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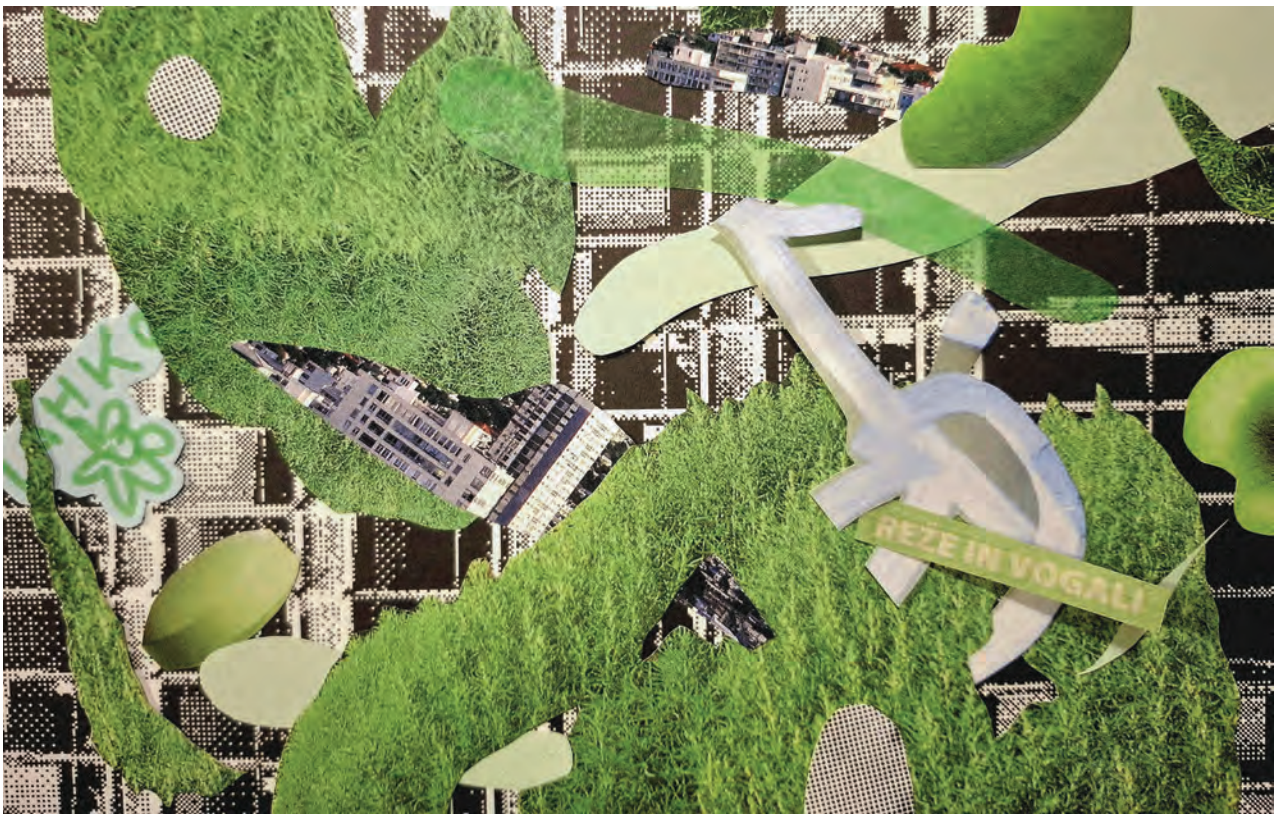

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Revija ***Urbani izziv*** je namenjena razširjanju znanstvenih in strokovnih dognanj ter obravnavi problemov urejanja prostora. Na leto izideta dve številki. Prva številka izide junija, druga decembra. *Urbani izziv* se vsebinsko deli na dva dela. Prvi (daljši) del se imenuje »Članki«. V njem so objavljeni izvirni in pregledni znanstveni članki, kratki znanstveni prispevki in strokovni članki. Članki, ki so objavljeni v tem delu revije, so recenzirani. Drugi (krajši) del se imenuje »Predstavitve in informacije« in je namenjen objavi recenzij, predstavitvam (na primer knjig, projektov, dogodkov, predavanj, konferenc in podobno), knjižničnim informacijam in podobno. Prispevki, ki so objavljeni v tem delu revije, niso recenzirani. *Urbani izziv* je dvojezična revija – vsi prispevki so objavljeni v slovenskem in angleškem jeziku. Povzetki in polna besedila člankov so vključeni v slovensko podatkovno zbirko COBISS in slovensko digitalno knjižnico dLib.si ter v mednarodne bibliografske baze SCOPUS Elsevier, ERIH PLUS, EBSCOhost (Art & Architecture Complete, Academic Search Complete), ESCI (Clarivate Analytics), ProQuest (ProQuest Central), CEEOL (Central and Eastern European Online Library), IBSS (Intenational Bibliography of Social Sciences), IBZ (International Bibliography of Periodical Literature in the Humanities and Social Sciences), GEODOK (Geographic Literature Database), EZB (Electronic Journals Library), CGP (Current Geographical Publications), ICONDA (International Construction Database), DOAJ (Directory of Open Access Journals), OCLC (Online Computer Library Center), Ulrich's Periodicals Directory, Academic Journals Database, Sciencegate, Index Copernicus International, J-Gate in Genamics JournalSeek. Revija je vpisana v razvid medijev, ki ga vodi Ministrstvo za kulturo Republike Slovenije, pod zaporedno številko 595. Revija izhaja s podporo Javne agencije za raziskovalno dejavnost Republike Slovenije.

Urbani izziv ("Urban Challenge") is intended for the dissemination of research and technical information as well as the discussion of issues relating to spatial planning. The journal is published twice a year. The first issue is published in June, and the second in December. *Urbani izziv* is divided into two parts. The first (longer) part is titled "Articles" and includes original research, review articles, short studies and technical studies. Articles in this part of the journal are subject to blind peer review. The second (shorter) part of the journal is titled "Reviews and information" and contains reviews, announcements (e.g., announcements of books, projects, events, lectures, conferences, etc.), library information and other material. The material published in this part of the journal is not peer-reviewed. The journal is published in two languages: all contributions are published in Slovenian and English. Abstracts and full texts of articles are included in the Slovenian COBISS database and the Digital Library of Slovenia (dLib.si), as well as in the international bibliographic databases SCOPUS Elsevier, ERIH PLUS, EBSCOhost (Art & Architecture Complete, Academic Search Complete), ESCI (Clarivate Analytics), ProQuest (ProQuest Central), CEEOL (Central and Eastern European Online Library), IBSS (Intenational Bibliography of Social Sciences), IBZ (International Bibliography of Periodical Literature in the Humanities and Social Sciences), GEODOK (Geographic Literature Database), EZB (Electronic Journals Library), CGP (Current Geographical Publications), ICONDA (International Construction Database), DOAJ (Directory of Open Access Journals), OCLC (Online Computer Library Center), Ulrich's Periodicals Directory, Academic Journals Database, Sciencegate, Index Copernicus International, J-Gate and Genamics JournalSeek. *Urbani izziv* is registered in the media register kept by the Ministry of Culture of the Republic of Slovenia under serial number 595. The journal is subsidised by the Slovenian Research Agency.

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Zimski pobeg

And into the forest I go, to lose my mind and find my soul..., ta priljubljeni angleški rek, ki se pogosto pojavlja na plakatih, majicah in okrasnih tablicah, je tudi meni eden najljubših. Zajame namreč tisto pričakovanje, ko stojim na robu gozda, preden se mimo prvih grmov in dreves potopim v njegovo notranjost, v malo bolj senčen prostor, ki je najbližje prvotni naravi, kjer sobivajo različne vrste živali in rastlin in se vpliv človeka najmanj pozna. Na robu gozda pustim vso nepotrebno šaro v mislih in hrup, službene in druge obveznosti ... *in v gozd se podam, da izklopim razum in najdem svojo dušo*.

V vsakdanjem tempu, ko si poleg zunanjih stresnih dejavnikov prevečkrat tudi sami povzročamo skrbi in pozabljamo, da so najpomembnejše stvari v življenju tiste, ki jih ni mogoče kupiti z denarjem, je zelo pomembno, da ima vsakdo nekje tisti kraj, kjer najde svojo dušo. Če ga še nimate, ga čim prej poiščite.

Zame je to bližnji gozd, za nekoga drugega pa morda staro drevo v parku, pot ob reki, ki v mesto prinaša košček narave, športno ali otroško igrišče. Raznovrstne zelene površine v urbanih območjih omogočajo razmere za bivanje in gibanje na prostem, s tem pa vplivajo na zdrav življenjski slog in kakovost življenja. Čeprav nudijo številne ekološke, okoljske in socialne koristi, so zelene površine v prostorskem načrtovanju še vedno zapostavljene, na njih se lomijo kopja raznih interesov, poleg vsega pa je premalo politične podpore. Znanstvena spoznanja o tej problematiki, ki so objavljena tudi v novi številki Urbanega izziva, so spodbuda za postopno izboljšanje dostopnosti in kakovosti zelenih površin.

S tem uvodnikom se po osmih letih poslavljam z mesta glavne urednice. Verjamem, da bo revija v dobrih rokah tudi v prihodnje ter bo ohranjala kakovost, ostala mednarodno prepoznavna in vodilna slovenska znanstvena publikacija s področja urejanja prostora. Prisrčna hvala vsem, ki ste v tem času prispevali k vsebinam in uspešnosti Urbanega izziva, in srečno še naprej!

Damjana Gantar, glavna urednica

A winter escape

"And into the forest I go, to lose my mind and find my soul . . ." This popular saying, which one can find printed on posters, T-shirts, and decorative signs, is one of my favourites. It perfectly captures the anticipation I feel while standing on the edge of the forest before stepping past the first shrubs and trees and entering a somewhat more shaded place that is closest to primeval nature, where various species of animals and plants coexist, and where the human impact is least noticeable. The edge of the forest is where I leave all the needless concerns and noise behind, all my work and other obligations . . . "And into the forest I go, to lose my mind and find my soul."

In our hectic daily lives – where, in addition to external stressors, we all too often create worries for ourselves and forget that the most important things in life are those that money can't buy – it's very important for all of us have a special place where we can find our souls. If you don't have one yet, make sure to find it soon.

For me, it's the nearby forest, for someone else it may be an old tree in a park, a trail along a river that brings a piece of nature into the city, a sports area, or a playground. Diverse green spaces in urban areas provide opportunities for outdoor activities, contributing to a healthy lifestyle and good quality of life. Even though they offer many ecological, environmental, and social benefits, green spaces remain neglected in spatial planning, subjected to various interests and a lack of political support. Research findings on these issues, including those presented in this latest issue of *Urbani izziv*, are an encouragement that the accessibility and quality of green spaces will gradually improve.

This is my last editorial after eight years as editor-in-chief of *Urbani izziv*. I'm confident that the journal will remain in good hands in the future and maintain its high quality, international profile, and status as the leading Slovenian journal on spatial planning. I'd like to sincerely acknowledge everyone that has contributed to the journal's content and success over these years. Thank you and best wishes!

Damjana Gantar, Editor-in-Chief

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Urbanistična politika po pandemiji COVID-19: izbrani vidiki

V literaturi s področja urbanizma in prostorskega načrtovanja je čedalje več poudarka na potrebi po podrobnejši analizi posledic pandemije COVID-19 na oblikovanje urbanistične politike. Avtorji so v članku obravnavali ključne predloge sprememb urbanističnih politik, ki so se pojavili po pandemiji, in jih povezali z izsledki v literaturi s področja prostorskega načrtovanja. Osredotočili so se na dve vprašanji, ki sta neposredno povezani z obravnavano temo: urbanistično načrtovanje in varstvo okolja. Izbrana dela so proučili na podlagi pregleda literature in uporabe analitično-primerjalne metode. Zastavili so si naslednji raziskovalni vprašanji: 1. Katere ključne teme s področja prostorskega načrtovanja so bile obravnavane v razpravah v zvezi s pandemijo? 2. Ali so dela, ki so pandemijo obravnavala skupaj z urbanističnimi temami, pomembno prispevala k širši razpravi o institucionalnih vidikih urbanističnega načrtovanja? Pomembna ugotovitev je, da je pandemija COVID-19 razkrila posledice neupoštevanja izsledkov teoretičnega proučevanja pri oblikovanju javnih politik, kar lahko povzroči družbene in okoljske neenakosti na svetovni ravni, in razlike med političnimi in družbenimi sistemi v sprejetih ukrepih za omejitev širjenja epidemije.

Ključne besede: prostorska politika, urbanizem, pandemija COVID-19, prilagajanje spremembam

1 Uvod

Zaradi pandemije COVID-19 se je pozornost znanstvenih razprav na številnih področjih, tudi na področju prostorske politike, preusmerila v druge smeri. Šok zaradi pandemije in potreba po prilagajanju mest omejevanju javnega življenja sta prispevala k raznim znanstvenim razmišljanjem, tudi o kratkoročnih odzivih na nove dogodke (Amdaoud idr., 2020; OECD, 2020). Na podlagi obravnavanja družbenih, okoljskih, prostorskih, pravnih ali prometnih težav, povezanih s pandemijo, so nekateri avtorji razvili širše koncepte, s katerimi so opisali nastale spremembe (Batty idr., 2022; Florida in Pedigo, 2023). Podobno so razmišljale tudi mestne uprave, ki so se odločile, da bodo uvedle razne spremembe.

Avtorji so članek namenoma napisali s časovnim zamikom (tj. po umiritvi začetnih valov pandemije), saj so lahko tako celoviteje analizirali, kaj se je dogajalo v znanstvenih razpravah. Razprave o pravnih in institucionalnih pogojih urejanja prostora so potekale tudi že pred pandemijo. Ključna vprašanja so vključevala 1. določanje najboljše metode za primerjavo prostorskih načrtovalskih sistemov držav, 2. vključevanje podnebnih izzivov v prostorsko načrtovanje, 3. širjenje modela strateškega prostorskega načrtovanja in 4. vključevanje pravice do mesta ter družbene in prostorske pravičnosti v prostorsko načrtovanje.

Smernice, ki se nanašajo na teoretične koncepte in so vključene v zadevno zakonodajo, bi bilo treba prenesti v prostorsko politiko. Kmalu po izbruhu pandemije COVID-19 so se pojavila mnenja, da bi bilo treba urbanistične politike na novo opredeliti. V prvi fazi pandemije so bila ta bolj pripravljalne narave in pogosto pomešana z opredelitvijo ukrepov v kriznih razmerah (Florida in Pedigo, 2020). Ko se je pandemija nadaljevala, so ad hoc ukrepe zamenjale analize, ki so temeljile na raziskavah.

Dela, ki so opisovala vpliv pandemije COVID-19 na mesta v omenjeni prvi fazi, so obravnavala naslednje štiri glavne teme: okoljsko kakovost, družbenogospodarske posledice, upravljanje ter promet in urbanistično načrtovanje (Sharifi in Khavarian-Garmsir, 2020). V tej fazi ni bilo dvoma, da je pandemija za načrtovalce in oblikovalce politik izziv in priložnost za preobrazbene ukrepe, s katerimi bi se ustvarila pravičnejša, odpornejša in bolj trajnostna mesta (Grum in Kobal Grum, 2023). Odzivi na pandemijo so vključevali prizadevanja za zaščito pred prihodnjimi pandemijami ter predloge in zahteve, ki so izkoristili dane razmere in so bili namenjeni doseganju drugih ciljev, kot sta podnebna odpornost in socialna vzdržnost (Champlin idr., 2023). Z odzivi na pandemijo so bili tako povezani raznovrstni pristopi in koncepti, npr. okoljska pravičnost (Cole idr., 2021), razvoj pametnih mest (Kunzmann, 2020) in 15-minutno mesto (Noworól idr., 2022). Sčasoma so bile navedene teme v nadaljnjih objavah precej razširjene. Ločeno so bile obravnavane na primer teme, kot so zdravstvena politika v mestih (Śleszyński idr., 2022), promet in urbanistično načrtovanje. Kljub vsemu je mogoče domnevati, da bo nova opredelitev urbanističnih politik, čeprav se bo nanašala na raznovrstna tematska področja, najbolj povezana s prostorskim načrtovanjem. To potrjujejo tudi rezultati predhodne analize, predstavljene v poglavju Metode.

Pogoji za oblikovanje prostorske politike so v vsaki državi drugačni. Razlike se nanašajo zlasti na pravne rešitve, načrtovalsko kulturo in socialne razmere (OECD, 2017; Nowak in Śleszyński, 2023). Prostorski načrtovalci v večini mest po svetu se vendarle spopadajo z nekaterimi skupnimi izzivi, kot so blaženje podnebnih sprememb in prilagajanje nanje (Norman, 2022; Stoeglehner in Abart-Heriszt, 2022), usklajevanje prostorskega načrtovanja z drugimi področji urbanistične politike (Hołuj in Zawilińska, 2013; Rozas-Vásquez idr., 2018) in prilagajanje prostorske zakonodaje novim izzivom (Moroni idr., 2020; Ondrejička idr., 2020; Nowak idr., 2022).

Z vidika raziskave, predstavljene v tem članku, je bilo zlasti pomembno ugotavljanje, kako lahko prostorsko načrtovanje prispeva k večji odpornosti mest (Banai, 2020). S tem vprašanjem je nekoliko povezano tudi proučevanje najboljšega pristopa k varstvu mestnega okolja (Legutko-Kobus idr., 2023). To varstvo bi morali čim bolje zagotavljati tudi instrumenti prostorskega razvoja (kar je povezano z odzivi na podnebne spremembe, vključevanjem razvojnih politik in ponovno opredelitvijo vloge instrumentov prostorskega razvoja).

Učinkovita prostorska in okoljska politika temeljita na zakonodaji in upravnih ukrepih, ki se med proučevanimi državami precej razlikujejo. Osnovni pravni in upravni postopki po navadi v različnih državah vključujejo različne ukrepe, kot so uredbe, omejitve in navodila. Med drugim se ti ureditveni instrumenti uporabljajo za vzpostavitev pravnega in organizacijskega okvira, ki vpliva na lokalno gospodarstvo, zlasti na raznovrstne procese, ki so povezani s človekovimi dejavnostmi in so močno uveljavljeni v lokalni družbenogospodarski strukturi, in na različno dojemanjee prostorskih vrednot (Nowak idr., 2023).

Kot že omenjeno, veliko proučenih objav obravnava vpliv pandemije na mesta, tudi razne vidike urbanistične politike, le malo pa se jih posveča institucionalnim vidikom instrumentov prostorskega razvoja (npr. urbanističnim načrtom). Vredno bi bilo razmisliti o tem, kako se lahko novi koncepti, razviti med pandemijo, pretvorijo v možnosti in funkcije instrumentov prostorske politike. Ta tema je obravnavana predvsem s študijami primera v posameznih državah, manjkajo pa poskusi oblikovanja splošnih priporočil, ki se lahko upoštevajo v raznih

prostorskonačrtovalskih sistemih. Dobro podlago za to dajejo razprave o vplivu pandemije na mesta.

Avtorji so v članku opredelili ključne institucionalne koncepte in predloge sprememb v zvezi z urbanističnimi politikami, ki so se pojavili po pandemiji, ter jih povezali z literaturo s področja prostorskega načrtovanja (upoštevali so triletno obdobje med marcem 2020 in marcem 2023, torej od izbruha pandemije COVID-19 v Evropi do takrat, ko so glavne razprave o posledicah pandemije že zamrle). Osredotočili so se na dve glavni temi: prostorsko načrtovanje mest in varstvo okolja. Po analizi izbranih člankov so opredelili naslednje ključne smernice za urbanistično načrtovanje: zagotavljanje večje dostopnosti javnih prostorov, varovanje naravnih vrednot v javnih prostorih, zagotavljanje varnosti javnih prostorov, oblikovanje tehnične infrastrukture javnih prostorov, varstvo vseh naravnih vrednot mest, urejanje zelenih površin v mestih, uporaba zelenih tehnologij pri gradnji objektov ter upoštevanje koncepta 15-minutnega mesta kot osnove za uvedbo omejitev pri zazidavi posameznih območij in povečanje prožnosti prostorskega načrtovanja.

Avtorji so oblikovali naslednji raziskovalni vprašanji: 1. Katere ključne teme s področja prostorskega načrtovanja so bile obravnavane v literaturi o pandemiji? 2. Ali so dela, ki so pandemijo obravnavala skupaj z urbanističnimi temami, pomembno prispevala k širši razpravi o institucionalnih vidikih urbanističnega načrtovanja?

Po pojasnitvi namena članka in razlogov za izbor proučevane teme je v poglavju Metode podrobno opisano, kako so bila dela analizirana. V poglavju Rezultati so predstavljeni tri glavni tematski sklopi, v katere so bile uvrščene glavne teze analiziranih del. Sledi opis njihovih glavnih prispevkov k razpravi o institucionalnih vidikih urbanističnega načrtovanja, pri čemer avtorji navedejo, kako je mogoče te teoretične prispevke nadalje razviti. Članek sklenejo z ugotovitvijo, da bi bilo treba razpravo o prostorskem načrtovanju med pandemijo uporabiti kot podlago za razpravljanje o prostorskih konfliktih, vlogi prava pri načrtovanju ter povezavi med podnebnimi izzivi in prostorskim načrtovanjem.

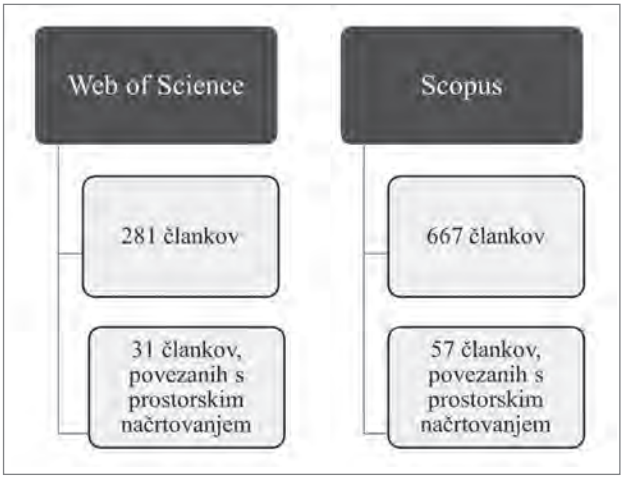
2 Metode

Recenzirani znanstveni članki (objavljeni med začetkom marca 2020 in koncem marca 2023) so bili pridobljeni iz podatkovnih zbirk Web of Science in Scopus. Iskanje je potekalo aprila 2023. Druge objave (npr. knjige, poglavja v knjigah, zborniki konferenc itd.) v analizo niso bile vključene. V obeh podatkovnih zbirkah so avtorji ustrezne članke iskali na podlagi kombinacije angleških ključnih besed iz treh tematskih sklopov. Prvi sklop je vključeval besede, ki so se nanašale na spremembe in preobrazbo (*revolution*, *revisit*, *rethink*, *reconfiguration*, *shift*, *redefine*, *rethink*, *reinvent*, *change*, *transition*, *transformation*), drugi besede, povezane s pandemijo (*COVID*, *corona*, *pandemic*), tretji pa besede, ki so se nanašale na mesta (*urban*, *city*, *neighbourhood*, *town*, *planning*).

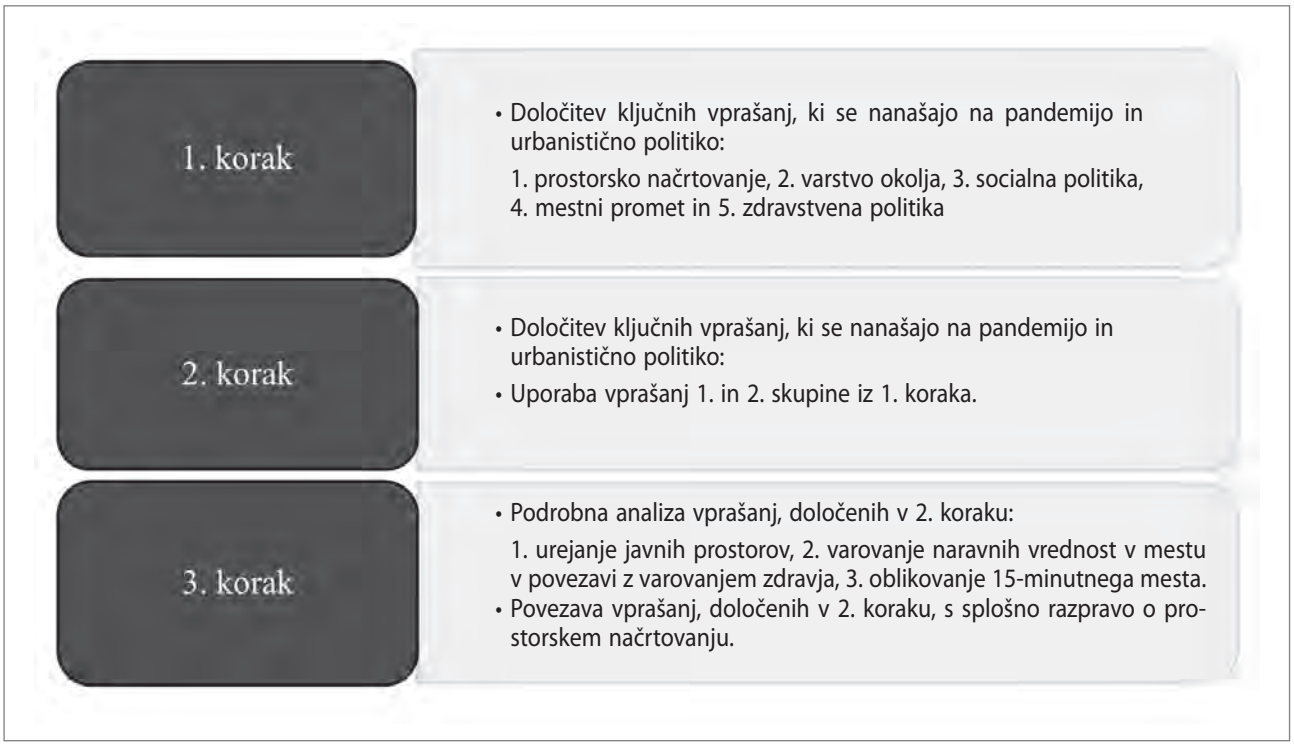
Navedena metoda temelji na metodah, uporabljenih v prejšnjih preglednih člankih o vplivih pandemije na urbanistično politiko. Ti so se osredotočali na druge faze pandemije COVID-19 in širše opredeljene teme (Śleszyński idr., 2022, 2023), v tem primeru pa je bil poudarek analize na iskanju člankov na podlagi ključnih besed. Uporabljena metoda omogoča podrobno analizo razpoložljivih objav in preprečuje, da bi se prezrle nekatere raziskave (Obeng-Odoom, 2019).

