētas teritoriju plānošanā, jo drošas un kvalitatīvas publiskās ārtelpas nodrošināšana ir viens no ainavu arhitektūras pamatprincipiem, kas ietver arī iedzīvotāju veselības un drošības risku mazināšanu. Lai nodrošinātu publisko ārtelpu infrastruktūras pielāgošanu sezonālai lietošanai, pētījumā izstrādāta metodoloģiska pieeja kvalitatīvu sezonālās pilsētplānošanas principu definēšanai, balstoties uz esošo problēmu analīzi. Šim nolūkam ir izstrādāti kritēriji ainavu telpu izvērtēšanai un analīzei, kas ļauj novērtēt teritoriju piemērotību dažādos sezonālos apstākļos. Pētījumā analizēta vairāku Latvijas pašvaldību pieredze ārtelpu plānošanā, veikta iedzīvotāju aptauja un intervijas ar nozares ekspertiem, lai identificētu efektīvus risinājumus ziemas sezonas izaicinājumiem pilsētvidē. Pētījuma rezultātā izstrādāti ilustratīvi un detalizēti piemēri, kas demonstrē dažādu publisko ārtelpu sezonālās labiekārtošanas un izmantošanas iespējas, veicinot integrētu un ilgtspējīgu pieeju pilsētvides plānošanā visos gadalaikos.