Iskanje je potekalo v vrstnem redu, opisanem v nadaljevanju. Vsakemu izrazu iz prvega tematskega sklopa je bil dodan izraz iz drugega sklopa, tema dvema pa so bile nato dodane vse besede iz tretjega sklopa. Npr. najprej so avtorji povezali besedi *revolution* (revolucija; iz prvega tematskega sklopa) in *COVID* (iz drugega sklopa), nato pa so z njima povezali še vsako besedo iz tretjega sklopa. Nato so povezali besedi *revolution* in *corona* (druga beseda iz drugega tematskega sklopa), nato pa so z njima povezali še vse besede iz tretjega sklopa. Tako so pregledali vse kombinacije besed iz vseh treh sklopov.

Avtorji so analizirali povzetke izbranih člankov, za kar niso uporabili nobenega posebnega programskega orodja. Tako je bila analiza natančnejša, poleg tega so lahko povzetke umestili v ustrezen kontekst. Na podlagi te analize so vse članke razdelili v pet tematskih skupin: urbanistično načrtovanje, varstvo okolja, socialna politika, mestni promet in zdravstvena politika v mestih. Teme člankov so določili na podlagi navedenega cilja raziskave, raziskovalnega vprašanja ali postavljenih hipotez. V



Slika 1: Rezultati iskanja po podatkovnih zbirkah (ilustracija: avtorji)



Slika 2: Posamezni koraki analize člankov in določanje glavnih tem (ilustracija: avtorji)

prvi fazi so analizirali članke iz vseh petih tematskih skupin. Glavna skupina je bila tista, ki je vključevala članke, neposredno povezane s prostorskim načrtovanjem. Ker so lahko članki spadali v več tematskih skupin, so avtorji posamezni članek v tematsko skupino uvrstili samo, če je izbrano temo obravnaval neposredno (ne samo obrobno, poleg drugih tem) in če je vključeval dolgoročnejši vidik (ne npr. začasnih ukrepov ob omejevanju javnega življenja zaradi pandemije). Čeprav je bila podlaga za razvrstitev v tematske skupine predvsem vsebina posameznih povzetkov, so avtorji v primeru dvoma pregledali celoten članek. Po navadi je bilo iz članka že takoj razvidno, ali obravnava širši vidik sprememb urbanistične politike. Če je vseboval samo manjšo omembo ali nejasen namig o tovrstnih spremembah, ga avtorji v izbor niso vključili.

V podatkovni zbirki Web of Science so avtorji našli 281 člankov, med katerimi so pri 31 odkrili povezavo s prostorskim načrtovanjem, pri 36 pa povezavo z varstvom okolja (slika 1). V druge tri tematske skupine so uvrstili precej manj člankov (10, 12 oziroma 22). V podatkovni zbirki Scopus so z uporabo enake kombinacije ključnih besed našli 667 člankov. Nekateri izmed njih (173) so se podvajali iz zbirke Web of Science. Preostale so razvrstili po tematskih skupinah: 57 v skupino prostorsko načrtovanje, 46 v skupino varstvo okolja, 39 v skupino socialna politika, 26 v skupino mestni promet in 15 v skupino zdravstvena politika.

Avtorji so določili dve glavni skupini člankov, pomembnih z vidika namena raziskave: članke, neposredno povezane z urbanističnim načrtovanjem, in članke, neposredno povezane z varstvom naravnega mestnega okolja. Obe skupini, ki sta bili hkrati najštevilčnejši, so nadalje analizirali, pri čemer so ugotovili, da sta bili najpogosteje obravnavana prostorsko načrtovanje in varstvo okolja. V proučeni literaturi so bila obravnavana tudi druga vprašanja, a manj obsežno, kar pomeni, da so pritegnila manj pozornosti raziskovalcev. Mogoče bodo ločeno in podrobneje analizirana v prihodnje. Podroben potek opravljene analize je predstavljen na sliki 2.

Avtorji so najprej pregledali članke, ki so neposredno obravnavali tako pandemijo kot prostorsko načrtovanje. Članke, ki teh vprašanj niso poglobljeno proučevali ali niso vsebovali priporočil za urbanistično politiko, so izločili. Izbrani članki so se razlikovali po podrobnosti predstavljenih sklepov in priporočil.

V člankih so določili naslednje tri glavne teme: urejanje javnih prostorov (upravljanje javnih prostorov, vključno z urejanjem mestnih površin, prijaznih kolesarjem in pešcem), varovanje narave in zdravja ter povezovanje prostorskega načrtovanja s konceptom 15-minutnega mesta. Opredelili so jih na podlagi vsebine analiziranih člankov, njihove možne povezave z namenom raziskave, zlasti z institucionalnim vidikom urbanističnih politik (Lityński in Hołuj, 2021), in člankov, v katerih so bile navedene teme predstavljene kot pomembne za obravnavo in-

strumentov prostorskega razvoja (Petrişor in Petrişor, 2013; Jopek, 2016; Lantitsou, 2017; Gustaffson idr., 2019; Nowak in Simon, 2022; Noworól idr., 2022). Vsaka tema je podrobneje predstavljena v naslednjem poglavju.

3 Rezultati

3.1 Urejanje javnih prostorov

Kot ugotavljajo Gallitano idr. (2021), se je zaradi pandemije COVID-19 delno spremenila povezava med mestnimi prebivalci in mestnim prostorom. Spremembe urbanistične politike bi morale na splošno biti usmerjene v zagotavljanje večje dostopnosti javnih mestnih prostorov za mestne skupnosti. Posebno vlogo pri tem ima večja razpoložljivost zelenih površin. Z uporabo javnih prostorov so se vzpostavili nekatere navade in pravni okvir, ki je uveljavljen v družbenih strukturah. Posledično vlada precejšnji družbeni in včasih tudi politični odpor proti poskusom njihovega spreminjanja, tudi proti povečanju dostopnosti na škodo nekaterih uporabnikov. Poleg tega se javni prostori v vseh svojih razsežnostih spopadajo z raznovrstnimi ovirami. Najpogostejše omejitve prostorskih struktur so družbene in gospodarske, sledijo jim naravne. Opazno je tudi, da se odnosi med ljudmi v smislu vrednosti prostora in nepremičnin spreminjajo z morebitno spremembo vrednostnega sistema, kar je povezano z blaginjo družbe, ki deluje v posamezni prostorski strukturi.

Bao in Hu (2021) opozarjata tudi na potrebo po prožni uporabi javnih prostorov, kar pomeni, da jih je treba načrtovati tako, da se lahko uporabljajo v različne namene (odvisno od potreb). Navedeno se lahko zgodi na podlagi odločitev, ki so temelj za prostorske procese, ki jih želijo tako odločevalci kot uporabniki. Ti procesi so osnova za prilagajanje javnih prostorov ali ustvarjanje novih. Omenjene odločitve lahko spodbudijo najrazličnejši dejavniki, zato imajo lahko najrazličnejše vplive na javni prostor, tako na mikroravni kot na širši, lokalni ravni. Poleg tega se lahko opredeljujoče prvine posameznega javnega prostora pomembno razlikujejo od drugih območij s podobnimi značilnostmi, kar lahko vpliva na občutljivost in prožnost javnih prostorov. Ključno vlogo v urbanističnem načrtovanju imajo razlike, ki so posledica dejavnosti različnih skupin akterjev v javnem prostoru. Buffoli idr. (2022) navajajo, da so z vidika mestnih skupnosti, ki so jih proučevali, ključne značilnosti javnih prostorov ustrezne strukturne prvine (npr. površine za sedenje) in varne delovne razmere (npr. primerna razsvetljava).

Pomen varnosti javnih prostorov so prepoznali tudi drugi avtorji (npr. Pinto idr., 2020; Talocci idr., 2022), ta problem je še zlasti prepoznan v mestih na globalnem jugu. Za uresničevanje trenutnih zahtev so potrebna številna vlaganja v javne prostore. Z instrumenti prostorskega razvoja bi bilo treba ustvariti možnost (in včasih celo obveznost) za izvedbo teh naložb. V proučeni literaturi se močno poudarja tudi potreba po skrbi za naravne prvine v mestnem javnem prostoru, kar bi moralo biti že samo z vidika dobrega počutja prebivalcev prednostna naloga (Samuelsson idr., 2021).

Navedeno poudarja potrebo po posebnem varovanju naravnih prvin v javnem mestnem prostoru (tudi pred urbanimi pritiski). Nadaljnje pomembno vprašanje je povezano z zagotavljanjem razmer za gibanje pešcev in kolesarjev na javnih prostorih (tema je postala pomembna tudi med pandemijo COVID-19). Pandemija je izpostavila pomanjkljivosti na področju kriznega upravljanja. Ponekod so bili kot odziv na postopkovne in instrumentalne slabosti pri urejanju funkcionalnih in prostorskih struktur sprejeti radikalni ukrepi, kar je običajno pripeljalo do omejitev v delovanju javnega prometa.

V raziskavi Sarajeva so Mehanović idr. (2022) ugotovile, da ima lahko pri urejanju javnih prostorov pomembno vlogo spremljanje obsega prometa na posameznih krajih. Spremljanje prometa je praksa, ki se že vrsto let pogosto uporablja na različnih javnih površinah po svetu. Spremljanje urbaniziranih struktur ima ključno vlogo pri zagotavljanju varnosti uporabnikov in raznih storitev v mestih. Je pomembna prvina za javno upravo in upravljavce javnih prostorov, vendar je njena uporaba lahko bolj univerzalna. Po eni strani gre za optimiziran proces načrtovanja javnega prometa, ki vključuje evidentiranje gibanja vozil in potnikov, po drugi strani pa je koristno orodje za zagotavljanje kakovosti mestnih storitev. Ljudje že dolgo analizirajo promet v mestih ter na tej podlagi prilagajajo vozne rede in določajo najboljše proge javnega prevoza. Spremljanje vedenja uporabnikov na javnih prostorih je lahko v pomoč tudi pri prizadevanjih za izboljšanje prostorske strukture, načrtovanju razvoja javnih prostorov in storitev ter analizi trgov.

Pucher in Buehler (2010) poudarjata pomembno povezavo med načrtovanjem javnih prostorov in zagotavljanjem dobrih razmer za pešce in kolesarje v mestih. Žal je bila kljub organizacijskim rešitvam za to linearno infrastrukturo uporaba koles med pandemijo COVID-19 v številnih mestih po svetu omejena z upravnimi ukrepi. Omejen dostop do mestne infrastrukture za pešce in kolesarje je bil v glavnem posledica strahu pred morebitno nevarnostjo, kar je pripeljalo do merljivih in preventivnih omejitev. Poleg tega so bili na splošno ukinjeni vsi sistemi izposoje mestnih koles. Poudariti je treba, da so mesta v Evropi, ZDA in Aziji uporabljala različne pristope k reševanju te problematike. Ni dvoma, da bodo začasni ukrepi za olajšanje gibanja pešcev in kolesarjev nova izkušnja v prostorskem načrtovanju. Z ustvarjanjem dobrih razmer za delovanje prometne infrastrukture (za pešce in kolesarje) v mestu,

Preglednica 1: Ključne zahteve, povezane z načrtovanjem in upravljanjem javnih prostorov, prepoznane pri pregledu literature

1. Uporaba javnih prostorov	2. Naravne vrednote v javnem prostoru	3. Zagotavljanje varnosti v javnem prostoru	4. Preureditev tehnične infrastrukture v javnem prostoru
• povečanje dostopnosti javnih prostorov, tudi zelenih površin • povečanje pomena enakopravnega dostopa do javnih prostorov • zmanjšanje družbenogospodarskih in naravnih ovir • nova opredelitev vrednosti prostora kot nepremičnine in s tem povečanje njegove dostopnosti • racionalna in prožna uporaba javnih prostorov z učinkovitim prostorskim in urbanističnim načrtovanjem	• varovanje naravnih virov, ki je povezano s skrbjo zanje • uporaba naravnih virov v javne namene	• izboljšanje varnosti javnih prostorov z ustrezno tehnično infrastrukturo (aktivno in pasivno) • ustvarjanje varnih razmer za delo in bivanje v odprtem prostoru • učinkovito krizno upravljanje in odpornost proti nepričakovanim dogodkom • zagotavljanje varnosti uporabnikov in delovanje mestnih storitev • dobre prakse pri izboljšanju kakovosti javnih prostorov v prometno preobremenjenih mestih • potreba po prilagoditvi prostorskih predpisov notranjim in zunanjim razmeram	• uporaba varnih oblikovalskih rešitev za vse uporabnike • urbana mobilnost in omejitve javnega prevoza • prometni predpisi na javnih prostorih (za pešce in kolesarje) • kolesarska infrastruktura in mestna kolesa • boljše načrtovanje javnega prevoza • postopkovne in instrumentalne slabosti pri urejanju funkcionalnih in prostorskih struktur • spremljanje prometnih tokov na izbranih lokacijah in vedenja uporabnikov na javnih prostorih

Vir: avtorji

ki upoštevajo potrebo po ohranjanju primernih razdalj med uporabniki za zagotavljanje varnosti, se lahko oblikujejo dobre prakse (sistemske rešitve), potrebne za izboljšanje kakovosti javnih prostorov v prometno preobremenjenih mestih. Fast in Guo (2021) na podlagi proučevanja Calgaryja izpostavljata potrebo po širših pločnikih, Wang (2021) pa zagovarja optimizacijo ureditve ulic.

Člankom, ki povezujejo urbanistično načrtovanje in pandemijo, je skupna tematika upravljanja javnih prostorov. Ključne zahteve, ki so v njih obravnavane, so povzete v preglednici 1. Prepoznana vprašanja niso nova v urbanističnem načrtovanju, vendar se od pandemije COVID-19 o vlogi javnih prostorov v mestih razpravlja veliko bolj in intenzivneje.

3.2 Varovanje narave in zdravja

V analiziranih delih avtorji prepoznavajo raznovrstne povezave med varstvom narave (in zdravja) in prostorskim načrtovanjem. Na splošno bi morale prostorske odločitve temeljiti na želji po varstvu naravnih virov (Castro idr., 2021) in vključevati: 1. posebno oblikovanje stavb z upoštevanjem zelenih tehnologij (Kakderi idr., 2021), 2. posebno varstvo mestnih zelenih površin (Rossi idr., 2022), pri čemer morajo te prispevati k zagotavljanju funkcij, pomembnih z vidika družbene in prostorske pravičnosti (Reinwald idr., 2021), in 3. prilagoditev oblike novih stanovanjskih sosesk naravnemu okolju (Chen idr., 2023; Legutko-Kobus idr., 2023) ter povezovanje stanovanjske in urbanistične politike z možnostjo zmanjševanja emisij in ustvarjanja razmer za boljšo kakovost življenja v mestih (Wakely, 2022). Spennemann (2021) poudarja potrebo po izogibanju preveč podrobno zasnovanim prostorom v korist bolj naravnim (na naravi temelječim) rešitvam. Te pa morajo upoštevati potrebo po omejevanju socialnih stikov in jo vključiti v načrtovanje zelenih površin, ki lahko med zdravstvenimi krizami delujejo kot prostori za duševno in telesno rekreacijo. Karina Landman (2021) pa predlaga, da se na mesto gleda kot na družbeno-ekološki sistem. S tega vidika bi morali urbanisti pri načrtovanju prostorov upoštevati morebitne spremembe in negotovosti v prihodnje ter s tem omogočiti sobivanje in skupno evolucijo ljudi in narave.

Treba je omeniti še en vidik: neposredno povezavo med varstvom mestnih naravnih prvin in stopnjo javnega zdravja (Syal, 2021). Ta je močno odvisna od tega, koliko so v mestu naravne prvine prisotne in zaščitene. Na podlagi primera italijanskih mest Pinto idr. (2020) prepoznavajo potrebo po vključevanju zahtev glede zdravstvene varnosti v razprave o oblikovanju mestne krajine. Talocci idr. (2022) poudarjajo, da je prav pandemija COVID-19 pokazala, da imajo urbanistične smernice (npr. za razdalje med stavbami in smernice glede gostote pozidave) posebne posledice za zdravje, ki lahko celo

Preglednica 2: Ključna področja in povezave med prostorskim načrtovanjem, zdravjem in varstvom okolja, opredeljeni pri pregledu literature

1. Varovanje naravnega okolja	2. Sodobno urbanistično načrtovanje	3. Varovanje naravnih virov in javno zdravje	4. Prostorske zahteve po pandemiji
• krepitev povezave med varstvenimi ukrepi in izvajanjem prostorske politike (načrtovalskih in strateških študij) • varovanje mestnih zelenih površin pred čezmerno zazidavo in uporabo • pravična uporaba javnih zelenih prostorov • proekološko razmišljanje v prostorskem načrtovanju	• uporaba zelenih tehnologij pri oblikovanju stanovanj (zmanjšanje porabe materialov in energije) • uvedba zelene infrastrukture v urbanistično načrtovanje za izboljšanje zdravja in družbene blaginje • sodobno oblikovanje stanovanjskih sosesk ob upoštevanju morebitnih kriz (pandemij, podnebnih sprememb) • krepitev vloge sodelovanja javnosti in aktivnosti od spodaj navzgor pri prostorskem načrtovanju, ob upoštevanju varstva naravnega okolja	• pomen kakovosti človekovega bivalnega okolja (boljša odpornost proti krizam) • vključevanje zahtev glede zdravstvene varnosti v oblikovanje mestne krajine • mesto kot družbeno-ekološki sistem; upoštevanje potrebe po spremembah kot podlage za sobivanje ljudi in narave • povezava med stanovanjsko in urbanistično politiko, zmanjševanje emisij in izboljšanje kakovosti življenja v mestih	• varovanje naravnih virov v mestih za preprečevanje intenzivne zazidave • razvoj zelenih mestnih površin, potrebnih za oblikovanje javnih odprtih prostorov • upoštevanje povezave med varstvom narave ter bivalnimi, zdravstvenimi in varnostnimi standardi na območjih intenzivne urbanizacije • vključevanje varstva narave (biološko aktivnih območij) v lokalno urbanistično zakonodajo • izboljšanje upravljanja in rabe prostora za zagotavljanje dostopnosti zdravstvenih storitev

Vir: avtorji

povzročijo različna tveganja za bolezni za različne prebivalce mest (to ne velja samo za nedavno pandemijo). Marregi in Lazzarini (2022) ugotavljata še povezavo med zdravjem in urbanističnim načrtovanjem. Bar idr. (2021) ter Ferrini in Gori (2021) pa poudarjajo, da bi se z uvedbo zelene infrastrukture v urbanistično načrtovanje dolgoročno izboljšala zdravje in družbena blaginja.

Na podlagi vseh navedenih povezav med prostorskim načrtovanjem, zdravjem in varstvom okolja so avtorji opredelili več ključnih področij. Ta so povzeta v preglednici 2.

Pregled literature je pokazal jasen paradigmatski premik v prostorskem načrtovanju. Zaradi okoliščin, povezanih s pandemijo COVID-19, so se nedvomno okrepile razprave o varstvu narave v mestih (in njegovi povezavi z zdravstvenimi potrebami). Osredotočanje zgolj na določanje slabosti, omejitev in težav na področju varovanja narave in zdravja pa danes ni več dovolj. Za ohranjanje in zaščito razpoložljivega prostora je treba vplivati na celoten gospodarski sistem posamezne države. Pri izvajanju prostorske politike je treba upoštevati tako gospodarske in politične vidike ter varstvo posameznih naravnih prvin kot negativne zunanje dejavnike, tudi ekološke.

3.3 Povezovanje prostorskega načrtovanja s konceptom 15-minutnega mesta

Povezava med prostorskim načrtovanjem in konceptom 15-minutnih mest je v proučeni literaturi obsežno analizirana (npr. Noworól idr., 2022; Pozoukidou in Angelidou, 2022; Sharifi idr., 2023). Pri pregledu literature so se avtorji osredotočili na dela, v katerih je omenjeni koncept neposredno povezan s prostorskim načrtovanjem. Logan idr. (2022) so pri utemeljevanju veljavnosti tega koncepta predstavili argumente, ki so pomembni z vidika prostorskega načrtovanja in omogočajo uvedbo nekaterih omejitev pri gradnji. Te se v glavnem nanašajo na zmanjšanje neenakosti med prebivalci. Khavarian-Garmsir idr. (2023) v uresničevanju koncepta 15-minutnega mesta vidijo družbene in okoljske koristi ter podlago za krepitev načrtovalske prožnosti. Hkrati nekateri raziskovalci opažajo pomembne ovire za uvedbo tega koncepta, zlasti fizični determinizem in uporabo preveč univerzalnih pristopov (Sharifi, 2019; Barbarossa, 2020; Moreno idr., 2021; Sharifi idr., 2021).

Težave, povezane s socialnimi razlikami, prepoznavajo tudi Guzman idr. (2021), ki prostorsko načrtovanje vidijo kot orodje za odpravo morebitnih neenakosti. Neučinkovito prostorsko načrtovanje ima lahko več negativnih posledic, kot so povečana gostota zazidave, onesnaževanje in prometni zastoji. Prostor daje hkrati podlago za dinamični funkcionalni sistem

Preglednica 3: Ključni izsledki v zvezi z uresničevanjem koncepta 15-minutnega mesta v prostorskem načrtovanju, opredeljeni pri pregledu literature

1. Koristi uresničevanja koncepta 15-minutnega mesta in ovire za njegovo uvedbo	2. Dinamika mestnega razvoja	3. Javni prostor: možnost za konflikte	4. Vpliv pandemije na 15-minutno mesto
• krepitev prožnosti prostorskega načrtovanja • zmanjšanje stroškov (vključno s stroški vzdrževanja tehnične infrastrukture in časom, ki bi ga izgubili zaradi potovanj na večjih razdaljah) • uporaba preveč univerzalnih pristopov, ki jih je v praksi težko izvajati (univerzalnost predlaganih domnev je potrebna zaradi raznovrstnosti funkcionalnih in prostorskih struktur) • zunanje posledice uvedbe koncepta (zlasti stroški) pogosto niso prepoznane	• razumevanje pomena kakovosti bivalnega okolja (dostopnosti in notranje mobilnosti) med uporabniki prostora • razvoj mesta v skladu z dejanskimi potrebami (upoštevanje varnosti v širšem pomenu, vključno z vojaško varnostjo) • krepitev razprav o konceptu 15-minutnega mesta v primeru pandemije in njenih vplivov na celostno urbanistično načrtovanje (prilagajanje koncepta novim izzivom) • okrepitev urbanističnih prizadevanj za uvedbo koncepta 15-minutnega mesta	• prostorsko načrtovanje kot orodje za odpravo neenakosti pri dostopu do odprtih prostorov • upravljanje prostora ima lahko negativne posledice (npr. prenatrpanost in onesnaženost prostorov ter prometni zastoji). • konflikti zaradi različnih potreb in ciljev uporabnikov javnih prostorov (razlike v zaznanih potrebah) • vpliv družbenih, gospodarskih, okoljskih in kulturnih procesov na oblikovanje javnega prostora	• 15-minutno mesto kot osnova za uvedbo omejitev pri gradnji, novo opredelitev funkcij v mestu in povečanje prožnosti prostorskega načrtovanja • argumenti, ki podpirajo uvedbo omejitev v prostorskem razvoju (čezmerna zazidava lahko poveča neenakosti med prebivalci, npr. z vidika dostopa do javnih dobrin).

Vir: avtorji

na posameznem območju. Avtorji zato menijo, da bi bilo treba na nekaterih področjih okrepiti načrtovalska prizadevanja za uvedbo modela 15-minutnih mest. Ta področja so predstavljena v preglednici 3.

Pinto idr. (2020) so koncept 15-minutnega mesta analizirali na primeru Milana in predlagali, da bi bilo treba nekatere funkcije mestnih območij na novo opredeliti. Javni prostor v 15-minutnem mestu je lahko tudi pomemben vir konfliktov med skupinami uporabnikov ali skupnostmi, saj ni samo rezultat urbanističnih aktivnosti, ampak tudi kraj, na katerem nastajajo razni zunanji učinki, koristi in stroški, povezani z družbenimi, gospodarskimi, okoljskimi in kulturnimi procesi (Hołuj, 2021; Hołuj idr., 2022).

Koncept 15-minutnih mest je bil med pandemijo deležen velike pozornosti. Izhodišča, ki se lahko prenesejo na področje prostorskega načrtovanja, so se nanašala na obravnavo omenjenega koncepta kot podlage za uvedbo omejitev gradnje na posameznih območjih in povečanje prožnosti prostorskega načrtovanja ter potrebo po novi opredelitvi funkcij v nekaterih mestih.

4 Razprava: kako je pandemija spremenila pristop k urbanističnemu načrtovanju?

Opredeljene smeri razprav je mogoče povezati s predhodno ugotovljenimi ključnimi vprašanji splošne razprave o prostorskem načrtovanju. Članki, ki so celovito obravnavali pandemijo COVID-19 in prostorska vprašanja, niso ustvarili enotnega močnega toka v razpravah (zlasti z dolgoročnega vidika). So pa dopolnili in okrepili nekatere smeri, ki so bile že predstavljene v literaturi s tega področja, a so pred pandemijo veljale za manj pomembne.

To se nanaša predvsem na povezavo med prostorskim načrtovanjem in podnebnimi spremembami (Norman, 2022; Nowak idr., 2023). Med obravnavami temami je izstopalo zlasti ohranjanje narave v okviru urbanističnega načrtovanja (Bar idr., 2021; Rossi idr., 2022). Članki, objavljeni med pandemijo, so okrepili zahteve po varovanju zelenih površin v mestih in uporabi zelenih tehnologij (Kakderi idr., 2021). Tisti, ki so obravnavali varstvo narave v okviru urbanističnega načrtovanja z vidika pandemije, so se večinoma osredotočali na zdravje ali ohranjanje narave za zagotavljanje boljših razmer za zdravje (Castro idr., 2021; Chen idr., 2023; Khavarian-Garmsir idr., 2023; Legutko-Kobus idr., 2023). Utemeljevanje potrebe po zaščiti naravnih vrednot v mestih je bilo tako večplastno, nekateri avtorji pa so v tem okviru opozarjali tudi na potrebo po odzivu na podnebne spremembe (Khavarian idr., 2023).

Drugo pomembno vprašanje v splošni razpravi o prostorskem načrtovanju se je nanašalo na usklajevanje prostorskega načrtovanja (in njegovih instrumentov) s področji razvoja (Guzman idr., 2021). S pandemijo COVID-19 je postala jasna potreba po ohranjanju povezave med prostorskim načrtovanjem in cilji varovanja zdravja. Varovanje zdravja je bilo v analiziranih člankih referenčna točka za spremembe, povezane s širšim ohranjanjem narave. Opredeljena tema pa je še širša, kar je razvidno iz člankov, ki so analizirali povezavo med uporabo posameznih urbanističnih parametrov (npr. gostoto zazidave) in zdravjem prebivalcev (Talocci idr., 2022).

Večina analiziranih člankov je prispevala k razpravi o prilagajanju instrumentov prostorskega razvoja trenutnim izzivom, pri čemer po navadi niso bili obravnavni konkretni instrumenti, ampak so avtorji zgolj predpostavili (z vidika proučevanih tem), da bi bilo treba uvesti nekatere spremembe (Pucher in Buehler, 2010; Bao in Hu, 2021; Gallitano idr., 2021). Instrumente prostorskega razvoja je mogoče razvrstiti na različne načine, ključno pa je razlikovanje med strateškimi in ureditvenimi instrumenti (Oliveira idr., 2018). V večini držav najpogosteje vključujejo lokalne prostorske načrte, ki so pravno zavezujoči.

Taki prostorski načrti praviloma (ob upoštevanju natančnih razlik med državami) opredeljujejo območja zazidave in smernice za rabo zemljišč (višino stavb, gostoto zazidave itd.). Strože omejitve glede rabe zemljišč morajo biti dobro utemeljene (Nowak idr., 2021). V povezavi s temami, opredeljenimi v pregledanih člankih, je pri tem mogoče prepoznati dva možna pristopa: utemeljevanje omejitev v konkretnih načrtih in predstavitev podlag za razširitev obsega rešitev v ureditvenih prostorskih načrtih.

Prvi pristop lahko vključuje navedbo potrebe po posebnem varstvu javnih prostorov in s tem povezano utemeljitev uvedbe širših omejitev prostorskega razvoja na opredeljenih območjih, utemeljitev okrepljenega varstva naravnih dobrin v mestih in utemeljitev omejitev rabe zemljišč zaradi uvedbe koncepta 15-minutnega mesta (delno ali v celoti). Pri drugem pristopu se utemeljujejo nestandardne vsebinske rešitve ureditvenih instrumentov, ki lahko vključujejo obsežne smernice za razvoj javnih prostorov (veliko širše od preprostega coniranja ali standardnih smernic) in smernice za uporabo zelenih tehnologij pri gradnji objektov, ki na novo opredeljujejo izbrane mestne funkcije v povezavi z oblikovanjem 15-minutnih mest.

Razprave o urbanističnem načrtovanju med pandemijo je mogoče razdeliti na razprave o prostorskih konfliktih, razprave o vlogi zakonodaje v prostorskem načrtovanju in primerjavah nacionalnih prostorskih načrtovalskih sistemov ter razprave o povezavi med prostorskim načrtovanjem in podnebnimi izzivi. Okrepljeno utemeljevanje omejitev na področju urejanja prostora (v zvezi z varstvom javnih prostorov in upoštevanjem zdravstvenih smernic pri načrtovanju) je pomembno z vidika razprav o prostorskih konfliktih (Bromley, 2010; Bergstrom idr., 2013; Hersperger idr., 2015; Papamichail, 2019). Varovanje zdravja in posledice tega so bili v literaturi do zdaj razmeroma redko obravnavani. Zamisli, ki izhajajo iz razprav o pandemiji, vplivajo tudi na razumevanje prostorske zakonodaje (Buitelaar in Sorel, 2010; Gielen in Tasan-Kok, 2010; Moroni idr., 2020). Primer pandemije COVID-19 je pokazal, da je treba povečati prožnost načrtovanja in pravne rešitve prilagoditi novim izzivom, tudi tehnološkim. Pozornost bi bilo treba nameniti primerjavam nacionalnih načrtovalskih sistemov. Upoštevati bi bilo treba tudi zdravstvo, varstvo javnih prostorov in oblikovanje 15-minutnih mest (ter institucionalne odzive na te izzive po državah). Izsledki razprav o prostorskem načrtovanju med pandemijo so močno povezani z razpravami o povezavi med prostorskim načrtovanjem in varstvom podnebja.

5 Sklep

Pandemija COVID-19 ni prinesla revolucionarnih rešitev za prostorsko politiko, saj se v znanstvenih razpravah že več let ponavljajo isti koncepti in zahteve. Razkrila pa je pomen družbenih in okoljskih neenakosti ter razlike med političnimi in družbenimi sistemi glede uvedenih omejitev. Avtorji so z analizo objavljenih razprav zbrali več ugotovitev. V literaturi se veliko večji pomen kot pred pandemijo pripisuje upravljanju javnih prostorov. Javno okolje je edinstveno področje in omogoča dostop do mnogih javnih storitev, ki so ključne za prostorski in gospodarski razvoj mest.

Podoben pomen se pripisuje tudi varstvu narave (zlasti zelenih površin) v mestih. V večini držav morajo biti prostorske rešitve ustrezno utemeljene, zlasti tiste, ki vsebujejo omejitve. Tako se po pandemiji take omejitve veliko bolj utemeljujejo z zdravstvenimi razlogi, kar omogoča širše povezovanje razvojnih politik (tudi zdravstvenih in prostorskih). Pri obravnavi koncepta 15-minutnih mest pa se razprave po navadi osredotočajo na drugačno opredelitev mestnih funkcij in prožnejše načrtovanje (Khavarian-Garmsir idr., 2023).

Ključni prispevek tega članka je povezava razprav o pandemiji z izbranimi vidiki urbanističnega načrtovanja. Pomembna omejitev raziskave je bilo to, da so bili v zvezi s prostorskimi zahtevami, povezanimi s pandemijo, redko neposredno obravnavani institucionalni in pravni vidiki urbanističnega načrtovanja. Dodatna ovira so bile razlike med nacionalnimi načrtovalskimi sistemi (Nowak idr., 2023). V članku so avtorji kljub temu opredelili pomembna izhodišča, ki bi morala biti del razprav o institucionalnih vidikih urbanističnega načrtovanja.

Oblikovane smernice bi morale biti prilagojene posebnostim nacionalnih sistemov. V zvezi s prvim raziskovalnim vprašanjem se ključne teme v literaturi nanašajo na okrepljeno varstvo mestnega prostora. To je razvidno iz podrobne obravnave treh medsebojno povezanih področij: varstva javnih prostorov, varstva narave v mestih in uresničevanja koncepta 15-minutnega mesta. Treba bi jih bilo pretvoriti v vrednote, ki so zaščitene s pravnimi in institucionalnimi prostorskimi instrumenti ter vključene v predpise (npr. urbanističnih načrtih). V zvezi z drugim raziskovalnim vprašanjem pa članki, povezani s pandemijo, potrjujejo in dopolnjujejo izsledke prejšnjih razprav.

V prihodnjih raziskavah bo pandemija COVID-19 veliko manj pomembna, vendar zgoraj navedeni vprašanji ostajata ključni. Bolj poglobljeno bi bilo treba analizirati zlasti vključevanje zdravstvenih ciljev v urbanistično politiko ter prilagajanje urbanističnih načrtov novim izzivom, s poudarkom na prožnosti pri načrtovanju, ponovni opredelitvi funkcij vključevanju posebnih tehnoloških in okoljskih smernic v načrte.

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Razvoj koncepta za opredelitev območij zelenih površin za prostorsko zgoščene oblike telesnih dejavnosti

Zelene površine imajo pomembno vlogo pri spodbujanju telesne dejavnosti in izboljšanju javnega zdravja, zato je njihova enakovredna dostopnost za vse prebivalce zelo pomembna. Kljub temu v Sloveniji primanjkuje kakovostnih prostorskih podatkov za presojo preskrbljenosti naselij z zelenimi površinami za telesne dejavnosti. Raziskava se osredotoča na razvoj koncepta preskrbljenosti slovenskih mest in naselij z zelenimi površinami. V članku opredelimo pojem preskrbljenosti in predstavljamo novo metodo za določanje območij zelenih površin za prostorsko zgoščene oblike telesne dejavnosti. Metoda temelji na kombinaciji prostorskih podatkov o pojavnosti in funkciji zelenih površin ter omogoča dovolj zanesljivo opredelitev območij zelenih površin za prostorsko zgoščene oblike telesne dejavnosti, da se lahko uporablja kot izhodišče za presojo preskrbljenosti naselij z zelenimi površinami za te dejavnosti za namen razvoja kazalnikov. Razprava poudarja pomanjkanje celovitih in kakovostnih prostorskih podatkov za presojo preskrbljenosti z zelenimi površinami za prostorsko zgoščene oblike telesne dejavnosti v Sloveniji ter potrebo po medsektorskem sodelovanju za boljše upravljanje in načrtovanje urbanih prostorov. V zaključku se izpostavlja potreba po strokovno usklajenem pristopu k zbiranju podatkov in vzpostavitvi dolgoročnega sodelovanja med deležniki za izboljšanje dostopnosti in kakovosti zelenih površin za spodbujanje telesnih dejavnosti v Sloveniji.

Ključne besede: zelene površine, telesna dejavnost, kazalnik, GIS, prostorski vidiki, prostorski podatki

1 Uvod

V Sloveniji je, tako kot v mnogo razvitih državah po svetu, opazen problem nezadostne telesne dejavnosti (TD) prebivalstva (Pustivšek idr., 2018; Remec in Pustivšek, 2023). Telesno dejavnost opredeljujemo kot katero koli silo, izvedeno s skeletnimi mišicami, ki se konča s porabo energije nad ravnjo mirovanja. V to dejavnost spadajo hoja in kolesarjenje, ples, razne igre in razvedrilo, vrtnarjenje in hišna opravila, dvigovanje in nošenje bremen ter šport in namenska vadba (Šuklje Erjavec idr., 2019). Zelene površine (ZP) so eden od pomembnih dejavnikov spodbujanja TD in s tem krepitve javnega zdravja. Poleg tega imajo velik vpliv na zmanjšanje stresa in izboljšanje psihičnega stanja, hkrati so za številne ljudi bolj privlačne za uporabo in jih motivirajo k TD, kar je bilo dokazano s številnimi študijami (npr. Lee in Maheswaran, 2011; Roe idr., 2013). Pri zagotavljanju okolij za TD imajo poleg javnih parkov, igrišč in rekreacijskih območij pomembno vlogo zelene in druge površine v okviru stanovanjskih območij, vrtcev in šol, domov za starejše občane ter zelene površine v območju drugih centralnih dejavnosti in delovnih mest, gozdovi, obvodne in vodne površine ter kmetijska krajina v bližini mest in naselij. Te ZP morajo biti enakovredno dostopne za vse in primerno razporejene v naseljih, da lahko prebivalci uživajo v TD v stiku z naravo in brez nepotrebnega potovanja.

V Sloveniji se urbanizacija in širitev naselij srečujeta z izzivi ohranjanja ZP ter njihove dostopnosti za vse prebivalce. Resolucija o Strategiji prostorskega razvoja Slovenije 2050 (Ur. l. RS, št. 72/23; ReSPR50, 2023) določa cilje prostorskega razvoja in poudarja pomen zelene infrastrukture in sistemov na lokalni ravni, z vizijo velikega deleža javnih ZP v mestih za druženje in rekreacijo. Pomembna je enakomerna preskrbljenost naselij z javno dostopnimi ZP, ki spodbujajo TD. To je ključni poudarek načrtovanja kakovostnega življenjskega okolja, ki upošteva potrebe prebivalcev in zavedanje o aktualnih problemih, kot sta blaženje podnebnih sprememb in aktivna mobilnost. Pomembnost naslavljanja podnebnih sprememb in ohranjanja biotske raznovrstnosti za zdravje in dobrobit državljanov je poudarjena tudi v Dolgoročni podnebni strategiji Slovenije do leta 2050 (Resolucija, 2021).

Pojem preskrbljenost z ZP je v slovenskem okolju razmeroma nov in izhaja iz prevoda angleškega izraza "green space provision" (npr. Kabisch in Haase, 2014; Wüstemann idr., 2016; Grunewald idr., 2017). Zakon o urejanju prostora (ZUreP-3) (Uradni list RS, št. 199/21) uvaja načelo enakovredne preskrbljenosti in dostopnosti ZP, kar na eni strani vključuje raznolike uporabnike in možne aktivnosti glede na njihove potrebe. Vendar raziskave kažejo, da so prostorske razmere slovenskih občin zelo različne in prebivalcem Slovenije ne zagotavljajo enakovrednih možnosti, kar se je še posebno izpostavilo med pandemijo covida-19 (Martinko idr., 2023).

Za ustrezno ugotavljanje, presojo in spremljanje stanja preskrbljenosti z ZP je med drugim pomembno, da so na razpolago kakovostni prostorski podatki o vseh relevantnih javno dostopnih ZP in njihovih prostorskih značilnostih, ki se nanašajo na vidike kakovosti ZP (Šuklje Erjavec idr., 2019). Vendar pa, kot na primeru Ljubljane ugotavljata Vertelj Nared in Simoneti (2011), v realnosti ni na razpolago univerzalnih podatkov o ZP, ampak so med posameznimi zbirkami velike razlike, ki izhajajo iz namena in načina zbiranja ter vsakokratne interpretacije pojmov in pojavov, kar onemogoča celovit vpogled v stanje javnih ZP, tako z vidika njihovega obsega kot lokacije, tipa in opremljenosti. Šifkovič Vrbica in Simoneti (2021) opozarjata, da je pravni okvir za urejanje javnih ZP pomanjkljiv. Občine ne urejajo vseh površin, ki so javno dostopne in nimajo ustreznih orodij za spremljanje stanja. Še posebno problematični so podatki za površine, ki so v javni rabi, a niso v lasti lokalne skupnosti, saj te običajno niso vključene v evidence oziroma zbirke podatkov vzdrževanih ZP v mestu (Vertelj Nared in Simoneti, 2011).

V Sloveniji je torej poznavanje preskrbljenosti z ZP za TD pomanjkljivo na vseh ravneh, kar oteži sprejemanje ustreznih ukrepov za izboljšanje stanja. Naša hipoteza je, da imamo v Sloveniji ustrezna izhodišča za določanje in spremljanje preskrbljenosti naselij z ZP in več javnih evidenc z dovolj uporabnimi podatki za razvoj metode in za združevanje podatkov za ustrezno opredelitev relevantnih ZP, da se lahko izvede presoja preskrbljenosti, ter za razvoj kazalnika stanja preskrbljenosti z ZP za TD na lokalni ravni.

V tem članku predstavljamo novo metodo zbiranja podatkov, ki omogoča opredelitev preskrbljenosti naselij v Sloveniji z ZP, primernimi za prostorsko zgoščene oblike telesne dejavnosti (PZTD), torej tiste, ki se uresničujejo v nekem sklenjenem prostoru – s posameznimi ZP, katerih prostorske značilnosti omogočajo in spodbujajo izvajanje TD, kot so na primer raznovrstne igre in spretnosti, telesna vadba in ples, vrtnarjenje ipd. (Šuklje Erjavec idr., 2019).

Naša metoda se osredotoča na Slovenijo, vendar je lahko prilagodljiva in uporabna tudi drugje. Osnovni namen prispevka je prikazati pristop za izbor podatkov za opredelitev ZP za PZTD kot enega izmed temeljev za osnovanje kazalnika preskrbljenosti z ZP za TD. Podrobnejši cilji so: opredelitev preskrbljenosti naselij z ZP za vse oblike TD in aktivni življenjski slog, analiza možnosti zajema podatkov za opredelitev ZP za PZTD, ovrednotenje možnosti dopolnjevanja in združevanja podatkov za opredelitev ZP za PZTD, opredelitev tipa in

ravni prostorskih podatkov za uporabo pri opredelitvi ZP za PZTD, priprava protokola za izbor in vrednotenje podatkov za opredelitev ZP za PZTD.

Za dosego ciljev smo oblikovali naslednja raziskovalna vprašanja: Kako je preskrbljenost z ZP za TD opredeljena v slovenski in mednarodni zakonodaji ter strokovni in znanstveni literaturi? Ali so na voljo podatki, neposredno uporabni za opredelitev ZP za TD? Ali je s kombinacijo podatkov mogoče opredeliti ZP za TD na ravni naselja?

Delo, predstavljeno v tem članku, je del širše raziskave ciljno raziskovalnega projekta Priprava kazalnikov za oceno preskrbljenosti naselij z zelenimi površinami za telesno dejavnost v odprtem prostoru, z akronimom PREZENCA, katerega cilj je opredelitev kazalnika preskrbljenosti naselij z ZP za TD oziroma aktiven življenjski slog, ki bo na lokalni ravni dopolnjeval kazalnike dostopnosti ZP. Te za potrebe spremljanja stanja in poročanja v okviru Agende za trajnostni razvoj do leta 2030 (Organizacija združenih narodov, 2015) že nekaj let pripravlja Ministrstvo za naravne vire in prostor (MNVP).

2 Pojavnost pojma preskrbljenosti z ZP v literaturi in zakonodaji

Preskrbljenost mest in naselij z ZP postaja vse bolj pomembna tema v urbanem načrtovanju in razvoju. Kljub temu so velike razlike v razumevanju in opredelitvi tega pojma, kar otežuje učinkovito načrtovanje in upravljanje javnih odprtih prostorov. Za izboljšanje razumevanja pojma preskrbljenosti in poznejšo lastno opredelitev (poglavje 3) smo v tej raziskavi analizirali slovenski zakonodajni okvir ter nekatere področne akte in dokumente (poglavje 2.1) in pregledali pristope k opredelitvi preskrbljenosti z ZP (poglavje 2.2). V nadaljevanju so predstavljene glavne ugotovitve.

2.1 Razumevanje preskrbljenosti z ZP po resorjih

Izraz preskrbljenost z ZP v slovenskem okolju še ni dobro uveljavljen. V praksi ter v raznih študijah in publikacijah se pogosteje uporabljajo drugi izrazi, kot na primer zagotavljanje zadostnih zelenih površin, zagotavljanje ustreznega ali uravnoteženega razmerja med grajenimi in zelenimi površinami, enakovredna oskrba, uravnotežena oskrba, delež zelenih površin, delež javnih površin, delež javnega prostora ipd. (Žlender idr., 2023b). Ti izrazi se pojavljajo v različnih kontekstih, ne le v povezavi z javno dostopnimi površinami. V pristopu k vsebinskemu pregledu dokumentov smo upoštevali vse vidike preskrbljenosti, ki se nanašajo na ZP ter sorodne izraze in sopomenke.

Pregled relevantne prostorske zakonodaje je pokazal, da so vsebine o preskrbljenosti z ZP obravnavane različno in pogosto ne celovito. Preskrbljenost z ZP omenjata le prostorska zakonodaja (ZUreP-3) in Resolucija o Strategiji prostorskega razvoja Slovenije 2050, v kateri je navedeno, da je ustrezna dostopnost do javnih zelenih površin pomemben cilj za vse prebivalce. Kazalniki dostopnosti določajo, da mora biti javna ZP dostopna v 5 minutah hoje ali 300 m za javne zelene površine, večje od 0,5 ha, in v 15 minutah ali 900 m za javne zelene površine, večje od 1 ha.

V dokumentih s področja javnega zdravja se poudarja pomen TD za zdravje, v okviru katerega je prepoznan pomen izboljšanja in vključevanja prostorskih dejavnikov, še posebno ZP za spodbujanje TD. Poudarjeno je medsektorsko sodelovanje v težnji k povezovanju in sodelovanju s prostorskim načrtovanjem (npr. Evropska komisija, 2008; Svetovna zdravstvena organizacija, 2020), kar je pomemben korak k bolj celovitemu pristopu k obravnavani temi.

Na področju športa se v pregledanih dokumentih izraza TD in gibalna aktivnost pojavljata manj pogosto v primerjavi z izrazi, kot je npr. športna rekreacija ali telesna vadba. Strokovnjaki za javno zdravje šport in telesno vadbo opredeljujejo kot namenski telesni dejavnosti, ki sta strukturirani in namenjeni izboljšanju telesne pripravljenosti. Šport po navadi vključuje tudi neko obliko tekmovanja, telesna vadba pa je namenjena predvsem izboljšanju zdravja. TD za krepitev zdravja pa je opredeljena kot vsaka oblika telesne dejavnosti, ki koristi zdravju in funkcijski sposobnosti brez nepotrebne škode ali tveganja (Šuklje Erjavec idr., 2019). Zakon o športu (Ur. l. RS, št. 29/17; ZŠpo-1) tako v 3. členu navaja načela vzpostavljanja možnosti za ukvarjanje s športom za vsakega prebivalca RS, to se nanaša tudi na okolje, ki naj bo varno in zdravo. Zakon navaja pomen športnih objektov in površin v naravi za zdravje, a so možnosti medresorskega povezovanja za uresničevanje kakovostnih rešitev omejene in premalo izražene, zlasti v povezavi s prostorskim načrtovanjem.

2.2 Pregled pristopov opredeljevanja preskrbljenosti z ZP na mednarodni ravni

Preskrbljenost naselij z ZP je kompleksen pristop, ki se v raziskavah opredeljuje na podlagi raznih vidikov. Posamezni vidiki preskrbljenosti se proučujejo z različnimi metodami. Predvsem bližina ZP do bivališč je pomemben vidik, povezan s posameznikovo TD (Kaczynski in Henderson, 2007). Za izračune razdalj dostopnosti od doma do najbližje ZP se običajno uporabljajo GIS-orodja (Talen, 1997; Sister idr., 2010), npr. z uporabo radijev oddaljenosti, pri čemer je radij 300 m največkrat uporabljen za izračun do najbližje ZP (Coles in

Bussey, 2000; Giles-Corti in Donovan, 2002; Nielsen in Hansen, 2007). Dostopnost do ZP se meri tudi po mreži poti, npr. z orodjem Network Analyst (Oh in Jeong, 2007). Vidik dostopnosti upošteva še čas in kakovost dostopa (Šuklje Erjavec idr., 2019). Poleg merjenj so znane tudi metode zajema podatkov z vprašalniki za določanje ocen, npr. zaznava dostopnosti do parka (Koohsari idr., 2015). Lundh (2017) na primer ugotavlja, da je estetsko doživetje odprtega prostora najpomembnejši dejavnik pri izbiri krajev za rekreacijo in odločitvi za to, da se posameznik odpravi do ZP za namene vadbene aktivnosti. Kljub kompleksnemu vidiku doseganja privlačnosti prostora se v raziskavah najpogosteje obravnava parameter količine naravnih prvin. Na podlagi satelitskih podatkov so bila že v preteklosti izvedena merjenja prisotnosti vegetacije na nekaterih območjih glede na tlorisni pogled (Sripada idr., 2006) in merjenja s perspektive uporabnika, npr. indeksi pogledov v zeleno (Ki in Lee, 2021). Drugi vidiki so ekološke značilnosti okolja, kot so kakovost zraka, vode in tal, ter kakovost zvočne krajine in odsotnost negativnih dejavnikov, kot so smrad, prah, pregrevanje, bleščanje itd. (Koohsari idr., 2015). Poleg tega so zelo pomembne kakovostna ureditev odprtega prostora, njegova uporabnost in doživljajska privlačnost (Francis idr., 2012; Pazhouhanfar, 2018).

Glede velikosti ZP v naseljih za zagotavljanje uporabe določa Svetovna zdravstvena organizacija (SZO) standard površine od 9 do 11 m^2 ZP na prebivalca, pri čemer ne določa natančneje prostorskega obsega, ki se uporablja za izračune (Svetovna zdravstvena organizacija, 2020). Gupta idr. (2012) so že leta 2012 podvomili o ustreznosti informacij o velikosti ZP na prebivalca v mestih, saj dajejo nenatančen in nezadosten odgovor na vprašanje o razporeditvi, dostopnosti in kakovosti ZP. Ugotovitve zdravstvene študije, ki je proučevala epidemiološke vidike (Mitchell idr., 2011), so bile, da so večje ZP za zdravje morda pomembnejše kot manjše površine, potrebe pa se razlikujejo glede na vrste uporabnikov. Z vidika vpliva na zdravje je pomembna tudi raznolikost ZP, ne le količina teh. Primerjava med ZP v urbanem okolju in na primer gozdom je pokazala, da je obiskovanje gozda pomembno povezano z manjšim številom pritožb zaradi duševnega zdravja (Akpinar idr., 2016). Na uporabo javnih odprtih prostorov vplivajo tudi njihova opremljenost, varnost in vzdrževanje. Za različne prostore so potrebne različne stopnje opreme in vzdrževanja, odvisno od njihovega namena in naravnih procesov, ki se v njih odvijajo. Za proučevanje teh vidikov so običajno potrebne kvalitativne metode, ki odražajo zadovoljstvo uporabnikov, in uporaba objektivnih podatkov, npr. evidenc komunalnih služb. Na podlagi pregledanih študij, še posebno pregleda kazalnikov ZP za spodbujanje TD (Kozamernik idr., 2023), izpostavljamo za to študijo najpomembnejše vidike z nekaterimi kazalniki za oceno preskrbljenosti naselij z ZP za PZTD:

- javna dostopnost z osnovnim merilom univerzalno dostopnih javnih ZP, katerih površina je večja od 500 m^2, v oddaljenosti od bivališč 300 m ali 5 minut hoje, v mestih dostop do mestnega parka v oddaljenosti 900 m ali 15 minut hoje,
- velikost mestnih parkov, ki bi morali obsegati najmanj 1 hektar in bi morali biti od stanovanjskih območij oddaljeni do 900 metrov,
- enakomerna razporejenost ZP in povezanost v omrežje ZP z ozirom na različne možnosti izbire dejavnosti in tipologijo ZP,
- ambientalna privlačnost in kakovost ureditve.

3 Opredelitev pojma preskrbljenosti naselij z zelenimi površinami za telesno dejavnost

Iz pregleda literature je razvidno, da se pojem preskrbljenosti pogosto uporablja v različnih kontekstih, zato je treba strokovno utemeljiti njegovo uporabo. Preskrbljenost naselij z ZP zahteva sistemski pristop, ki vključuje sodelovanje med prostorskim načrtovanjem, javnim zdravjem in športom. Preskrbljenost z ZP se presoja z ekološkega in socialnega vidika, pri čemer se ZP, ki ne izpolnjujejo prostorskih pogojev javne dostopnosti, ne upoštevajo v presojah za vsakodnevno uporabo prebivalcev (Šuklje Erjavec idr., 2020).

V Sloveniji se pojem preskrbljenosti z ZP še ni uveljavil, kljub pojavljanju z njim povezanih izrazov v dokumentih. Izraz načelo enakovredne preskrbljenosti z ZP, ki ga uporabljamo, obsega vidike javne dostopnosti, uravnotežene razmestitve, zmogljivosti in kakovosti ZP. Zadostna preskrbljenost omogoča enakovreden dostop do ZP za vse prebivalce (Kozamernik in Šuklje Erjavec, 2021) ter krepi enakost v javnem zdravju in urbano pravičnost (Sister idr., 2010; Ward Thompson idr., 2012; Kabisch in Haase, 2014). Uresničevanje tega načela je ključno za zagotavljanje kakovosti življenja in izbire za vse prebivalce, kar je osrednji cilj načrtovanja zelenega sistema naselij, pristopa, ki je uveljavljen v Sloveniji in je podoben pristopu načrtovanja zelene infrastrukture na mednarodni ravni (Evropska komisija, 2013, 2023; Evropska agencija za okolje (EEA), 2014).

Na podlagi pregleda iz leta 2023 (Žlender idr., 2023b) v nadaljevanju podajamo ključne vidike, ki se nanašajo na ustrezno preskrbljenost mest in naselij z ZP za TD in aktiven življenjski slog. Vidiki za opredelitev ZP za PZTD so:

- območje je opredeljeno kot zelena površina v skladu z namenom oblikovanja kazalnika. Zelena površina je po opredelitvi, ki jo določa ZUreP-3, »površina v poselitvenem območju z določeno mero naravnosti (npr. parki,

mestni gozdovi, zelenje ob vodnih površinah, zelenice, drevoredi, zelenje ob ulicah in cestah, rekreacijske površine, otroška igrišča, pokopališča, vrtovi ipd.) in posamezne naravne fizične strukture v tem območju (npr. drevesa in druga vegetacija), in sicer ne glede na lastnino, funkcijo ali lego v prostoru«;

- kapaciteta, velikost in obseg vseh ustreznih ZP v naselju in posamezne ZP. To pomeni dovolj velike, zaokrožene ZP, da imajo vsi prebivalci v naselju možnost vsakodnevne uporabe teh ZP za doseganje priporočenih ravni TD za zdravje. Neposredno se povezuje z dostopnostjo in gostoto prebivalstva ali uporabnikov na nekem območju:
- (univerzalna) javna dostopnost, kar pomeni, da je ZP dostopna vsem, tudi osebam z oviranostjo, ne glede na lastništvo ZP in brez potrebnega finančnega vložka za uporabo ZP, pri čemer ne gre prezreti kakovosti dostopa do ZP, ki se opredeljuje z atributi vrednotenja ZP za PZTD.

Vidiki za vrednotenje ZP za PZTD so (vidiki niso predmet te raziskave): ustrezna razmestitev, povezanost in zveznost ZP, opremljenost, raznolikost (tipologija), ambientalna privlačnost in varnost. To, kako blizu bivališčem so zelene površine, je ključno za dostopnost, saj vpliva na čas, ki ga pešci in kolesarji porabijo za dostop do ZP, ob upoštevanju sposobnosti premagovanja razdalj. Poleg tega je pomembna kakovost povezav med ZP, ki omogočajo TD. ZP so lahko večnamenske (za različne rabe in skupine), enonamenske (za eno vrsto rabe) ali nenamenske (brez posebne ureditve, a z možnostjo aktivnosti).

4 Metoda opredelitve meril za opredelitev območij zelenih površin za prostorsko zgoščene oblike telesne dejavnosti

Pri razvoju metode se osredotočamo na naslednja vprašanja: Katere ZP so relevantne za presojo preskrbljenosti z ZP? Kateri podatki so na voljo za opredelitev ZP za PZTD? Kakšna sta njihovi vsebinska kakovost in relevantnost? Ali so podatki javno dostopni in prostorsko dovolj podrobni?

Izhodišča za nabor ustreznih podatkov za opredelitev ZP za PZTD so bila:

1. vidiki za opredelitev ZP za PZTD, in sicer: zmogljivost, velikost, obseg in javna dostopnost ZP. Na podlagi konceptualnih vidikov se lahko nabor podatkov za opredelitev območij ZP za PZTD razširi s podatkovnih zbirk javnih ZP na zbirke, ki opredeljujejo značilnosti ZP. To vključuje območja dejanske rabe zunaj poseljenih območij (npr. kmetijstvo, gozdarstvo, vode) in evidenco dejanske rabe, pri čemer so ZP vključene v evidenco stavbnih zemljišč (MNVP, 2021). Razširitev je smiselna, kadar so podatki o javnih ZP prostorsko nenatančni ali pomanjkljivi za opredelitev ZP na ravni naselja ali manjše občine;
2. informacije o podatkovnih zbirkah, ki jih bodo v bližnji prihodnosti dolžni zagotavljati ali občine ali ministrstvo, pristojno za prostor. V ZUreP-3 (Uradni list RS, št. 199/21: 140) je tej vsebini namenjen šesti del: »Prostorski informacijski sistem, spremljanje stanja prostorskega razvoja in informacije s področja urejanja prostora«. Za potrebe raziskave so še posebno pomembna nekatera določila v poglavjih, ki obravnavajo prostorski informacijski sistem (1. poglavje, členi 263, 267, 270 in 275), sistem spremljanja stanja prostorskega razvoja (2. poglavje, člen 277) in podatki o omrežjih gospodarske javne infrastrukture (4. poglavje, člen 281). ZP, ki so relevantne za obravnavo, spadajo tako med naravno javno dobro, kot je določeno v Zakonu o varstvu okolja (Uradni list RS, št. 44/22, 18/23 – ZDU-1O in 78/23 – ZUNPEOVE, 2022; ZVO-2), kot med grajeno javno dobro, kot je določeno v ZUreP-3, za kar sta predvidena zajem podatkov in zaveza glede vzpostavitve evidenc;
3. prostorska natančnost podatkov, ki omogoča opredelitev tako večjih kot manjših ZP. Glede na priporočene velikosti ZP (Šuklje Erjavec idr., 2020) je bila za potrebe naše preveritve izbrana najmanj 200 m^2 velika sklenjena ZP. Podatki naj bi omogočali opredelitev tipologije ZP in presojo javne dostopnosti do teh območij (300 m in 900 m do večjih, večnamenskih ZP).

4.1 Pregled zbirk podatkov

Glede na to, da na državni ravni ni namensko zbranih podatkov o ZP za TD, smo pregledali evidence, vzpostavljene za druge namene, ki bi lahko pomagale pri opredelitvi ZP za TD. Pri pregledu virov podatkov smo upoštevali uporabnost, dostopnost, prostorsko ločljivost, ažurnost in možnost zajema uradnih evidenc za primerljivost med občinami. Pripravili smo pregled zbirk podatkov na mednarodni, celotni slovenski in občinski ravni, osredotočeni na območja, razvrščena kot ZP v dejanski rabi in potencialna območja (gozd, obvodna in kmetijska zemljišča). Pregledali smo tudi podatke o peš in kolesarskem dostopu ter potencialnih uporabnikih ZP (število in gostota prebivalcev, hišne številke, razvrstitev objektov). Izbrane podatkovne sloje smo strokovno ovrednotili.

4.2 Variantne preveritve možnosti opredelitve zelenih površin za prostorsko zgoščene oblike telesne dejavnosti

Za opredelitev ZP za PZTD smo izvedli več variantnih preveritev združevanja podatkovnih slojev. Odločili smo se za uporabo podatkov daljinskega zaznavanja Copernicus (EEA, 2022a), podatkov iz evidence stavbnih zemljišč (MNVP, 2021) in evidence dejanske rabe kmetijskih in gozdnih zemljišč (Ministrstvo za kmetijstvo, gozdarstvo in prehrano (MKGP), 2023), tlorisov iz katastra nepremičnin (Geodetska uprava RS (GURS), 2023) in nekaterih vsebin iz sloja OpenStreetMap (OpenStreetMap, 2023). Analize smo izvedli v PostgreSQL z dodatkom PostGIS, kjer smo hranili podatke, in QGIS desktop, ki smo ga uporabili za prikaz in pregled podatkov ter ročno urejanje.

Na podlagi konceptualne opredelitve preskrbljenosti z ZP za PZTD smo opredelili naslednja operativna merila:

- opredelitev širšega območja obdelave. Proučevano območje zajema območje naselja z 900-m oddaljenostjo od vseh stanovanjskih stavb v naselju. Za namen manipulacije s podatki smo osnovali vektorsko mrežo (prek območja) s celicami velikosti 10 x 10 m, za kar menimo, da je dovolj podrobno za zajem minimalne ZP za PZTD;
- opredelitev ZP v odvisnosti od območja obdelave. Za vidik velikosti smo določili 200 m^2 kot najmanjšo ZP za zadostitev uporabnosti za PZTD. Obseg smo določili z merilom nujnosti stikanja vsaj dveh celic velikosti 10 x 10 m;
- opredelitev bližine ZP. Kvantitativno smo opredelili naslednje razdalje: do 300 m peš dostop (5 min hoje) in 900 m (dostop s kolesom ali 15 minut hoje) za dostop do ZP za PZTD.

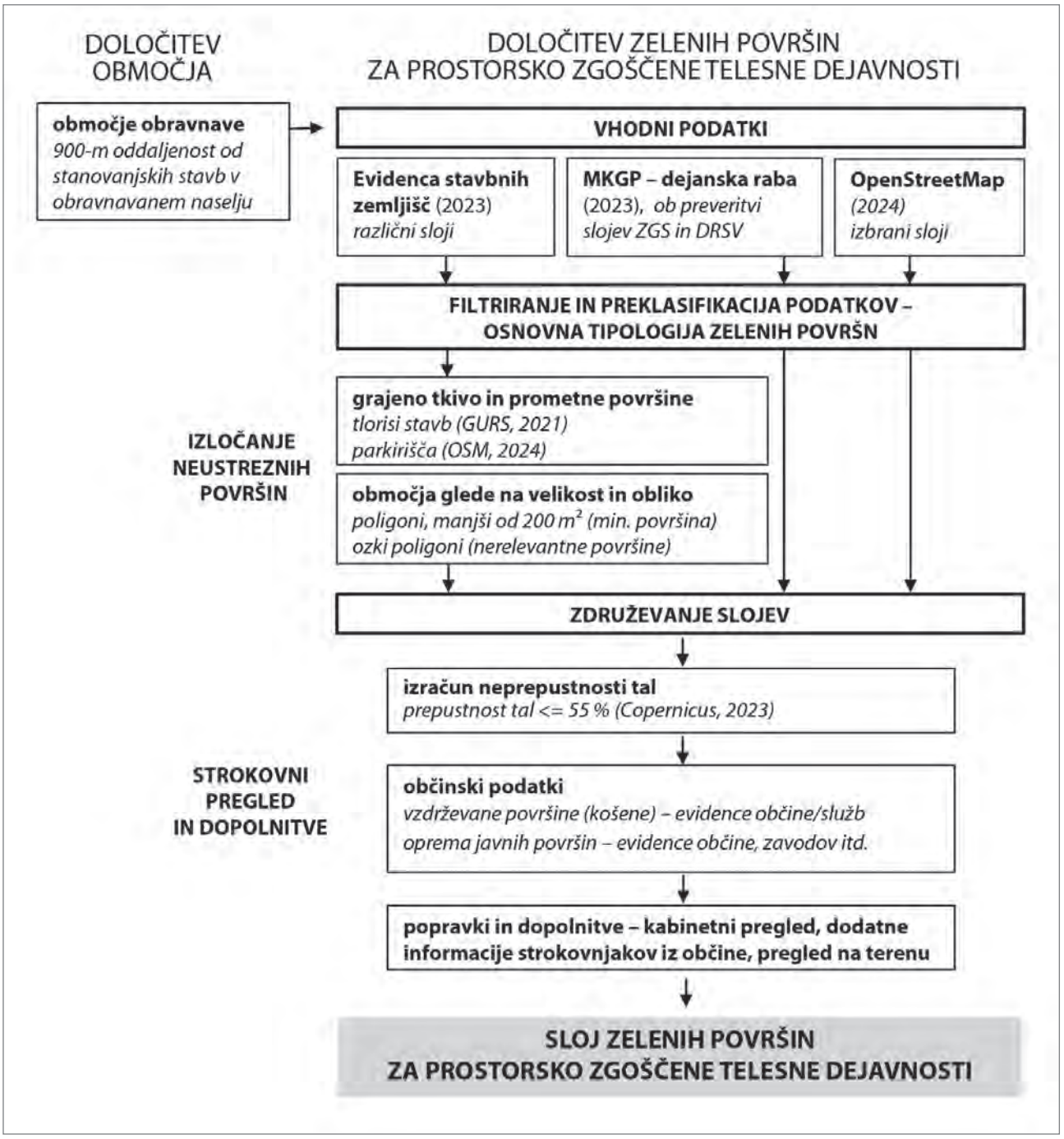
Za preveritev variant smo izbrali del mesta Kočevje. Za opredelitev ZP za TD smo določili območje 900 m od tlorisov stanovanjskih stavb v Kočevju, kar pomeni največjo razdaljo za vsakodnevno uporabo ZP. Ustvarili smo vektorsko mrežo s celicami velikosti 10 × 10 m ter izvedli več modelov združevanja podatkov za natančno opredelitev ZP. Rezultati modeliranja so opisani v poglavju 5.2.

Kot preveritvena metoda ustreznosti pristopa je bil izveden tudi ročni vris javnih ZP na manjšem območju. Ročni vnos se je izvedel na podlagi strokovne presoje, ob uporabi satelitskega ortofoto posnetka, poleg tega je podatke preveril prostorski načrtovalec iz občine. Javne zelene površine so se opredelile glede na posamezne tipe, in sicer: parkovne površine, javna otroška igrišča, otroška igrišča ob vzgojno-izobraževalnih ustanovah, območja za vrtnarjenje, javna športna igrišča, druga športna igrišča, športno-rekreacijska območja, tematske ureditve, ureditve v gozdu, ureditve v stanovanjskih soseskah in zelene površine ob javnih objektih.

4.3 Izdelava združenega sloja zelenih površin za prostorsko zgoščene oblike telesne dejavnosti

Uporaba daljinskih podatkov in vektorske mreže s celicami velikosti 10 × 10 m za večja območja pomeni veliko celic, kar otežuje obdelavo podatkov. V nadaljnji fazi smo preverili drugo metodo, pri kateri osnovnih podatkov nismo pretvarjali na mrežo. Uporabili smo sloj evidence stavbnih zemljišč (MNVP, 2021), ki vsebuje grafični del in relacijsko tabelo z dejanskimi rabami in površinami (sloji 3171, 3181-3184, 3243, 3111, 3112, 3131, 3132-3136, 3141, 3142, 3151). Po združitvi podatkov smo za vsak poligon določili prevladujočo rabo. Gozdna območja smo opredelili na podlagi evidence dejanske rabe kmetijskih in gozdnih zemljišč (MKGP, 2023, sloja 1800 in 2000), saj je bil ta sloj gozdnih območij bolj skladen z evidenco stavbnih zemljišč. Kot dodatni vir podatkov smo uporabili podatke za Slovenijo iz baze Open Street Map (OSM), ki smo jih prenesli s spletne strani Geofabrik (Geofabrik, 2024). Uporabljene so bile različne kategorije, vezane na rekreacijske in prostočasne dejavnosti ter obravnavani zunanji prostor, predvsem iz sklopov »leisure«, »landuse« in glede na želeno javno dostopnost »access«. Izvorne podatke OSM smo najprej uvozili v bazo PostgreSQL, vključno z vsemi atributivnimi vrednostmi, ki smo jih shranili v zapisu hstore. Tako smo lahko pri filtriranju uporabljali celoten nabor atributivnih vrednosti.

Na podlagi opredeljenih meril za preskrbljenost z ZP za PZTD smo združili podatke za sloj za pilotno območje mestnih četrti občine Celje. Uvedli smo ponovno razvrščanje ZP v 11 osnovnih tipov, ti so park, otroško igrišče, šport in rekreacija, tematska ureditev, ureditev na vodni površini, zunanje površine javnih objektov, skupne ZP stanovanjskih objektov, zelenice, pokopališče, vrtičkarstvo, neformalna območja za TD v gozdu in drugo. Javno dostopnost ZP smo opredelili glede na vrsto dostopa: univerzalni javni dostop, javni dostop brez omejitev, javni dostop s časovnimi omejitvami in dostop z vstopnino/članarino. Za izdelavo sloja ZP za TD so bili uporabljeni filtri tipologije in dostopa. Avtomatizirana razvrstitev je pospešila ročno pregledovanje in omogočila pravilno vnašanje atributivnih vrednosti.



Slika 1: Prikaz sosledja postopka združevanja podatkov ali izdelave končnega sloja ZP za PZTD (ilustracija: Jana Kozamernik)

Na novo kategorizirani sloj evidence stavbnih zemljišč je bil nato dodatno obdelan na način, da so bila iz njega odstranjena območja stavb in območja parkirišč iz sloja OSM. Po izločitvi neustreznih površin iz evidence stavbnih zemljišč smo sosednje poligone z enako tipologijo združili. Ker so po grafičnem prekrivanju slojev ponekod ostali ozki deli poligonov, smo najožje dele odstranili z izdelavo negativnega vplivnega območja v razdalji 20 cm, nato pa še z izdelavo pozitivnega vplivnega območja v enaki razdalji. S tem smo izločili najožje dele poligonov v širini do 40 cm. Za večje vplivno območje se nismo odločili, saj se s to metodo nekoliko popači geometrija na ogliščih in se poveča napaka.

Na združenem sloju treh evidenc smo dodatno izračunali povprečni delež neprepustnosti tal s prekrivanjem z rastrskim podatkom iz Copernicusa (EEA, 2022a). V naslednjem koraku smo podatke pregledali in dopolnili. Grobe napake smo popravili s pregledom digitalnih ortofoto posnetkov, podrobnejši pregled pa smo opravili s strokovnjaki iz občine in s terenskim ogledom.

5 Rezultati

5.1 Primerjava in izbor podatkov na različnih prostorskih ravneh

Pri pregledu mednarodnih zbirk podatkov so se zaradi premajhne prostorske ločljivosti ali nepopolne pokritosti Slovenije kot neprimerni izkazali Corine Land Cover (EEA, 2022b, 2022c), Urban Atlas (change) (EEA, 2022d, 2022e) ter Global Human Settlement Layer (Copernicus Services, b. d.). Podatki European Settlement Map (EEA, 2019) so uporabni za prikaz pozidanih površin z dovolj natančno prostorsko ločljivostjo, vendar zajem ni ažuren (zadnji je iz leta 2019). Razmeroma podrobno je območja ZP možno opredeliti na podlagi podatka o prepustnosti tal, tj. Imperviousness Density. Ta podatek je treba zaradi možnih napak (npr. pomanjkljiva opredelitev ZP z večjim deležem utrjenih površin) kombinirati z drugimi podatki. V ta namen sta pomembna podatkovna sloja Tree Cover Density (EEA, 2022f) in Grassland (Change) (EEA, 2022g), ki prikazujeta pokritost z drevesnimi krošnjami in travinjem. Uporabna sta predvsem za urbana območja za določitev ZP, ki niso opredeljene kot dejanska ali namenska raba ZP. Za presojo razgibanosti terena in na primer določitev naklonov glede na različne potrebe za TD, potekov rekreacijski poti ipd. je lahko uporaben European Digital Elevation Model (EEA, 2016). Za ugotavljanje opremljenosti ZP so lahko uporabni podatki iz OpenStreetMap (OSM, 2023). Ti podatki vključujejo tudi podatke o cestnem omrežju, vključno z infrastrukturo za hojo in kolesarjenje. Pomanjkljivost OSM, ki zmanjšuje širšo uporabnost baze podatkov, je javni način zbiranja podatkov, saj so mogoče nepravilnosti in napake. Iz pregleda mednarodnih podatkov na javno dostopnih portalih je razvidno, da so podatki za analizo lokalnih območij premalo natančni. Prepustnost tal je koristen podatek, a potrebujemo novejši zajem. Pozitivna lastnost mednarodnih podatkov je njihova primerljivost.

Pri pregledu državnih podatkov smo zajeli vse urbanistične podatkovne zbirke, ki se vodijo na državni ravni. ZP na pozidanih območjih so prikazane v evidenci stavbnih zemljišč (MNVP, 2021). V tej so podatki vezani na parcele, zato je lahko na posamezni parceli možnih več primerov rab, ki so navedeni v relacijski tabeli, na podlagi katere se lahko izračuna delež posamezne rabe. Podatek je zato samo deloma uporaben, saj manjše ZP niso posebej zajete in prikazane. Podatek o namenski rabi prostora je podatek o načrtovani rabi površin in ne prikazuje obstoječega stanja. To je razmeroma podroben podatek, ki pa določa le večje ZP (opredeljene z namensko rabo ZP), ne pa tudi ZP v sklopu drugih kategorij namenske rabe. Za podrobnejšo opredelitev nepozidanih zemljišč odprtega prostora je uporaben tudi kataster nepremičnin (GURS, 2023). Ta sloj vključuje vsa poseljena zemljišča, tlorise stavb in nerodovitna zemljišča ob stavbah, kot so bivalne površine, parkirišča, trgi in manjši parki ter druge majhne in razdrobljene nepozidane površine brez posebne funkcije. Pri opredelitvi ZP je smiselno kombinirati te podatke s satelitskimi posnetki, vendar je lahko izziv velikost napake pri združevanju rastrskih (10 × 10 m) in vektorskih podatkov. Glede na navedene vidike opredelitve kakovosti ZP so pomembni podatki o drevesnih krošnjah. Podroben sloj vegetacije je zajet z laserskim skeniranjem (ARSO, 2014). Ker je ta podatek zelo natančen, je obdelava tega tehnično težko izvedljiva. Pri opredelitvi ZP, ki niso del poselitvenih območij ali stavbnih zemljišč, so pomemben vir zajema podatki Zavoda za gozdove Slovenije (2023), ki med drugim opredeljujejo območja gozdov z rekreacijsko in kulturno funkcijo ter drugimi socialnimi funkcijami, ki so potencialno (glede na lego in dostopnost) lahko pomembna območja ZP za izvajanje TD v naravnem okolju. Podatek iz evidence dejanske rabe kmetijskih in gozdnih zemljišč (MKGP, 2023) je uporaben za opredelitev neobdelovalnih kmetijskih zemljišč, za katere Zakon o kmetijskih zemljiščih predvideva javno dostopnost. Uporabni podatki za opredelitev privlačnosti območij, delno tudi za opredelitev nekaterih ZP so lahko tudi podatki o varovanju kulturne dediščine - varstveni režim kulturne dediščine (Ministrstvo za kulturo, 2021) in o naravovarstvenih režimih Natura 2000 (ARSO, 2018), register naravnih vrednot (ARSO, 2015) in zavarovana območja (ARSO, 2010). Za opredelitev uporabe vodnih in priobalnih površin za TD so ustrezni podatki iz vodnega katastra (Direkcija RS za vode, 2020), npr. podatek o območjih površinskih voda, ki površinske vodotoke razvršča v več tipov. Podatek o kopalnih vodah in vplivnih območjih kopalnih voda je zaradi neažurnosti manj uporaben.

Za opredelitev lokacije uporabnikov ZP za PZTD so pomembni tudi demografski podatki. Podatki o prebivalstvu (Statistični urad RS, 2022) vključujejo informacije o številu prebivalcev po starostnih skupinah, številu gospodinjstev in osebah v njih, s prostorsko ločljivostjo 100 m. Podatki centralnega registra prebivalstva (Ministrstvo za notranje zadeve, 2024) so vezani na hišno številko, njihova pridobitev pa je zahtevna zaradi varovanja osebnih podatkov. Upoštevati je treba tudi podatke o osebah, ki se čez dan zadržujejo na nekem območju (učenci, študenti, nakupovalci itd.), ki jih je mogoče pridobiti iz več virov, a je njihova dostopnost omejena. Iz pregleda državnih podatkov na javno dostopnih portalih je razvidno, da ne

ustrezajo potrebam naše določitve, zato je treba kombinirati raznovrstne podatke. Pozitivna lastnost državnih podatkov je njihova redna posodobitev, kar omogoča večletno primerjavo.

Pregled podatkov na občinski ravni se je osredotočal na javno objavljene podatke na spletnih pregledovalnikih. Pregledani so bili: iObčina, PISO, Prostor Celje, q3MAP (Koper), Prostor Kranj, UrbInfo (Ljubljana), Prostor Maribor in portali za izposojo koles. Podatki so raznovrstni, od evidenc urbane opreme, otroških in športnih igrišč, točk znamenitosti, javnih ZP, dreves in živih mej do različnih primerov rabe (prekrivajoča se raba, javno dobro itd.). Po tipih podatkov prevladujejo podatki o mobilnosti (19 podatkovnih slojev), sledijo podatki o komunali (11), najmanj pa je podatkov o namembnosti površin (zelene, športne, rekreacijske, turistične) (8). Iz pregleda občinskih podatkov na javno dostopnih portalih ugotavljamo, da so neenotni, pogosto tudi pomanjkljivi za neposredno uporabo in medsebojno neprimerljivi. Vseeno lahko v nekaterih primerih pomenijo dopolnitev drugih slojev za opredelitev ZP za PZTD. Na podlagi pregleda podatkovnih zbirk ugotavljamo, da je pri opredelitvi ZP za PZTD smiselno in za zdaj tudi nujno kombinirati raznovrstne podatkovne vire in sloje.

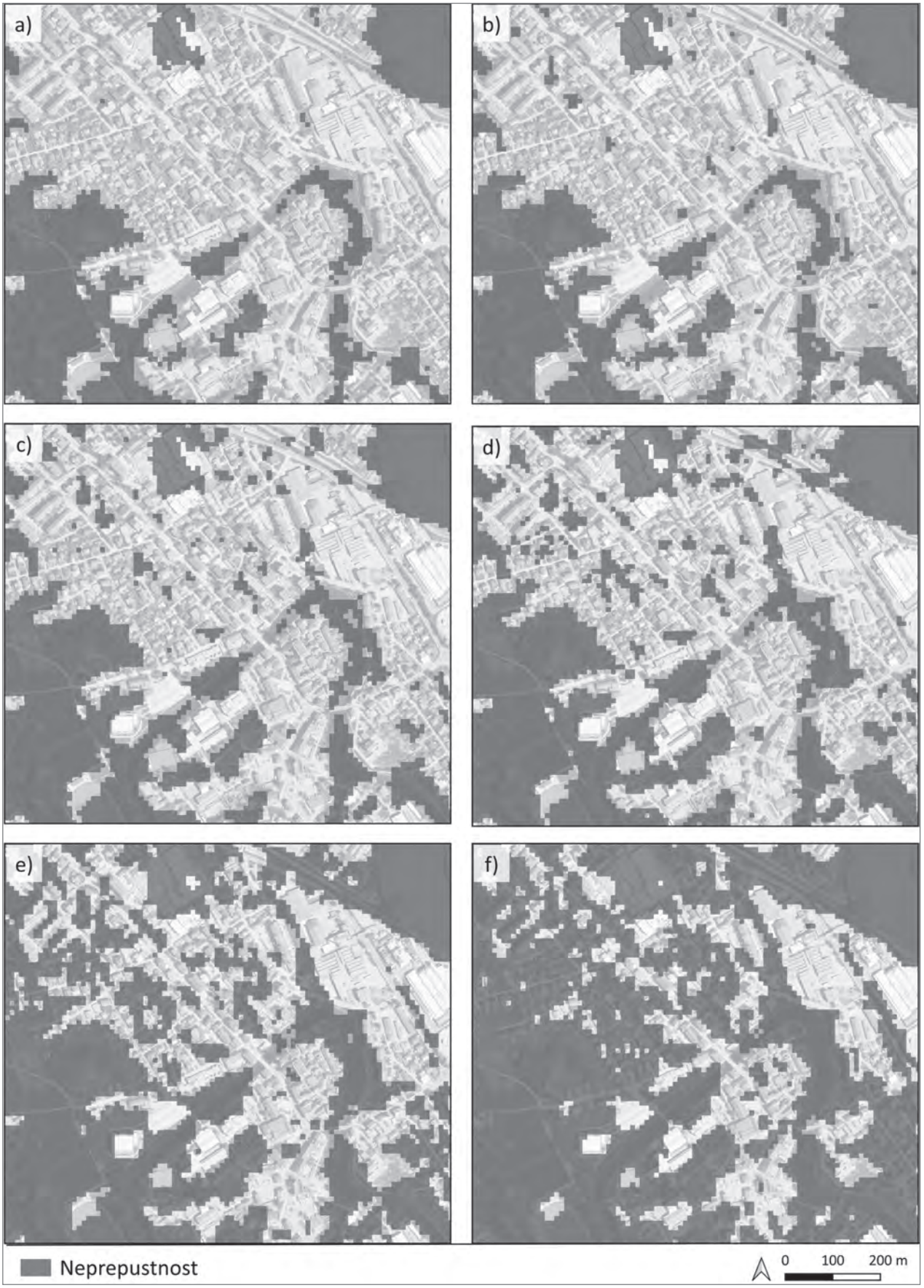
5.2 Preveritev možnosti kombiniranja podatkovnih virov in slojev pri variantnih preveritvah

Kombiniranje več slojev smo preverjali z modeli združevanja podatkov. Pri preveritvah so bili zasnovani modeli: model A temelji na različnih podatkih iz evropske podatkovne zbirke programa Copernicus (EEA, 2018), model B na državnih podatkih, model C pa združuje podatke podatkovne zbirke programa Copernicus in državne podatke:

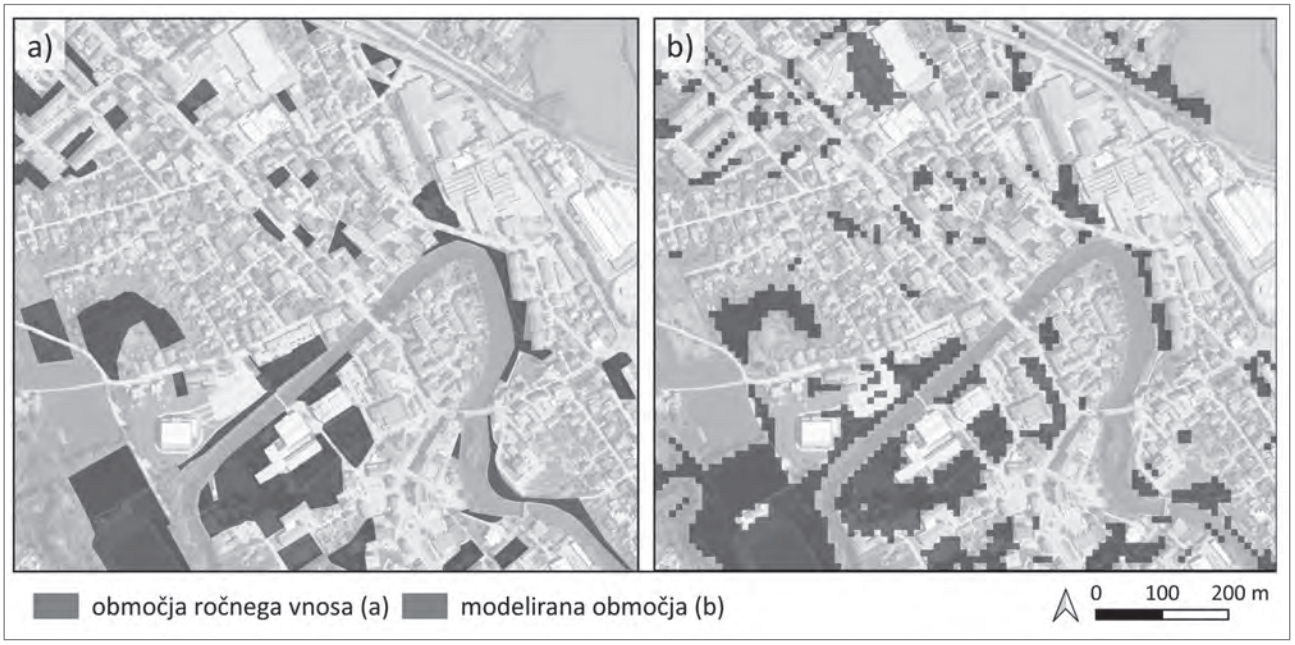
- model A1: uporabljeni so bili trije podatki iz programa Copernicus (EEA, 2018): majhna drevesa in grmičevje, gostota drevesnega pokrova in travinje;
- model A2: uporabljeni so bili štirje podatki iz programa Copernicus (EEA, 2018): majhna drevesa in grmičevje, gostota drevesnega pokrova, travinje in neprepustnost površja;
- model B1: uporabljeni so bili štirje uradni podatki: evidenca dejanske rabe kmetijskih in gozdnih zemljišč (izbrane rabe: kmetijsko zemljišče, poraslo z gozdnim drevjem (šifra 1800), drevesa in grmičevje (šifra 1500)) (MKGP, 2023), dejanska raba iz evidence stavbnih zemljišč (izbrane rabe: območje za šport in rekreacijo (šifra 3171), območje parka (šifra 3181), območje za vrtičkarstvo (šifra 3182), območje komunalne zelenice (šifra 3183), območje ostalih odprtih površin v javni rabi (šifra 3184), (2021), površinska vodna telesa iz vodnega katastra (Direkcija RS za vode, 2020) ter funkcije gozda iz pregledovalnika podatkov o gozdovih (funkciji: rekreacijska in kulturna funkcija gozda) (Zavod za gozdove Slovenije, 2023);
- model B2: površinam modela B1 smo odšteli površine, ki po naši opredelitvi ne spadajo med ZP za PZTD (t. i. odštevki): tloris stanovanjskih stavb iz katastra nepremičnin (GURS, 2023), Evidenca dejanske rabe kmetijskih in gozdnih zemljišč (njive in vrtovi (šifra 1100), hmeljišče (šifra 1160), trajne rastline na njivskih površinah (šifra 1180), trajni travnik (šifra 1300), rastlinjak (šifra 1190), vinograd (šifra 1211), matičnjak (šifra 1212), intenzivni sadovnjak (šifra 1221), ekstenzivni oziroma travniški sadovnjak (šifra 1222), oljčnik (šifra 1230), ostali trajni nasadi (šifra 1240)) (MKGP, 2023) ter prometne površine – cestno in železniško omrežje iz zbirnega katastra gospodarske javne infrastrukture (GURS, 2022): glede na linijski podatek infrastrukture je bila upoštevana 6-metrska oddaljenost od osi železnic in cest prvih petih kategorij (avtocesta, hitra cesta, regionalna cesta I. in II. reda in glavna cesta) ter 2,5-metrska oddaljenost od preostalih cest razen planinskih in kolesarskih poti;
- model C1: združili smo površine, pridobljene iz modelov A2 in B2;
- model C2: združili smo površine, pridobljene iz modelov A2 in B1. Nato smo odstranili površine odštevkov (navedene pri modelu B2).

Pri vsakem modelu smo po združitvi vhodnih slojev z mrežo c celicami velikosti 10 × 10 m uporabili štiri filtre za izračun deleža sloja v posamezni celici, ti so: >= 5 %, >= 1 %, >= 0,5 % in brez filtra. Namen uporabe filtrov je zmanjšanje števila nepravilnosti, ki so nastale pri pretvorbi vhodnih slojev na mrežo. Testirali smo tudi najbolj primeren odstotek prepustnosti tal za potrebe opredelitve ZP (slika 2). Mejne vrednosti neprepustnosti tal smo testirali pri <= 5 %, <= 15 %, <= 25 %, <= 35 %, <= 45 % in <= 75 %. Variante smo preverili, da bi pridobili najboljši možni približek dejanskega stanja.

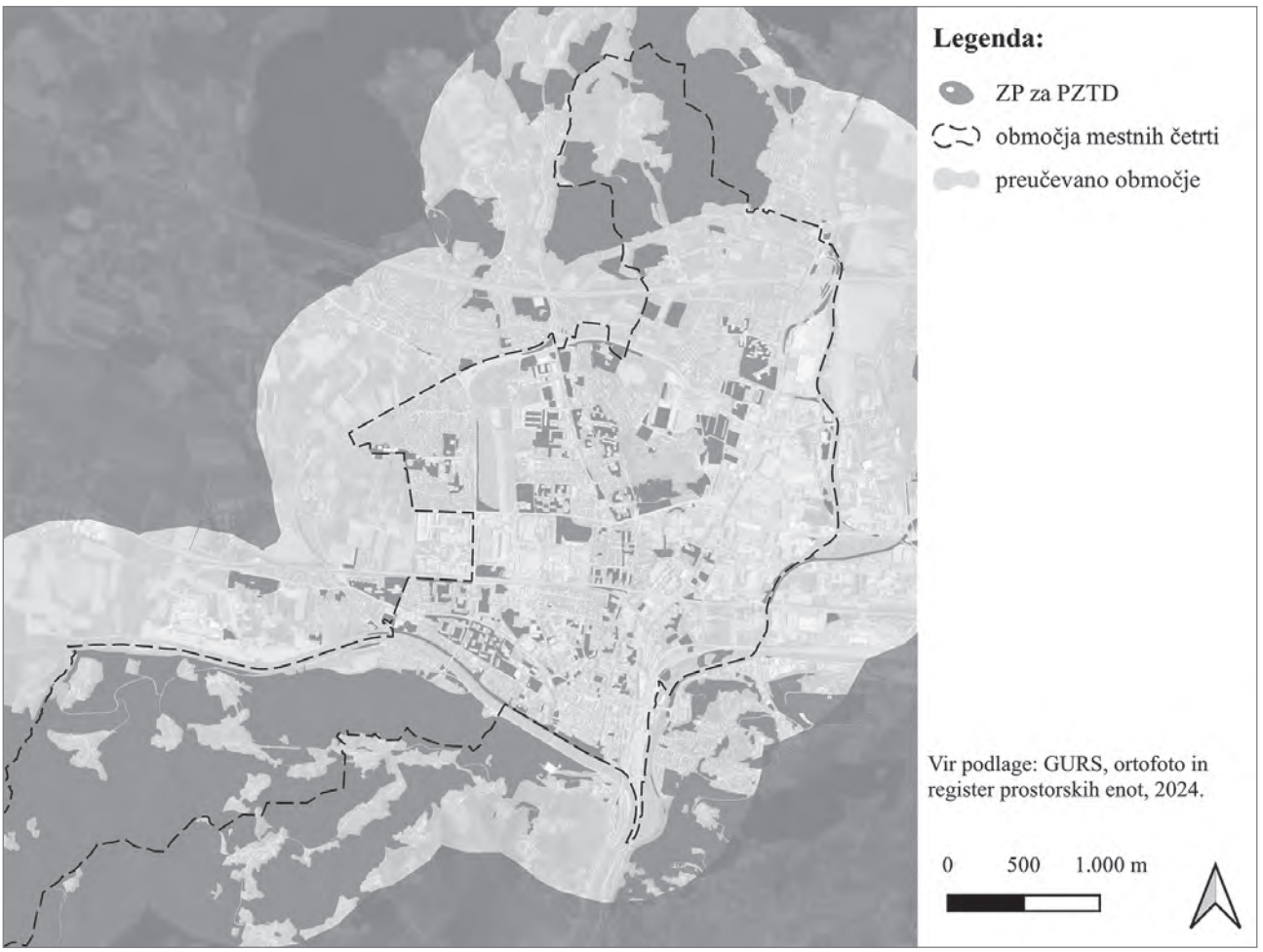
Ustreznost pristopa modeliranja smo preverili z metodo ročne opredelitve ZP na izbranem manjšem območju dela naselja Kočevje. S primerjavo rezultatov obeh metod opredelitve ZP za TD v orodju GIS (slika 4) smo presodili, da se opredelitev površin na podlagi modeliranja precej sklada z ročno označitvijo ZP. Neskladja smo ugotovili na primer pri označitvi vrtičkov in travniških površin v mestu (računalniški model je izločil vse travnike, v ročnem vnosu pa so bili nekateri travniki vrisani). Najboljši približek ročnemu vnosu je bila končna različica, model C2 s 5-% filtrom (na vse podatke) ter neprepustnostjo <= 55 %. Takšno modeliranje se je izkazalo kot učinkovito, saj smo odstranili velik del površin, ki jih ne uvrščamo med ZP za PZTD.



Slika 2: Poskusi opredelitve neprepustnosti na testnem primeru za neprepustnost iz podatkovne zbirke programa Copernicus (100 % pomeni v celoti neprepustna tla, 0 °% pa v celoti prepustna tla): a) neprepustnost <= 5 %; b) neprepustnost <= 15 %; c) neprepustnost <= 25 %; d) neprepustnost <= 35 %, e) neprepustnost <= 55 %; f) neprepustnost <= 75 % (ilustracija: Rok Brišnik)



Slika 3: Primerjava a) območij, opredeljenih na podlagi ročnega vnosa, in b) območij, opredeljenih na podlagi modeliranja (ilustracija: Rok Brišnik)



Slika 4: Opredeljene ZP za PZTD v mestnih četrtih v Celju (ilustracija: Simon Koblar)

Na podlagi rezultatov sklepamo, da se je model izkazal za dovolj dobro izhodišče k obravnavi podatkov na pilotnih primerih, da se model lahko izpopolni. Za izpopolnitev modela je smiselno, da se ob uporabi modela na pilotnih območjih izvede sočasno tudi ročna preveritev na manjšem območju. Pri preveritvi se lahko kombinirajo raznovrstni podatki, npr. digitalni ortofoto posnetek, za končno opredelitev pa podatke preveri še strokovna oseba iz občine. Ne glede na ustreznost rezultata se je metoda izkazala za prezahtevno za izračune za celotna naselja in občine (prevelika kompleksnost glede na zmogljivost računalniške opreme).

5.3 Končni združeni sloj zelenih površin za prostorsko zgoščene oblike telesne dejavnosti

Za obdelavo podatkov za večja območja (naselja, občine) se je izkazala za bolj smiselno metoda, ki združuje le vektorske podatke, podatki daljinskega zaznavanja pa se uporabijo za preverjanje. Na podlagi pregleda podatkov in testiranja združevanja lahko izdelamo sloj ZP za PZTD. Postopek je večinoma avtomatiziran s skripti v SQL, kar omogoča ponovljivost, vendar avtomatizacija ne zagotavlja dovolj zanesljivih rezultatov, zato je treba podatke na koncu pregledati in po potrebi ročno dopolniti.

Združeni sloj ZP za PZTD smo pripravili za mestne četrti v Celju, pri čemer smo vključili vse ZP v razdalji do 900 m od hišnih naslovov. Z metodo se opredelijo območja ZP v celoti, zato je treba rezultate ustrezno interpretirati. Tak primer je opredelitev ZP tipa *neformalno območje za TD v gozdu*, ki zajema velike sklenjene površine, kar je treba z dopolnitvami glede možnosti izvajanja tipov telesne dejavnosti dodatno razdelati.

6 Razprava

6.1 Ocena pregleda podatkovnih zbirk na različnih ravneh

Iz pregleda podatkovnih zbirk je razvidno, da v Sloveniji trenutno ni podatkovnega sloja, ki bi se neposredno uporabljal za opredelitev ZP za PZTD. Pomembni vidiki so vključeni v različne podatkovne zbire ali sploh niso opredeljeni. Tako smo delno potrdili hipotezo, razloge pa podrobno obravnavamo v nadaljevanju.

Iz pregleda podatkovnih zbirk na mednarodni ravni je razvidno, da so podatki programa Copernicus (EEA, 2018) razmeroma nenatančni in premalo pogosto posodobljeni. Uporabni so zato, ker zajamejo tako urbana kot neurbana območja in ZP opredeljujejo v najširšem pogledu - glede na njihovo pojavnost, ne glede na funkcije. Podatki uradnih evidenc na državni ravni Slovenije so bolj natančni in zato bolj uporabni za namen študije, vendar ne zajamejo vseh relevantnih ZP ter meril za opredelitev ZP za PZTD. Poseben problem v tem pogledu so ZP v okviru območij večstanovanjske gradnje in v povezavi z javnimi objekti, ki so ključne za presojo preskrbljenosti. Prostorski podatki za presojo preskrbljenosti relevantnih ZP se zbirajo in prikazujejo v evidencah in zbirkah različnih sektorjev, z različnimi nameni in pristopi. Relevantna območja ZP so lahko vključena v evidence drugih sektorjev (npr. del evidenc dejanske rabe, evidence kmetijskih in gozdnih zemljišč, del gozdnogospodarskih načrtov Zavoda za gozdove Slovenije, evidenc Direkcije RS za vode, zavarovanih območij in podobno). V Sloveniji na državni ravni ni celovitega pregleda podatkov za opredelitev ZP za PZTD. Manjka strokovno utemeljen in poenoten pristop zbiranja podatkov, kar izhaja iz različnega in pogosto pomanjkljivega razumevanja javnih ZP, poleg tega ni usklajene metode za pripravo podatkovnih zbirk na lokalni ravni. Enako je mogoče razpršenost podatkov zaznati tudi na občinski ravni, kjer se nekatere površine javnih ZP vključujejo v različne evidence (komunalnih služb, športne infrastrukture, otroških igrišč, opremljenosti javnih površin ipd.). Poudariti je treba, da mnogi od teh podatkov niso prostorizirani in jih ni mogoče neposredno uporabiti za pripravo kart preskrbljenosti.

Ugotovitev, da so evidence in zbirke podatkov oblikovane za druge namene, vendar ob ustrezni obdelavi vseeno uporabne, delno potrjuje našo hipotezo. Vendar smo z raziskavo ugotovili tudi, da uporabnost podatkov otežujeta sektorska nepovezanost in neusklajenost, pogosto celo navzkrižje interesov glede določanja možne uporabe in vloge območij z značilnostmi javnih ZP. Posledično podatki tudi prostorsko medsebojno niso usklajeni.(na primer evidenca dejanske rabe kmetijskih in gozdnih zemljišč ter evidenca stavbnih zemljišč). V raziskavi so bili obravnavani le prostorizirani prostorski podatki. Nekateri drugi podatki, npr. evidence športnih objektov, zato niso bili uporabni.

Na podlagi tega naša hipoteza ne more biti v celoti potrjena. Evidence in zbirke podatkov so bile uporabne za razvoj metode, a niso neposredno primerne za opredelitev ZP za TD na lokalni ravni, zato so potrebni dodatni ročni popravki.

6.2 Presoja pristopa in možnosti za nadaljnje raziskovanje

Iz pregleda domačih in tujih dokumentov je razvidno, da pojem preskrbljenost naselij z ZP izhaja iz izhodišč različnih sektorjev in prostorske zakonodaje ter se lahko uporablja kot izhodišče za razvoj kazalnika preskrbljenosti na lokalni ravni

v Sloveniji. Predlagani pristop opredelitve ZP za PZTD za potrebe kazalnika preskrbljenosti je zasnovan z vidika opredelitve javno dostopnih ZP, za katere se ob izračunu na podlagi podatkov določi njihov okvir (velikost, lokacija). Zaradi pomanjkljivih podatkov o javni dostopnosti je treba informacije o tej dostopnosti pridobiti, možna pa je tudi uporaba drugih metod, na primer po formuli indeksa hodljivosti ob njegovi prilagoditvi in v odvisnosti od dostopnosti podatkov (Frank idr., 2010; Leslie idr., 2007; Lestan, 2017). Javna dostopnost ZP za TD je vezni člen med vidiki na I. (opredelitev ZP) in II. ravni (vrednotenje ZP), saj sta ključna tako opredelitev javno dostopnih ZP kot preverjanje razmerij njihove dostopnosti na različnih ravneh in glede na različne vidike. Dejansko je težko ločiti dostopnost ZP od povezanosti ZP in stanovanjskih območij ter povezanosti ZP med seboj.

Prednost predstavljenega pristopa je, da jasno določa območje za izračun preskrbljenosti z javnimi ZP, saj lahko odločitev o meji obravnavanega območja močno vpliva na rezultate izračunov ZP na prebivalca. Glede uporabe kazalnika količine ZP na prebivalca so že v raziskavi leta 2012 podvomili o ustreznosti te informacije (Gupta idr., 2012). Poleg tega so z izbrano velikostjo vsaj 200 m^2 zajete ZP, za katere menimo, da so relevantne za telesno dejavnost prebivalstva, torej tudi tiste manjše, kot so npr. majhni parki. To je relevantno zaradi majhnosti slovenskih naselij in hkrati pomembnosti tovrstnih površin za PZTD. Omejitev pristopa na lokalni ravni zato izhaja iz uporabe minimalne velikosti ZP 200 m^2, ki je manjša od zahtev iz ReSPR50. Zaradi tega rezultati niso neposredno uporabni za preverjanje nacionalnih strateških ciljev, smiselna pa bi bila primerjava na regionalni ravni (npr. med enako velikimi naselji).

Satelitski podatki so se načelno izkazali za zelo uporabne za izločanje območij, ki nimajo značilnosti ZP, vendar so problem lahko napake, ki so posledica združevanja rastrskih podatkov (celice velikosti 10 × 10 m) in vektorskih podatkov. Zato lahko v delu, ki se nanaša na variantne preveritve, govorimo le o okvirni natančnosti rezultatov raziskave, smiselno bi bilo preveriti še drugačne možnosti združevanja podatkov. Pri izdelavi končnega sloja ZP je bila večja napaka (ne)zanesljivost podatkov OSM o parkiriščih, saj je sloj zelo pomanjkljiv. Napake bi bile manjše z dostopno uradno evidenco o parkiriščih ali z vrisanimi parkirišči v OSM. Te pomanjkljivosti so bile delno odpravljene z ročnim popisom.

Uporabljeni pristop glede opredelitve ZP za PZTD je prva stopnja ali opredelitev teh površin, ki je izhodišče za nadaljnje vrednotenje teh prostorov na podlagi vidikov kakovosti in primernosti za PZTD. Zavedamo se, da bi bilo treba testiranje za izboljšanje pristopa izvesti na večjem in bolj raznovrstnem vzorcu naselij (npr. tudi na razpršenih naseljih ali celotnih mestnih območjih) in testirati tudi povečanje razdalje dostopnosti ZP predvsem zaradi različne telesne pripravljenosti uporabnikov. Dostopnosti z raznovrstnimi, predvsem električnimi prevoznimi sredstvi (e-kolo, e-skiro) pri tem ne obravnavamo kot pomembno merilo dostopa, saj je izhodišče, da so ZP dostopne vsem pod enakimi pogoji.

V nadaljevanju podajamo nekaj priporočil za izboljšave evidentiranja ZP kot izhodišče za vzpostavitev kazalnika preskrbljenosti naselij z ZP za TD. Možnosti za izboljšave se kažejo v dveh smereh. Prva je izpopolnitev prostorskih zbirk podatkov o ZP, kar vključuje zagotavljanje kakovostnih in uporabnih podatkov o stanju ZP. To je ključno za realno presojo preskrbljenosti območja z javno dostopnimi ZP v Sloveniji, kot določajo zakonodajna izhodišča. Nujno je strokovno preveriti in uskladiti kategorizacijo ZP ter uskladiti zajem prostorskih podatkov z evidencami drugih sektorjev (npr. kmetijstva, gozdarstva, šport). Smiselna bi bila vzpostavitev enotnega portala za zbiranje in pregled podatkov, saj je trenutno stanje pri zajemu prostorskih podatkov ZP še nedorečeno in pomanjkljivo. Druga je vzpostavitev dolgoročnega medsektorskega sodelovanja in povezovanja ukrepov na področju zbiranja in uporabe podatkov na državni ravni ter s tem doseganja sinergij pri izvajanju zastavljenih ciljev načrtovanja, odločanja in urejanja prostora v javnem interesu. K izboljšanju stanja lahko pomembno pripomore tudi priprava vsebinsko ustreznih in kakovostnih občinskih evidenc javno dostopnih ZP in drugih odprtih prostorov ter dreves, s katerimi bi se ustrezno podprli tako celovito načrtovanje zelenih površin mest in naselij (zelenega sistema) kot njihovo sistemsko upravljanje in vzdrževanje. Vzpostavitev evidence ZP je ključna za načrtno spremljanje stanja in vzdrževanja ZP (Šuklje Erjavec idr., 2020). To z obveznostjo občinskih gospodarskih javnih služb varstva okolja za urejanje in čiščenje javnih površin podpira tudi ZVO-2 (Uradni list RS, št. 44/22, 18/23 – ZDU-1O in 78/23 – ZUNPEOVE). Tovrstne občinske evidence bi lahko bile osnovni podatkovni vir za uporabo kazalnika preskrbljenosti mest in naselij z ZP za TD na občinski ravni.

Z nadaljnjim razvojem pristopa je možno izboljšati rezultate opredelitve ZP za TD (pogojeno npr. s tehnično zmogljivejšo programsko opremo in kakovostnejšimi podatki) ter izvesti vsebinsko nadgradnjo za osnovanje kazalnika preskrbljenosti naselij. Smiselno je, da na podlagi analize oddaljenosti poselitvenih območij od ZP lahko opredelimo dele poselitve, ki so ustrezno preskrbljeni z ZP, in tiste, ki niso ali kjer imajo prebivalci slabše možnosti za vsakodnevno rekreacijo. Za analizo je ključno, da so vključeni aktualni podatki in so opredeljene načrtovane ureditve, ki imajo lahko vpliv na izračun oddaljenosti (ovire v prostoru), ter da so analizirani tudi prostorski problemi in potenciali. Tovrstna analiza, ki pokaže primanjkljaje,

je ena od ključnih podlag za usmeritve v občinskih prostorskih planih ter določb v občinskih prostorskih načrtih.

7 Sklep

Slovenija v svojih politikah in dokumentih v zvezi z zagotavljanjem javnega zdravja sledi SZO, ki je leta 2020 izdala nova priporočila za telesno dejavnost in sedeči življenjski slog (Svetovna zdravstvena organizacija, 2020). V smernicah za doseganje priporočenih ravni TD za ohranjanje in krepitev zdravja za različne skupine prebivalcev SZO poudarja, da se TD lahko odvija na različne načine, glede na različne priložnosti za gibanje in različna okolja. Potrebe ljudi v Sloveniji se glede TD ne razlikujejo od ljudi v drugih državah, ZP so tudi v Sloveniji prepoznane kot pomembna okolja za gibanje (Žlender in Gemin, 2023). Njihova ustrezna opredelitev je ključna za načrtovanje kakovostnih in spodbudnih urbanih okolij. V tej raziskavi smo na podlagi pregleda literature, zakonodaje in podatkovnih zbirk opredelili koncept preskrbljenosti naselij z ZP za TD ter razvili metodo za opredelitev ZP za PZTD.

Preskrbljenost z ZP za TD je kompleksen koncept in zahteva celosten pristop na strateški, izvedbeni in upravljavski ravni. Pomembno je razumeti, da se pojem preskrbljenosti neposredno navezuje na kontekst uporabe, ki vključuje številne vidike, kot so ekološka vrednost zelenih površin, javna dostopnost, socialne koristi ter promocija TD in aktivnega življenjskega sloga. Za zagotavljanje ustrezne preskrbljenosti naselij z ZP za TD sta ključna sodelovanje in povezovanje med sektorji, na primer za prostorsko načrtovanje, javno zdravje in šport. Pomembno je tudi nadaljevati raziskave na tem področju in razvijati pristope, ki bodo ustrezno upoštevali lokalne posebnosti in potrebe prebivalcev. To bo omogočilo boljše načrtovanje in upravljanje ZP v Sloveniji ter prispevalo k izboljšanju kakovosti življenja in spodbujanju zdravega načina življenja prebivalcev.

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Učenje iz preteklosti: proučitev modernistične kolektivne stanovanjske gradnje iz obdobja socializma za namene trajnostne mestne prenove v Sarajevu

V članku je obravnavan trajnostni pristop k mestni prenovi postsocialističnih stanovanjskih sosesk v Sarajevu. Avtorji so proučili območje s stanovanjskimi bloki, zgrajenimi med letoma 1959 in 1976 v občini Novo Sarajevo. V tem obdobju je to območje, na katerem se je mesto širilo od vzhoda proti zahodu, simboliziralo družbeni in gospodarski razvoj ter ponazarjalo ideal socialističnomodernističnega urbanizma in arhitekture. Po družbenem, gospodarskem in kulturnem prehodu, ki je v novem tisočletju sledil vojni v devetdesetih letih 20. stoletja, in novogradnjah se več kot sedemdeset let pozneje proučevano območje in mesto spopadata z več izzivi, od propadanja stavbnega fonda do družbenih predsodkov. Eden ključnih izzivov je prilagajanje socialističnomodernistične stanovanjske arhitekture sodobnim zahtevam, povezanim s funkcionalnostjo in trajnostjo stavb. Avtorji v članku predlagajo uvedbo novega urbanega protokola kot sodelovalnega modela, ki združuje orodja in postopke trajnostne mestne prenove ter se hkrati osredotoča na ponovno ovrednotenje, energetsko prenovo in reprogramiranje arhitekturne zapuščine socialističnega modernizma.

Ključne besede: novi urbani protokol, socialistični modernizem, kolektivna stanovanjska gradnja, trajnostnost, Sarajevo

1 Uvod

Urbanistični razvoj Sarajeva je razviden iz njegove linearne oblike, ki hkrati deluje kot jasna časovna premica, kar je verjetno edinstveno na svetu. Največje urbano naselje v dolini reke Miljacke se v širini 9,5 km razprostira od vzhoda proti zahodu, pri čemer si posamezni deli sledijo v kronološkem zaporedju. Najstarejši predel iz turškega obdobja je na vzhodu. Sledi mu predel, ki je bil pozidan v času Avstro-Ogrske in se delno prekriva z območji, pozidanimi med obema vojnama, v obdobju Kraljevine Jugoslavije. Ta se nadaljujejo s soseskami, zgrajenimi v obdobju socialistične Jugoslavije, in se mešajo s sodobno gradnjo na zahodu (Aganović, 2009). Ikonična panorama starega mestnega jedra odraža pestro zgodovino mesta in njegovo edinstveno, heterogeno kulturno identiteto. Po drugi strani se najnovejše soseske, ki so bile zgrajene po rekonstrukciji po vojni v devetdesetih letih 20. stoletja ter so značilne zlasti za zahodni del mesta in njegove hribovite predele, ne skladajo z urbanistično zasnovo sosesk iz prejšnjih obdobij, kar povzroča vrzeli v mestnem tkivu. Zaradi prehoda države iz socializma v kapitalizem, ki sta ga po vojni v devetdesetih letih prejšnjega stoletja spremljala nenadna globalizacija in nekritično sprejetje liberalnega tržnega gospodarstva, je vidik koristi za javnost izgubil svojo vlogo v primerjavi z močjo zasebnih vlagateljev. Posledično najnovejša velika blokovska naselja, ki zgolj sledijo globalnim smernicam, pogosto nimajo nikakršne povezave z lokalnim okoljem ali potrebami prebivalcev, zato jim lahko rečemo tudi brezimna naselja (Čakarić in Idrizbegović Zgonić, 2020). Hkrati se je začela kot spontan odziv na družbenogospodarske potrebe, ki so posledica rasti prebivalstva, na pobočjih okoliških hribov čedalje bolj širiti črna stanovanjska gradnja (Islambegović, 2020).

Ob neskladjih v sodobni stanovanjski gradnji so v Sarajevu tudi modernistična blokovska naselja iz socialističnega obdobja ostala v nejasnem prehodnem stanju. Danes se ta naselja spopadajo s funkcionalnimi in trajnostnimi izzivi ter zaradi zanemarjanja, improviziranih predelav in predsodkov, povezanih s komunistično in socialistično ideologijo, propadajo. Avtorji se v članku tako osredotočajo na modernistično stanovanjsko arhitekturo v Sarajevu iz obdobja socializma in proučujejo tri glavne teme: njeno zapuščino, energijsko učinkovitost in prilagodljivost. Skoraj tri desetletja po vojni je primeren čas za nov pogled na trenutno stanje in razmislek o trajnostnih strategijah mestne prenove. Navedeno je pomembno zlasti, ker socialističnomodernistične stanovanjske soseske v Sarajevu do zdaj še niso bile temeljito ali sistematično prenovljene. Posledica so neusklajeni, improvizirani in amaterski gradbeni posegi ter zasebno prilaščanje in drobljenje skupnih prostorov (Samic in Zagora, 2021).

Učenje v naslovu članka se nanaša na raziskovalni pristop, ki poudarja nujnost temeljite kritične analize ohranjene stanovanjske arhitekture iz obdobja socializma kot temeljnega pogoja za trajnostno mestno prenovo. Konkretno se učenje nanaša na priznavanje podedovanih urbanističnih in arhitekturnih vrednot, kritično analizo zastarelih doktrin in sprejemanje novih pogledov ter sodobno reinterpretacijo univerzalnih modernističnih vrednot. V okviru tega pristopa avtorji obravnavajo vprašanja, kot so vrzeli in anomalije v mestnem okolju ter prevlada zasebnega nad javnim, ki je vplivala na pravice in obveznosti, povezane s skupnim dobrim in zlasti javnimi prostori v postsocialistični družbi.

Avtorji so oblikovali naslednjo hipotezo: trajnostno prenovo sarajevskih stanovanjskih sosesk iz obdobja socializma je mogoče izvesti tako, da se najprej opredelijo ključni deležniki in njihove vloge, nato se prepoznajo vrednote arhitekturne zapuščine in se kritično prouči njihovo trenutno stanje s fizičnega, okoljskega in družbeno-kulturnega vidika, na podlagi česar se odkrijejo slabosti in opredelijo konkretne priložnosti za izboljšave. Avtorji so poleg tega predlagali strateški načrt dela, ki vključuje kritično presojo, reprogramiranje in prenovo socialističnomodernistične arhitekturne zapuščine ter sodelovanje deležnikov, od prebivalcev do oblasti, na podlagi česar se lahko premostijo vrzeli med javnim in zasebnim.

Članek temelji na multidisciplinarnem raziskovalnem projektu, ki se je osredotočal na urbanistično in arhitekturno prenovo občine Novo Sarajevo. V nadaljevanju so najprej opredeljeni ključni teoretični pojmi in predstavljene že opravljene raziskave s področja prenove modernistične stanovanjske gradnje. V tretjem poglavju je opisana metodologija, ki so jo avtorji razvili za proučevanje reprezentativnega primera modernistične soseske iz obdobja socializma ter je vključevala kartiranje, oblikovanje podatkovne zbirke GIS in evidentiranje tipologije stavb. V četrtem poglavju se prepletata dva vidika: analiza modernistične arhitekture iz obdobja socializma in pregled trenutnega stanja s poudarkom na energijski učinkovitosti. V petem poglavju je predlagano in opisano sodelovalno strateško orodje, imenovano novi urbani protokol, članek pa se konča s sklepnimi ugotovitvami, ki so hkrati uporabne smernice za reševanje podobnih vprašanj in so usklajene s širšimi cilji trajnostnega razvoja.

2 Teoretično ozadje in ključni pojmi

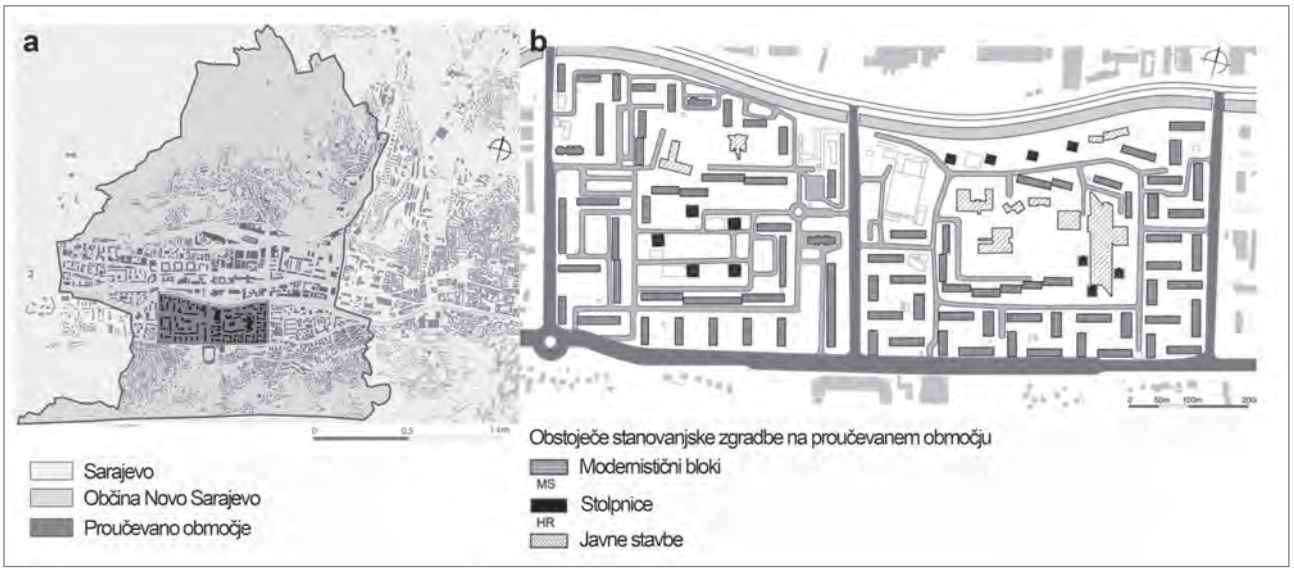
Raziskava, predstavljena v tem članku, se je osredotočala na izzive trajnostne mestne prenove na primeru modernistične arhitekture. Kot obsežna in celostna vizija in ukrep, ki omogočata reševanje težav v mestih in stremita k trajnemu izboljšanju gospodarskih, fizičnih, socialnih in okoljskih razmer na

območju, ki je doživelo spremembe (Roberts in Sykes, 2000), je mestna prenova tesno povezana z Agendo ZN za trajnostni razvoj do leta 2030 (Združeni narodi, 2015) in načeli pobude Novi evropski Bauhaus (Evropska komisija, 2021). Konkretno so prakse mestne prenove povezane z 11. ciljem trajnostnega razvoja: trajnostna mesta in naselja. Avtorji so v okviru raziskave pregledali več študij primera, zlasti tiste, ki so se nanašale na prenovo modernističnih socialnih stanovanj v Franciji in Litvi ter na Danskem. Eden izmed največjih projektov preobrazbe socialnih stanovanj po svetu je bila prenova stanovanjske soseske Grand Parc v Bordeauxu, izvedena po načrtih arhitekturnega biroja Lacaton & Vassal, v kateri je bilo obnovljenih 530 stanovanj, zgrajenih v šestdesetih letih 20. stoletja. Čeprav so bile družbeno-kulturne okoliščine tega projekta drugačne od teh, obravnavanih v tem članku, so to dragocene izkušnje, vključno s pristopom k prenovi, ki temelji na standardih energijske učinkovitosti, ter prizidki in razširitvami, ki so izboljšali bivalne razmere in dostopnost za prebivalce (BAUA idr., 2022). Na Danskem je prenova modernističnih socialnih stanovanj, zgrajenih v sedemdesetih letih 20. stoletja, potekala v več valovih. Prva večja prenova je potekala v devetdesetih letih prejšnjega stoletja, zadnji in najbolj obsežen val prenove pa je potekal med letoma 2008 in 2013, s poudarkom na izboljšanju energijske učinkovitosti, trajnostnosti in socialne kohezije. Zadnji val prenove je bil izveden v okviru programa nacionalnega gradbenega sklada, ki upravlja skupni kapital in državne subvencije za območja neprofitnih socialnih stanovanj ter uporablja raznovrstne strategije, kot so recikliranje stavb, sanacija ter energetska in socialna prenova (Peters, 2016). Primer dobre prakse na področju celostne mestne prenove v Litvi je preobrazba mestnih četrti Rumpiške in Kaunas v Klajpedi, ki sta se spopadali s težavami, kot so slab sloves modernističnih stanovanjskih blokov, neskladnost stavb s standardi energijske učinkovitosti in dostopnosti, nerabljeni javni prostori in odprte površine, močno obremenjene s prometom (Leitanaite, 2022). Projekt, financiran s sredstvi EU, je vključeval preobrazbo javnih prostorov ter obnovo in razširitev stavb na podlagi sodelovalnega procesa.

Raziskava, predstavljena v tem članku, se osredotoča na arhitekturne in družbeno-kulturne vidike zapuščine socialističnega modernizma. Razstava o arhitekturi v Jugoslaviji med letoma 1948 in 1980, ki jo je leta 2018 priredil Muzej moderne umetnosti v New Yorku (MoMA), in spremljajoča publikacija sta znova vzbudili zanimanje za edinstveno zapuščino modernizma v nekdanji Jugoslaviji, ki je v literaturi pogosto označen kot tretja pot. Jugoslavija je bila v arhitekturnem in ideološkem pogledu nekje vmes med vzhodnim socialističnim in zahodnim kapitalističnim modelom, kar se danes še vedno močno pozna v urbani podobi Sarajeva (Stierli, 2018). Poseben urbani razvoj Sarajeva je povezan tudi s posledicami vojne v devetdesetih letih 20. stoletja in načrtnim uničevanjem mesta. S tega vidika se Sarajevo razlikuje od drugih mest v regiji in drugod po Evropi, zato je pri njegovi trajnostni prenovi potreben drugačen pristop. Za stanovanjske soseske po Evropi so značilni ponavljajoči se urbanistični in arhitekturni vzorci, kljub temu so med njimi subtilne razlike, ki pojasnjujejo, zakaj nekatere soseske propadajo, druge pa še naprej ostajajo privlačne in prijetne za bivanje (Monclus, 2018). Pri gradnji teh sosesk je imela pomembno vlogo standardizacija stanovanjskih enot, katere namen je bil povečati funkcionalni prostor in v okviru katere so se sistematično uporabljale in poveličevale nekatere tipologije stavb (Kolešnik, 2012). V Sarajevu je vse navedeno močno vplivalo na obliko modernističnih stanovanjskih sosesk, ki pa so zdaj na kritični točki ter je zanje nujen celovit in sistematični model prenove. Ta mora temeljiti na arhitekturnih in družbenogospodarskih raziskavah ter upoštevati prihodnje potrebe po posodobitvah in trajnostni prenovi. Tovrstni posegi morajo vključevati več kot samo estetske izboljšave, temeljiti morajo na celostnem pristopu k nadgradnji stavb in hkrati upoštevati načela okoljske trajnosti (Peters, 2016). Kot navajajo Caramellino idr. (2023), se po vsej Evropi v podobnih stanovanjskih soseskah močno spreminjajo vzorci lastništva, načini bivanja in strategije urbane prenove. Ključni teoretični pristop je predstavil Moudon (1997) v interdisciplinarnem okviru urbane morfologije, pri čemer je poudaril, da je treba pri razumevanju stanovanjskih sosesk upoštevati tri osnovne sestavine: obliko, merilo in čas.

3 Gradivo in metode

Raziskava je bila del projekta z naslovom NOVO! Novo Sarajevo, ki se je med letoma 2022 in 2024 izvajal na Fakulteti za arhitekturo Univerze v Sarajevu in v katerem je bil poudarek na kritičnem proučevanju trajnostnih vprašanj ter socialnih in kulturnih izzivov v socialističnih mestnih soseskah (Zagora idr., 2024). V naslovu projekta je posredno nakazana potreba po preobrazbi stanovanjskih sosesk v občini Novo Sarajevo, znanih po socialističnomodernistični urbanistični zasnovi in arhitekturi (slika 1a). V občini s površino 9,19 km² živi 64.814 ljudi (statistika.ba, 2024). Po podatkih zadnjega popisa prebivalstva iz leta 2013 je Novo Sarajevo najgosteje poseljena sarajevska občina, s 7.524,5 prebivalca na kvadratni kilometer. Območje, izbrano za raziskavo (slika 1b), je veliko 44 ha in je del 127,16 ha velikega območja, ki je bilo vključeno v omenjeni interdisciplinarni raziskovalni projekt. Na njem prevladujejo stanovanjske soseske, manjši del pa obsega mešano in javno prostorsko rabo. Območje se je intenzivno urbaniziralo v šestdesetih in sedemdesetih letih 20. stoletja (Društvo arhitekata Sarajeva, 1965). Sestavljata ga dva mestna kareja, ki ju na severu zamejuje reka Miljacka, na jugu pa ulica, ki poteka od zahoda proti vzhodu. Kareja sta med seboj ločena z manjšo ulico, ki poteka od severa proti jugu (slika 1b).



Slika 1: a) občina Novo Sarajevo; b) proučevano območje z označeno tipologijo stanovanjskih stavb: modernističnih blokov in stolpnic (ilustracija: avtorji)

V prvem mestnem kareju, ki je del soseske Grbavica, so stanovanjske zgradbe razporejene po celotnem območju, med njimi so zelene površine, parkirišča pa so urejena na ulici. Stavbe so med seboj povezane z notranjim cestnim obročem, ki obkroža trgovine, osnovno šolo in kulturni dom na sredini. Glavna značilnost sosednjega kareja na zahodu, ki je del soseske Hrasno (slika 1b), je trg na sredini, obdan s petnadstropnimi (modernističnimi) stanovanjskimi bloki in štirimi dvajsetnadstropnimi stanovanjskimi stolpnicami. V nasprotju s stavbami v soseski Grbavica so pritličja stanovanjskih zgradb v Hrasnem namenjena javni rabi (Aganović, 1977).

Avtorji so v raziskavi uporabili metodologijo, ki so jo v okviru projekta NOVO! Novo Sarajevo poimenovali novi urbani protokol. Vključevala je nabor orodij za urbano preobrazbo, temeljila pa je na štirih ključnih korakih: kartiranju in izdelavi podatkovne zbirke GIS, sooblikovanju kot inovativnem sodelovalnem pristopu, ki je v procesu ustvarjanja prostora (ang. *placemaking*) povezal vse glavne deležnike, digitalizaciji analitičnih podatkov in uporabi inovativnih vizualizacijskih orodij pri preizkušanju sodelovalnihscenarijev urbane preobrazbe. Podatkovna zbirka GIS je bila v okviru omenjenega projekta izdelana za večje območje, ki je pokrivalo 127 ha. Avtorji so v raziskavi proučili okoljske podatke, objekte in vedenje uporabnikov. Po urbanistični analizi in izvedbi delavnic s prebivalci so se osredotočili na stanovanjsko zapuščino socialističnega modernizma kot dragoceno, a podcenjeno urbanistično vrednoto. Nato so proučili značilne stanovanjske zgradbe na proučevanem območju. Na podlagi zbranih podatkov (preglednica 1) ter urbanističnih in arhitekturnih meril so jih razdelili na dva tipa in evidentirali posege na fasadah (večino katerih so improvizirano izvedli sami lastniki). Pridobljene podatke o značilnih stavbah so analizirali z vidika varstva arhitekturne zapuščine in trajnostnosti (energijske učinkovitosti). Hkrati so opravili intervjuje in ankete s stanovalci, podjetji, ki vzdržujejo stavbe na proučevanem območju, in strokovnjaki, na podlagi česar so oblikovali predloge za posege, predstavljene v poglavju 5.

4 Analiza tipologije stanovanjskih zgradb socialističnega modernizma

4.1 Analiza zapuščine

Metodologija analize je temeljila na Madridsko-newdelhijskem dokumentu iz leta 2017, ki se je osredotočal na ohranjanje kulturne dediščine 20. stoletja (ICOMOS General Assembly, 2017). Dokument opredeljuje merila za presojo vrednosti arhitekturne dediščine 20. stoletja, ki skupaj zagotavljajo celovit metodološki okvir. Metodologija, uporabljena v člankih v reviji *Docomomo International*, velja za ključni pristop k vrednotenju moderne arhitekture ter zagotavlja jasne definicije in merila za presojo. Članki vključujejo pregled identitete in zgodovine objekta, temu pa sledi opisni del s tipološko klasifikacijo. Vrednotenje temelji na petih ključnih merilih: tehnični, družbeni, kulturni/estetski in zgodovinski vrednosti ter skupni oceni. Članki se končajo z opisom dokumentarne vrednosti objekta (Docomomo International, 2024). Tovrstnih objektov ne smemo obravnavati kot posamezne spomenike, temveč kot dragoceno zapuščino urbanistične in arhitekturne krajine, ki je globoko vpeta v identiteto mesta.

Velike politične in družbenogospodarske spremembe, ki so zaznamovale polpreteklo zgodovino Sarajeva in Bosne in Her-

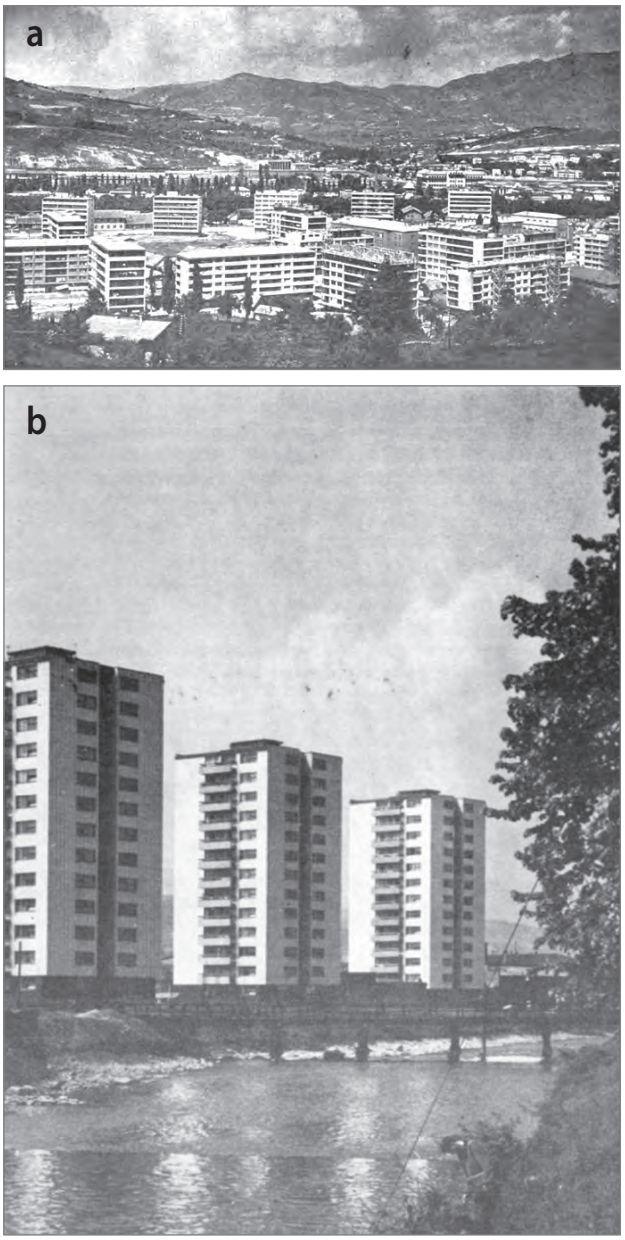
Preglednica 1: Podatki, zbrani za dva tipa stanovanjskih stavb na proučevanem območju: modernistične bloke in stolpnice

	Tip 1	Tip 2
Lokacija	Aleja Lipa, Kemala Kapetanovića	Hasana Brkića, Grbavica
Arhitekt	—	Ivan Štraus
Arhitekturni tip	Modernistični blok	Stolpnica
Urbanistični tip	Podolgovate stavbe v gruči	Stolpnice v gruči
Št. nadstropij	5	21
Zgrajeno	1959–1962	1976
Prenovljeno	Po letu 1998	1999
Pomen	Lokalni pomen, urbanistična zasnova, različni družbeni sloji	Arhitekturna in estetska vrednost, lokalni pomen, izstopajoča navpična prvina v mestni krajini
Oblika	Podolgovate pravokotne stavbe s pritličji, namenjenimi javni rabi. Fasado delijo trakasti nizi oken z vmesnimi balkonskimi odprtinami.	Armiranobetonska skeletna konstrukcija z betonskimi temelji in stenami iz betonskih zidakov. Stavbe imajo ravno, pohodno streho in rumeno fasado.
Avtentičnost in ohranjenost	Stavbe so bile močno poškodovane med vojno v 90. letih 20. stoletja. Obnova je vključevala minimalna in hitra popravila, pri čemer so fasade prebarvali z raznimi barvami.	Prvotni konstrukcijski elementi, kot so temelji, zidovi, strešne konstrukcije in strešna kritina, so delno ohranjeni. Nekateri deli (npr. fasada v pritličju) so bili spremenjeni, zgornja, pretežno stanovanjska nadstropja pa so pretežno ohranila prvotno podobo.
Pozitivni vidiki	Veliko svetlobe in zelenih površin, faktor zazidanosti v skladu z oblikovalskimi standardi	Dobra izoliranost večine stanovanj, dober dostop do infrastrukture, bližina zelenih površin, dostop za invalide, prostorno dvigalo
Negativni vidiki	Pomanjkanje izstopajočih objektov za lažjo orientacijo v prostoru, mešana prometna ureditev blizu šol in vrtcev, slaba dostopnost, ni dvigal, majhni balkoni, pomanjkanje parkirišč	Nefunkcionalna razporeditev hodnikov in dostop do stavb

Vir: avtorji

cegovine na splošno, so povzročile kulturno praznino, ki so ji sledili tranzicija, okrevanje in učenje iz preteklosti. V razpravah o socialističnem modernizmu na področju kolektivne stanovanjske gradnje je opazna dihotomija med svetovnim razvojem modernistične arhitekture in njenim lokalnim razvojem, ki izhaja iz sinteze globalnih socialističnih idealov ter edinstvene tradicije in arhitekturne kontinuitete v regiji. Urbanistični in arhitekturni koncepti v Bosni in Hercegovini so se razvili iz teh mednarodnih in univerzalnih idej socializma in modernizma, ki so hkrati vključevale revolucionarno sodobno paradigmo in lokalni razvoj iz tradicionalnih oblik (Kulić idr., 2012). Navedena smer socialističnega modernizma je imela izrazite lokalne značilnosti, hkrati pa je zajemala načela družbenega napredka in inovativnega razmišljanja. Presegala je strukturno obliko in poudarjala praktično uporabo teoretičnih načel za modernizacijo in narodno obnovo. Čeprav je bil socialistični modernizem omejen s tehničnimi ovirami in človeško naravo, je dajal prednost kakovosti življenja in skupnosti.

Pri vrednotenju urbanističnega in arhitekturnega vidika socialističnomodernistične stanovanjske gradnje v Sarajevu je bolj primerno uporabljati izraz zapuščina kot dediščina. To potrjuje tudi analiza prvin, kot so gradbeni materiali ter funkcionalna vrednost urbanističnih in arhitekturnih zasnov. Pomembni so tudi nesnovni vidiki, kot sta socialna kohezija kot značilna prvina socialistične gradnje in visoka kakovost bivalnih prostorov kljub uporabi za današnje razmere skromnih materialov. Avtorji so stanovanjski soseski na izbranem območju Sarajeva ovrednotili na podlagi več kategorij (preglednica 2), ki vključujejo tako mednarodna kot regionalna merila (Komisija ..., 2024). Kategorija »osnovne značilnosti/tipologija« poudarja pomen prepoznavanja dragocenosti arhitekture 20. stoletja ter vključuje dejavnike, kot so avtentičnost, reprezentativnost, celovitost, vpetost v lokalno okolje in fizično stanje. Kategorija »funkcija in pomen« vključuje vidike, kot so zgodovinska, umetniška, tehniška in estetska vrednost ter prostorska ureditev. Kategorija »dokumentarni in družbeni pomen« se osredotoča na dokumentarni, znanstveni in družbeni pomen stavb, kategorija »posebna merila« pa na njihovo gospodarsko in podobno vrednost. Proučevana arhitektura se ne sklada s sodobnimi težnjami po prostorskem in družbenem ločevanju, saj poudarja trajen dialog med tradicionalnimi in sodobnimi vrednotami. Izraža celosten pristop, pri čemer oblika in funkcija nista ločeni entiteti. Posledica socialističnega modernizma, ki je poudarjal pomen znanstveno podprtega načrtovanja, socialne enakosti in kulturne relevantnosti, je današnje živo in živahno mestno tkivo, ki dokazuje, da lahko arhitektura oblikuje skupnosti ter odraža njihove razvijajoče se želje in vrednote (UN-Habitat, 2024).



Slika 2: Arhivski fotografiji proučevanega območja iz petdesetih in šestdesetih let 20. stoletja: a) modernistični stanovanjski bloki in b) stolpnice (vir: Društvo arhitekata Sarajeva, 1963)

S proučevanjem stavbne tipologije lahko bolje razumemo razlike in podobnosti med stanovanjskimi zgradbami na nekem območju. Raziskava je pokazala, da je v proučevanih mestnih karejih prevladovala stanovanjska raba z značilnima tipoma stavb (slika 2). Najpogostejši tip so bili podolgovati stanovanjski bloki v več različicah, drugi tip pa so bile stolpnice, med katerimi so bile izrazitejše razlike kot pri prvem tipu. V socialističnomodernistični arhitekturi so imele stolpnice monumentalen učinek in so preoblikovale silhueto mesta. To niso bili osamljeni objekti, ampak so bili del enotne arhitekturne kompozicije. Stolpnice so bile postavljene diagonalno, pri čemer so ponavljajoče se oblike poudarjale ritmično estetiko in hkrati dajale občutek urejenega zaporedja, lahko pa so bile zgrajene tudi v skupinah po tri ali pet stolpnic, ki so izrazito izstopale v mestni krajini.

Čeprav je bila modernistična gradnja standardizirana in so bila stanovanja majhna, so arhitekti tistega časa zasnovali nekatere izmed najuporabnejših in najučinkovitejših stanovanjskih tlorisov v Sarajevu. Enotni arhitekturni slog ni bil njihova izbira, ampak bolj odraz družbenih vrednot enakosti in kolektivne identitete ter zelo skromnih finančnih sredstev. Čeprav so bile fasade skromne in so se ponavljale, so jih odlikovali ustrezni proporci in harmonija, doseženi brez nepotrebnih vizualnih potez (Piekarski idr., 2021).

Modernizem je preobrazil mestno krajino, saj se je v prid zelenim odprtim prostorom odmikal od tradicionalne ulične zasnove in dajal prednost boljšim bivalnim razmeram za stanovalce. Tovrstna preobrazba je razvidna tudi na proučevanem območju Sarajeva, katerega urbanistična kompozicija vključuje posamezne stanovanjske bloke in stolpnice sredi večjih zelenih površin. Socialističnomodernistične stanovanjske soseske z zelenimi odprtimi prostori so edinstvena mešanica zgodovinskih vidikov ter socialističnih arhitekturnih in urbanističnih prvin. Spodbujale so povezanost skupnosti, kar se je skladalo s socialistično ideologijo, ki je poudarjala kolektivno bivanje in družbeno interakcijo. Skupni prostori v teh soseskah so spodbujali stike med ljudmi (Andrusz idr., 1996). Navedeni tip gradnje, ki se je razvil iz tradicionalnih stanovanjskih sosesk, je vključeval odprte prostore ter zagotavljal dobro prevetrenost in boljše povezave z zelenimi površinami.

Modernistični blok in stolpnica sama zase nimata posebne arhitekturne vrednosti. Le kot sestavni del mestne krajine ali v skupini, ki tvori stanovanjsko sosesko, ju je mogoče opredeliti kot mestno tkivo visoke ambientalne vrednosti. Ker zato pri določanju spomeniške vrednosti stavb ne moremo uporabiti klasičnega pristopa, moramo stavbe analizirati širše (Cantacuzino, 2003).

Analiza sarajevskih modernističnih stanovanjskih blokov in stolpnic (preglednica 2) je razkrila kompleksno prepletanje arhitekturnih inovacij, urbanističnega načrtovanja in prizadevanj za vključevanje stanovalcev iz vseh družbenih slojev, hkrati so razvidni tudi izzivi, povezani z ohranjanjem arhitekture in individualnimi gradbenimi posegi. Trenutno arhitekturno in zgodovinsko vrednost proučevanega stanovanjskega območja najbolj ogrožajo individualne in nesistemske prakse. Individualno prilaščanje skupnih prostorov, kot so balkoni in hodniki, in neregulirani posegi, ki so posledica pobud od zgoraj navzdol in dejanj posameznikov, so privedli do neskladnih in pogosto neestetskih sprememb. Propadanje zunanjosti stavb in spremembe skupnih prostorov krnijo prvotni arhitekturni namen

Preglednica 2: Merila za vrednotenje prevladujočih tipov stavb na proučevanem območju

	Modernistični stanovanjski bloki	Stolpnice
Osnovne značilnosti/tipologija	Avtentični izraz časa, v katerem so bili zgrajeni, reprezentativni primer zadevne urbanistične in arhitekturne tipologije, ambientalna vrednost, ohranjajo urbanistično in delno tudi arhitekturno celovitost.	Avtentični izraz časa, v katerem so bile zgrajene, reprezentativni primer zadevne stavbne tipologije, vizualno izstopajo v mestni krajini, manjša ambientalna vrednost.
Funkcija in pomen	Estetska vrednost (kompozicija) in funkcionalna celovitost, ki izhajata iz modernističnih oblikovalskih načel in skromnosti materialov, stavbe (pozidan prostor) se izmenjujejo z odprtim prostorom, odraz značilnega načina življenja v nekem obdobju, materiali nizke kakovosti.	Kakovostna konstrukcija, funkcionalna kakovost, energijska učinkovitost, odraz značilnega načina življenja v nekem obdobju, inovativna zasnova, stavbni ovoj je zgrajen iz materialov nizke kakovosti.
Dokumentarni in družbeni pomen	Odraz značilnega načina življenja v nekem obdobju, velik družbeni pomen, vključenost vseh družbenihslojev, izvirna projektna dokumentacija večinoma ni na voljo.	Odraz značilnega načina življenja v nekem obdobju, velik družbeni pomen, vključenost vseh družbenih slojev, razpoložljiva projektna dokumentacija, znani arhitekti.
Posebna merila	Visoka ekonomska vrednost, ki jo potrjujejo visoke cene in lokacija nepremičnin, adaptacije in drugi posegi lahko še povečajo njihovo arhitekturno vrednost.	Zgrajene so po načrtih uveljavljenih arhitektov Hamdije Salihovića in Ivana Štrausa.

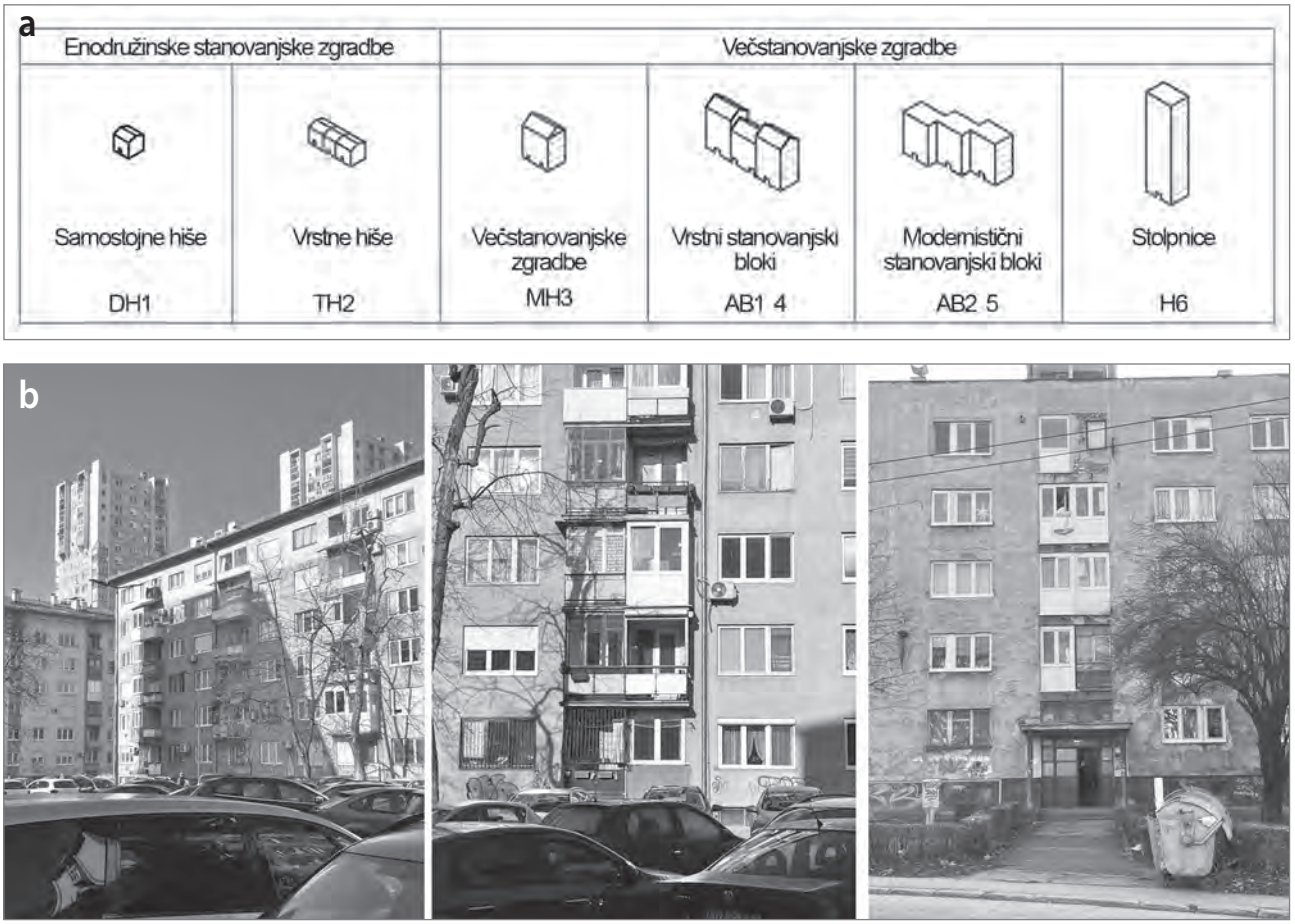
Vir: avtorji

in dediščinsko vrednost stavb. Te niso spomeniško zavarovane, a bi jih morali skrbno prenoviti in izboljšati, da bi ohranili njihov pomen in arhitekturno zapuščino socialnega modernizma. Posegi so lahko manjši ali obsežnejši, vsi pa morajo temeljiti na podrobnih predhodnih raziskavah in dobrem poznavanju načel in postopkov, ki so bili uporabljeni pri gradnji teh stavb. Hkrati morajo biti postopni, funkcionalni, trajnostno naravnani in usklajeni ter izražati socialno občutljivost (BAUA idr., 2022).

4.2 Analiza energijske učinkovitosti

Poraba energije in energijska učinkovitost sta pomembna vidika tako novih kot starih stanovanjskih stavb. Na podlagi direktiv Evropskega parlamenta 2002/91/ES in 2006/32/ES se je leta 2009 začel izvajati evropski raziskovalni projekt Typology Approach for Building Stock Energy Assessment (TABULA), sofinanciran v okviru evropskega programa Intelligent Energy Europe. Glavni cilj projekta je bil oblikovati usklajen model evropske stanovanjske tipologije in opredeliti edinstvene kazalnike energijskih značilnosti stavb z upoštevanjem energijsko učinkovitih ukrepov. V okviru projekta je nastala zbirka primerljivih podatkov, ki omogočajo presojo dejanske porabe energije nacionalnih stavbnih fondov in možnosti za varčevanje z energijo v Evropski uniji (Institut Wohnen und Umwelt GmbH, 2012). Tudi v Bosni in Hercegovini, ki ni država članica EU, je bilo zelo pomembno ugotoviti, katere so možnosti za varčevanje z energijo v stanovanjskih stavbah, in stanje primerjati z drugimi državami. Na podlagi metodologije, uporabljene v omenjenem projektu, je leta 2016 v srbohrvaščini in angleščini izšla knjiga Tipologija stambenih zgrada Bosne i Hercegovine/Typology of Residential Buildings in Bosnia and Herzegovina, ki vsebuje pregled nad tipi in značilnostmi stavb ter obdobji stanovanjske gradnje v Bosni in Hercegovini (Arnautović-Aksić idr., 2016). V njej so tudi uporabni podatki o kolektivni stanovanjski gradnji iz obdobja socialističnega modernizma (slika 3).

Modernistični stanovanjski bloki zajemajo samo 16,04 % skupnega stanovanjskega fonda Bosne in Hercegovine, pri čemer za ogrevanje porabijo 6,50 % skupne energije, potrebne za ogrevanje vseh stanovanjskih objektov v državi (Arnautović-Aksić idr., 2016). To pa še ne pomeni, da so ukrepi za učinkovitejšo rabo energije potrata sredstev. Čeprav so zaradi različnega lastništva in pravnih postopkov morda težko izvedljivi, neposredno vplivajo na kakovost življenja v mestu (Sendi idr., 2023). Ovoje modernističnih stanovanjskih blokov je treba energijsko prenoviti, saj ob njihovi gradnji še ni bilo predpisov in standardov, ki bi urejali izolacijo stavb (Salihović idr., 2016).



Slika 3: a) tipologija stanovanjskih stavb v Bosni in Hercegovini (prirejeno po: Arnautović-Aksić idr., 2016); b) trenutno stanje zgradb na proučevanem območju (foto: avtorji)

Terenska raziskava stolpnic na proučevanem območju, ki je vključevala tudi ankete in intervjuje z lastniki stanovanj, je pokazala obseg individualnih sprememb na objektih in energijsko neustreznost preteklih posegov. Ukrepi energijske prenove stavb se osredotočajo na zunanje zidove, okna in vrata (tj. toplotni ovoj stavbe). Čeprav so bila okna v proučevanih stolpnicah zamenjana, stekla niso zagotavljala zadostne toplotne izolacije (U = 3,14 W/(m²·K)), zato so jih lastniki kmalu spet sami zamenjali z okni z dvojno ali celo trojno zasteklitvijo in roletami. Odziv stanovalcev štirih stolpnic v soseski Grbavica dobro kaže, katera vprašanja na področju energijske prenove stavbnega fonda bi bilo treba začeti nemudoma reševati. Samo 57,69 % lastnikov je v teh stanovanjih tudi živelo, preostala stanovanja pa so se oddajala v podnajem ali so bila prazna (Kreševljaković in Burazor, 2023). Stolpnice so bile po vojni, v kateri so bile močno poškodovane, v celoti prenovljene, pri čemer je bila obnovljena tudi prvotna fasada. Terenski ogled in meritve so pokazali velik delež zunanjih posegov na stolpnicah. Od skupno 192 stanovanj jih je imelo 40,63 % zastekljene balkone, 18,27 % jih je imelo rolete na oknih, 43,27 % jih je imelo klimatske naprave, 12,02 % jih je imelo okna drugačne barve od prvotne in 11,06 % jih je imelo spremenjeno obliko oken (Kreševljaković in Burazor, 2023). Poleg tega je bila v 28,85 % stanovanj spremenjena ureditev notranjih prostorov. Navedeni podatki kažejo, da povojna prenova, pri kateri so stavbo povrnili v prvotno stanje, ni ustrezala potrebam stanovalcev, ki so nato naštete spremembe izvedli sami, brez gradbenih dovoljenj. Individualni posegi so zato neizogibno vplivali na zunanjo podobo in privlačnost celotne stavbe in soseske. Stanje bi lahko danes izboljšali samo s celovitim pristopom k notranji in zunanji prenovi teh stavb.

5 Javno-zasebni ukrepi: novi urbani protokol

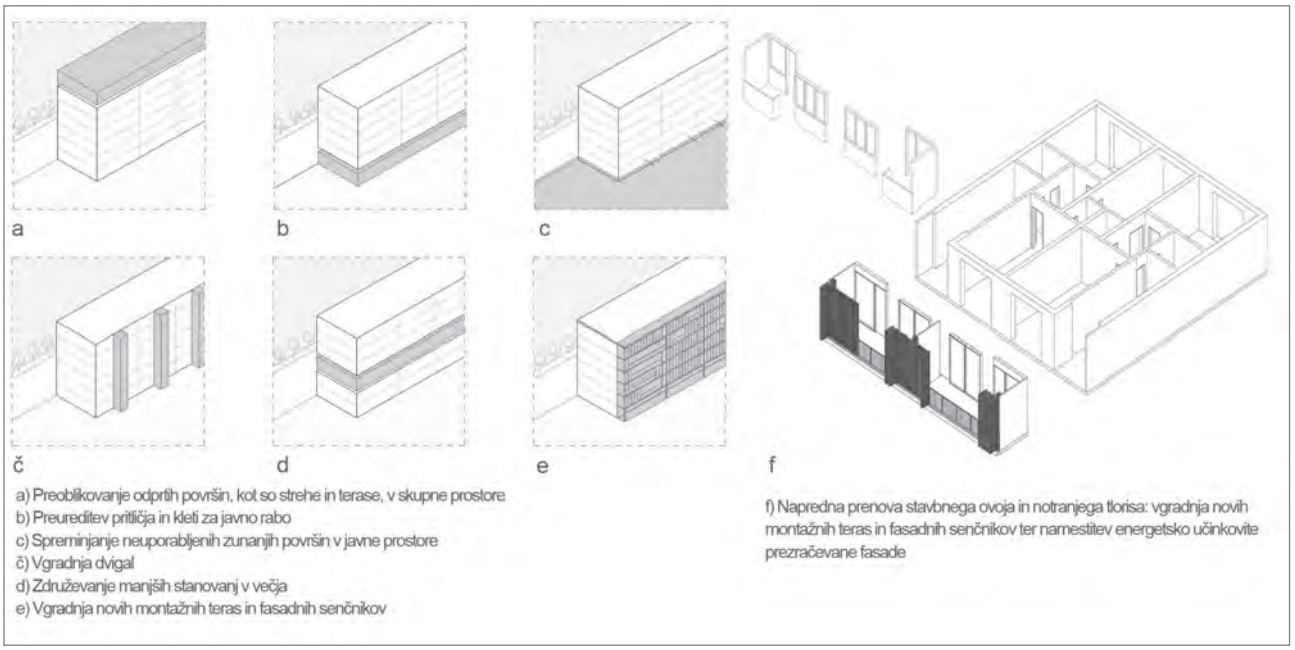
Prenova stanovanj v Sarajevu, ki so v zadnjih 30 letih prešla v zasebno last, po navadi poteka brez strokovnega ali upravnega nadzora. V mestu močno prevladujejo socialističnomodernistična stanovanja, v katerih živijo predstavniki najrazličnejših družbenih slojev, od gospodinjstev z nizkimi dohodki do tistih s srednje visokimi dohodki in bogatih družin. Pri trajnostni prenovi Novega Sarajeva v okviru projekta NOVO! Novo

Preglednica 3: Dvostopenjska strategija prenove socialističnomodernističnih stanovanjskih sosesk na urbanistični in arhitekturni ravni ter ravni notranjosti zgradbe

Raven	Problematika	1. stopnja: osnovna prenova	2. stopnja: napredna prenova
Urbanistična: javni prostori	Vzdrževanje	Nove prakse recikliranja	Preureditev odlaganja odpadkov
	Parkirišča, fizične ovire	Izboljšave (dostop z invalidskim vozičkom)	Dostop samo z vozili stanovalcev, nove površine za pešce
	Požarne evakuacijske poti	Prilagoditev novim standardom požarne varnosti	Dodajanje požarnih izhodov na streho
	Slaba ulična razsvetljava in pomanjkanje ulične opreme	Vključitev energijsko varčne razsvetljave in ulične opreme	Ustvarjanje javnih prostorov, ki spodbujajo dobro počutje ljudi
	Nedejavni javni in skupni prostori	Reaktivacija javnih prostorov	Spreminjanje praznih, neuporabljenih območij v javne prostore
Arhitekturna: stavbni ovoj (fasada in streha)	Nizka energijska učinkovitost	Osnovna energetska prenova: zamenjava oken, popravilo strehe	Obsežnejša energetska prenova: ureditev prezračevanih fasad
	Monotone fasade	Osnovna prenova fasade, skupaj z ukrepi za povečanje energijske učinkovitosti stavb	Obsežnejše preoblikovanje fasade, skupaj s prenovo stavb za energijsko učinkovitost
	Sporna estetika	Enotna zunanja obloga	Novi dodatki na celotnem stavbnem ovoju za boljšo funkcionalnost
	Majhni nefunkcionalni balkoni in lože	Enotna zasteklitev lož	Vgradnja montažnih teras in fasadnih senčnikov
	Slaba orientacija v prostoru in pomanjkanje mestne identitete	Izboljšanje dostopnih poti in vhodov v zgradbe	Ustvarjanje oblikovalskih poudarkov in uvedba novih prehodov v zgradbah, kjer je to potrebno
	Nedostopne/privatizirane/razpadajoče strehe	Preoblikovanje odprtih površin, kot so strehe in terase, v skupne prostore	Celovita prenova strehe
Notranjost zgradbe: tloris	Nedejavna pritličja	Preoblikovanje pritličij za javno rabo	Dodajanje novih delov v pritličju za oblikovanje povezave z zunanjim prostorom
	Celovitost konstrukcije	Pregled konstrukcijske stabilnosti	Utrditev temeljev in drugih konstrukcijskih elementov
	Privatizacija skupnih prostorov	Ureditev skupnih shramb	Razširitev kleti za ureditev garaž
	Slaba dostopnost	Ureditev klančin	Vgradnja dvigal
	Skupni prostori	Ureditev skupnega prostora za sestanke in delavnice	Spreminjanje privatiziranih skupnih prostorov nazaj v prvotno, skupno rabo
	Premajhna stanovanja	Združevanje manjših stanovanj v večja	Izgradnja prizidka za povečanje funkcionalnega prostora v stanovanjih

Vir: avtorji

Sarajevo je bilo treba nujno uporabiti celosten pristop, ki se sklada s svetovnimi in regionalnimi trajnostnimi okviri. Po proučitvi arhitekturne zapuščine socialističnega modernizma in energijske učinkovitosti zadevnih stavb je bil oblikovan sodelovalni model trajnostne mestne prenove. Na podlagi primerov iz Danske in Francije ter zavedajoč se pomanjkanja tovrstnih strategij in smernic za prenovo v Sarajevu, so avtorji predlagali strateško orodje s protokoli za prenovo, ki sledijo vrednotam strategij in smernic za prenovo mest ter hkrati odražajo mednarodna in regionalna trajnostna in estetska načela. To se nanaša na ustvarjanje vključujočih, odpornih in privlačnih (mestnih) prostorov, ki zadovoljujejo raznovrstne potrebe skupnosti ter hkrati upoštevajo cilje okoljske trajnosti in digitalne preobrazbe. Pomembno je, da se v načrtovanje in oblikovanje skupne infrastrukture vključijo tudi stališča prebivalcev, na podlagi česar se lahko ustvarijo prijetni in varni (zunanji) prostori. Zakon o vzdrževanju skupnih delov zgradb in upravljanju zgradb (sh. *Zakon o održavanju zajedničkih dijelova zgrade i upravljanju zgradom*, Službene novine Kantona Sarajevo, št. 3/2012) ureja prenovo zgradb na podlagi smernic,



Slika 4: Možni posegi na urbanistični in arhitekturni ravni ter ravni notranjosti zgradbe (ilustracija: avtorji)

v katero je vključenih več deležnikov: zasebni lastniki, upravniki večstanovanjskih stavb, lokalna skupnost, občina in podjetja za vzdrževanje stavb, katerih registrirana dejavnost obsega tudi gradbene posege v skupnih prostorih. Predlagani novi urbani protokol združuje pobude od zgoraj navzdol in od spodaj navzgor za prenovo socialističnomodernističnih večstanovanjskih zgradb, pri čemer upošteva razpoložljiva sredstva za potrebne spremembe in ohranja izvirno naravo objekta.

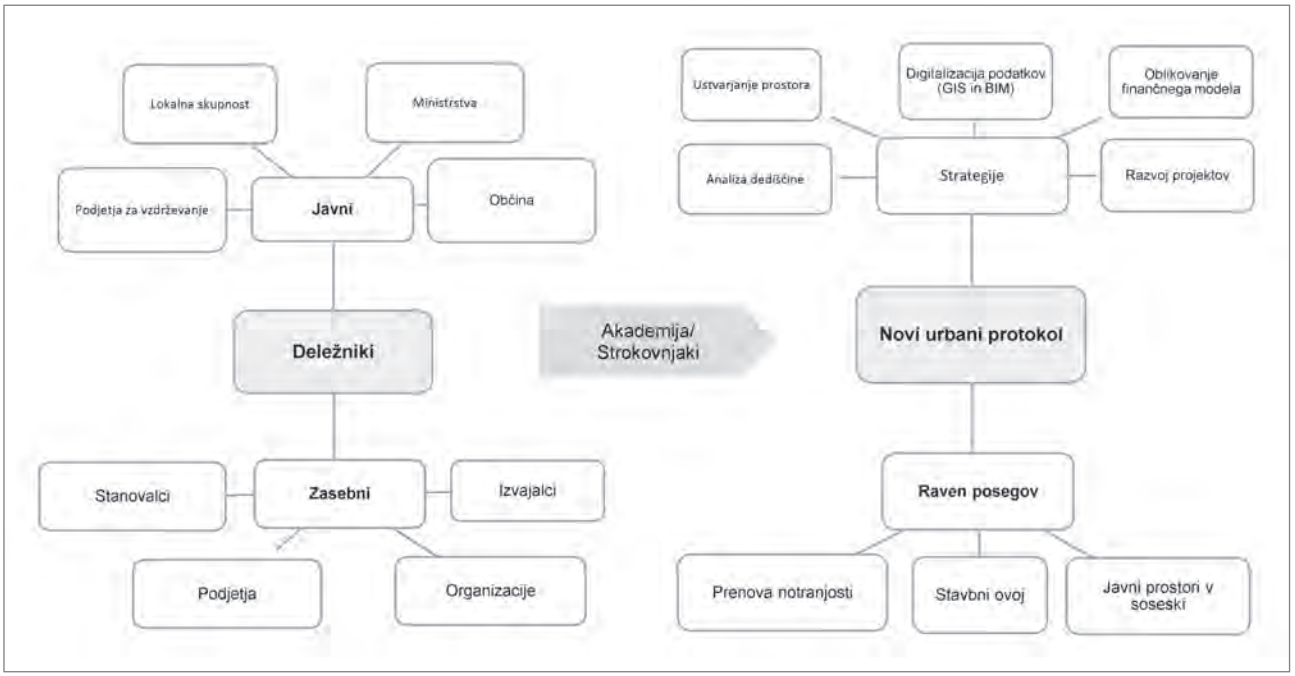
Prenova lahko poteka na treh ravneh: na urbanistični ravni, ki vključuje širšo sosesko in javne prostore, na arhitekturni ravni, ki vključuje stavbni ovoj (tj. fasado in streho), in na ravni notranjosti zgradbe, ki se osredotoča na izboljšanje funkcionalnosti in dostopnosti skupnih prostorov in posameznih stanovanj. Za ustrezno ohranjanje dediščine na teh območjih je treba sprejeti posebno lokalno strategijo in smernice. Priporočljiv je celostni pristop, ki upošteva celotno območje, zgradbo ali odprt prostor in se ne osredotoča samo na izpolnjevanje energijsko učinkovitih zahtev. Treba je izdelati katalog certificiranih načrtov in podjetij za izvedbo posameznih posegov, postopek pa mora biti poenostavljen in ne sme biti prepuščen improviziranim spremembam (Glendinning, 2008). Celoten postopek, od začetne zamisli do končne izvedbe, mora slediti strukturiranemu protokolu. Pobudo za prenovo lahko na primer dajo visokošolske ustanove, kot se je to zgodilo pri projektu NOVO! Novo Sarajevo, pri katerem so študenti arhitekture pod strokovnim vodstvom svojih profesorjev oblikovali konkretne predloge za posege. Ti zagotavljajo koristi stanovalcem, upravnikom in občinam, saj ponujajo inovativne rešitve za izboljšanje kakovosti in trajnosti ter ohranjanje arhitekture zadevnih zgradb.

Posegi, namenjeni izboljšavam, se lahko razdelijo v dve stopnji: osnovno prenovo (1. stopnja) in napredno prenovo (2. stopnja). Posegi na prvi stopnji so po navadi manjši in se osredotočajo na posebne, omejene izboljšave. Posegi na 2. stopnji pa so bolj ambiciozni in vključujejo večje spremembe, tudi obsežnejše konstrukcijske spremembe in izboljšave (preglednica 3, slika 4).

Na prvi stopnji (osnovna prenova) lahko člani lokalne skupnosti na podlagi svojih potreb predlagajo ustrezne posege. Izkušena ekipa strokovnjakov nato posamezni predlog izpili in razvije v izvedljiv projekt, pri čemer poskrbi za vse vidike, od izdelave oblikovalskih rešitev do pridobitve potrebnih dovoljenj in finančnih naložb. Sredstva za te posege si razdelijo stanovalci in podjetja, odgovorna za vzdrževanje. V nujnih primerih lahko predvidene stroške krije občina, in sicer do polovice. Na drugi stopnji (napredna prenova) je poudarek na stavbnem ovoju in/ali javnih prostorih ter sodelovanju med stanovalci in občino. Občina lahko zagotovi potrebna dovoljenja za te projekte in jih finančno podpre. Pri obsežnejših projektih lahko tudi vlada zagotovi možnosti za sofinanciranje, pridobijo pa se lahko tudi sredstva iz mednarodnih pobud, kot sta Agenda ZN za trajnostni razvoj do leta 2030 in Novi Bauhaus, ki so namenjena ustvarjanju pomembnih sprememb v skupnostih.

6 Razprava

Cilj novega urbanega protokola je povezati javne in zasebne deležnike pri oblikovanju in izvajanju strategij urbane prenove stanovanjskih sosesk, z najrazličnejšimi obsegi in scenariji



Slika 5: Novi urbani protokol za prenovo socialističnomodernističnih stanovanjskih sosesk (ilustracija: avtorji)

posegov. V primeru Novega Sarajeva so deležniki vključevali visokošolske učitelje, strokovnjake, lokalno skupnost, občino, kanton Sarajevo ter federacijo Bosne in Hercegovine. Vključene so bile tudi ustanove, ki skrbijo za subvencije in programe za črpanje evropskih sredstev. V prvi, bistveni fazi protokola so se na pobudo občine ter organov, pristojnih za prostorske in finančne zadeve, zbrali podatki o proučevanem območju, ti podatki so se nato digitalizirali (podatkovna zbirka GIS in modeli BIM). Pri tem so sodelovali strokovnjaki in raziskovalci s področij arhitekture, urbanizma in družboslovja. Po digitalizaciji zbranih podatkov so se na podlagi vnaprej določenih meril proučili arhitekturna dediščina in trajnostni vidiki izbranih mestnih karejev. Hkrati so bili pripadniki lokalne skupnosti in stanovalci povabljeni, da se udeležijo delavnic in drugih dogodkov, ki so jih organizirali raziskovalci. Na podlagi kolektivnih potreb, ki jih udeleženci razkrijejo na tovrstnih dogodkih, lahko strokovnjaki pri razvoju projektov oblikujejo ustrezne scenarije posegov na različnih ravneh. Širok spekter deležnikov, vključenih v projekt v Novem Sarajevu, odraža večplastnost posegov ter najrazličnejše interese in vire, na katerih temeljijo. Smernice in strategija, predlagane v obliki novega urbanega protokola, lahko prispevajo k boljši izvedbi posegov in boljšemu vzdrževanju objektov v prihodnje. Metodološki okvir posegov predlagajo strokovnjaki in raziskovalci, posege pa morajo na podlagi pristopa od zgoraj navzdol izvesti lokalne skupnosti ob sodelovanju vseh drugih deležnikov. Z navedeno metodo lahko predlagani posegi prispevajo k trajnostni prenovi socialističnomodernističnih zgradb v Sarajevu (slika 5).

Poleg tega je treba mestno prenovo, ki je tema stalnih razprav in političnih razmislekov, kritično proučiti z vidika njenega prepletanja z gentrifikacijo in socialno izključenostjo. Proces mestne prenove, ki je pogosto povezan s političnimi in ideološkimi vizijami, je namreč pogosto zavit v pripovedi o vključevanju, skupnosti in sodelovanju (Newth, 2019). V resnici pa lahko ti izrazi zakrivajo globlje težave, povezane z gentrifikacijo, in odpirajo vprašanja o pravi naravi in posledicah mestne prenove (Libby Porter, 2013). Razprave se osredotočajo na to, ali je mestna prenova predvsem sredstvo za gentrifikacijo. Pri iskanju odgovora na to vprašanje je treba raziskati razlike med tržnimi in vladnimi pristopi k prenovi (Libby Porter, 2013). Ključno je, da se poleg pozitivnih posledic mestne prenove prepoznajo in obravnavajo tudi izzivi, s katerimi se spopadajo marginalizirane skupine ali tisti, na katere prenova negativno vpliva. Treba je uravnoteženo upoštevati koristi prenove ter potrebe in skrbi vseh članov lokalne skupnosti, kar zagotavlja pravičen in vključujoč razvoj. Posebna pozornost do podrobnosti, zlasti pri evidentiranju značilnosti stanovanjskih zgradb in njihovem razvrščanju v tipe, ne sme biti samo črka na papirju, ampak praktični pristop k določanju vzorcev, potreb in možnih posegov. Poleg tega proučevanje dinamičnega prepletanja tradicionalnih oblik in modernističnih načel razkriva nujnost združevanja zgodovinskih spoznanj s sodobnimi zahtevami, kar omogoča bolj prilagodljive arhitekturne prakse. Avtorji se zavedajo, da je zaradi zapletenih upravnih postopkov teoretične koncepte in načrte težko izvesti v praksi. Predstavljeni pristop k mestni prenovi je ključen za preseganje teoretičnih razprav in premik k praktični uporabi, saj zagotavlja, da predlagani posegi in smernice niso samo vizionarski,

ampak tudi izvedljivi in prilagojeni veljavnim predpisom in postopkom. Namen podrobne analize in predlaganih rešitev je torej premostiti vrzel med inovativnim arhitekturnim razmišljanjem in pragmatičnimi izvedbenimi vidiki ter s tem omogočiti bolj usklajeno in učinkovito pot k prenovi in premišljenemu razvoju mestnih prostorov.

7 Sklep

Proučevanje socialističnomodernistične kolektivne stanovanjske gradnje v Sarajevu kot modela za trajnostno mestno prenovo zagotavlja strateški okvir, ki združuje ključne koncepte učenja iz preteklih arhitekturnih in urbanističnih modelov. Arhitekturna zapuščina socializma z urbanističnimi zasnovami, oblikovanimi kot neprekinjene zelene površine v polodprtih naseljih, je prispevala k dolgoročni okoljski trajnosti teh območij. Na tej zapuščini temelji tudi predlagani novi urbani protokol, ki se osredotoča na celovito ponovno ovrednotenje, energetsko prenovo in reprogramiranje arhitekturnih in urbanističnih objektov. Pri tem pristopu zgradbe segajo v okoliške javne prostore, ki jih uporabljajo skupnosti, ki so jim namenjeni. Omenjeni protokol ponuja uravnoteženo strategijo za prenovo teh območij, hkrati pa jih prilagaja sodobnim potrebam in spoštuje njihov širši kontekst.

Raziskava je pokazala, da je kolektivna modernistična stanovanjska gradnja z značilnimi stavbnimi tipi primerna za vključujoče in trajnostne strategije prenove. Te se skladajo s pobudami, kot sta Agenda ZN za trajnostni razvoj do leta 2030 in Novi Bauhas, zlasti z vidika zagotavljanja energijske učinkovitosti. Kljub številnim pravnim in lastniškim izzivom lahko izvajanje ukrepov za povečanje energijske učinkovitosti skupaj s premišljeno prenovo pomembno izboljša kakovost življenja stanovalcev, saj izboljša bivalno udobje, zmanjša emisije in podpira dolgoročne trajnostne cilje. Predlagane strategije poudarjajo trajnostnost in estetiko ter pomen sodelovanja javnosti, strokovnjakov, podjetij in ustanov.

Sarajevske občine nimajo na voljo smernic za prenovo, zato so nujno potrebne strategije mestne prenove, ki vključujejo mnenja stanovalcev, dajejo prednost okoljski trajnosti in uvajajo sistemske izboljšave. Raziskava socialističnomodernističnih stanovanjskih območij na urbanistični in arhitekturni ravni ter ravni notranjosti zgradb je razkrila potrebo po posegih, ki vključujejo tako osnovno kot napredno prenovo. Ti posegi, ne glede na to, ali jih predlagajo strokovnjaki ali stanovalci, morajo temeljiti na strukturiranem okviru, ki vključuje zelo raznovrstne deležnike. Sodelovalni model, imenovan novi urbani protokol, zagotavlja, da posegi zadovoljujejo raznovrstne potrebe skupnosti in hkrati omogočajo trajnostno bivanje v mestih.

Poudarek pri novem urbanem protokolu je na učenju iz arhitekturne zapuščine socialističnega modernizma, prepoznavanju njene vrednosti in vključevanju njenih načel v sodobno prakso preoblikovanja in ustvarjanja novih stanovanjskih zgradb ali sosesk. Enako pomembno je opuščanje zastarelih dogem, ki niso v skladu s trenutnimi ali prihodnjimi potrebami, kar omogoča spremembo miselnosti ter posledično tudi ustrezne prilagoditve in spremembe. V Sarajevu je učenje iz preteklosti še posebej pomembno zaradi zapletenega družbeno-gospodarskega prehoda in posledic vojne. Pri tem je treba zavzeti objektivno stališče do trenutnega stanja, se izogibati tako nekritični nostalgiji kot zanemarjanju preteklosti ter modrosti iz preteklosti uskladiti s sodobnimi zahtevami po funkcionalnosti in trajnosti.

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Domen ŽALAC
Primož MEDVED

Tretji prostori na univerzah: centralni univerzitetni kampus Aškerčeva v Ljubljani

V članku so obravnavani večnamenski javni prostori na univerzah, imenovani tudi tretji prostori, s posebnim poudarkom na njihovi vlogi kot spodbujevalcev socialnih stikov in urbanističnega razvoja v akademskem okolju. Kot študija primera je analiziran kampus Univerze v Ljubljani na Aškerčevi cesti v Ljubljani, ki je trenutno v procesu celovite urbanistične prenove. Po določitvi vseh konkretnih tretjih prostorov v univerzitetnem kampusu sta avtorja opredelila, zakaj so ti prostori pomembni za deležnike (študente in profesorje), in predstavila njihove predloge za izboljšanje in nadgradnjo teh prostorov. Izsledki njune raziskave so pokazali, da so univerzitetni prostori ključni za izvajanje učnih in družabnih aktivnosti, vendar so precejšnje omejitve z vidika oblikovanja in uporabe. Raziskava je pokazala, da študenti in zaposleni tretje prostore v kampusu in zunaj njega uporabljajo za učenje, delo, sprostitev ter druženje in druge neformalne aktivnosti ter da obstaja jasna potreba po bolj prilagodljivih, dostopnih in nekomercialnih prostorih v kampusu.

Ključne besede: univerzitetni kampus, javni prostori, tretji prostori, večnamenski prostori, urbanistični razvoj, Ljubljana

1 Uvod

V urbanizmu dolgo uveljavljeni model urejanja mest s coniranjem prostora glede na funkcije postaja čedalje bolj zastarel, namesto tega v ospredje čedalje bolj prihaja pristop mešane rabe (Mlinar, 2005: 32). Načrtovanje mešane rabe vključuje oblikovanje večfunkcionalnih prostorov za najrazličnejše namene. Tovrstni prostori spodbujajo lokalne socialne stike in delujejo kot mestni habitati, ki podpirajo raznovrstne oblike družbene organizacije (Brandt in Vejre, 2004). V univerzitetnem okolju se taki večnamenski prostori tesno skladajo z razvijajočimi se izobraževalnimi paradigmami, ki poudarjajo sodelovalno učenje, interdisciplinarne raziskave in delo, usmerjeno v skupnost (Harkavy in Puckett, 1994; Jang, 2020). Zato se univerzitetni kampusi gradijo za povezovanje najrazličnejših funkcij, od izobraževalnih (Shepherd idr., 2017), družabnih (Fernandez-Esquinas in Pinto, 2014) in rekreacijskih (Green in Gonsoulin, 1997) do trajnostnih (Tudorie idr., 2020) in celo komercialnih (Smith, 2004). Danes se čedalje bolj zavedamo potrebe po prilagodljivih prostorih, ki lahko hkrati zadostijo raznovrstnim potrebam mestne in akademske skupnosti (den Heijer in Magdaniel, 2018). V jedru novega razmišljanja je razumevanje, da sta fizična in družbena infrastruktura mest in univerz neločljivo povezani (Zupančič-Strojan, 1998: 75). Za to so potrebni večnamenski prostori, ki lahko brez težav zagotavljajo mešanico aktivnosti, interakcij in storitev. Tovrstni prostori delujejo kot vmesnik med univerzo in mestom, pri čemer se združujejo človeški, materialni in informacijski tokovi, in morajo biti zasnovani tako, da se z njimi univerzitetno okolje nemoteno vključuje v celotno zasnovo mesta (Dong idr., 2023).

V skladu s konceptom univerzitetnih večnamenskih prostorov so številni raziskovalci (npr. Whitchurch, 2018; Smith idr., 2021; Veles in Danaher, 2022) prevzeli izraz »tretji prostor« oziroma *thirdspace*, ki ga je uvedel Edward Soja (1996) ter označuje spreminjajoče se delo, vloge in prostore interakcije v univerzitetnem okolju. Tretji prostori omogočajo preobrazbene spremembe v akademskih praksah ter spodbujajo odprtost, kritično izmenjavo mnenj in raznovrstne poglede (Soja, 1996; Veles, 2024). Številni raziskovalci družbeno-prostorsko dinamiko univerz proučujejo v skladu s konceptom tretjih prostorov ali *third places*, ki ga je razvil Ray Oldenburg (1997). Po njegovi teoriji se tretji prostori razlikujejo od zasebnih prostorov posameznikovega doma in poklicnega okolja njegovega delovnega mesta. So javni prostori, namenjeni druženju in povezovanju. Oldenburg poleg tega predpostavlja, da tretji prostori, kot so kavarne, izboljšajo kakovost življenja, saj omogočajo počitek, druženje in čustveno razbremenitev. Kot ugotavljajo drugi raziskovalci (Lee in Houston, 2024), imajo tretji prostori na univerzah pozitiven psihološki vpliv na študente in učitelje.

Avtorja v članku obravnavata preobrazbeno vlogo tretjih prostorov na univerzah v mestnih okoljih, pri čemer proučujeta, kako ti hibridni prostori spodbujajo skupnostno vključevanje. Ti prostori so ključne povezave med akademskim svetom in mestom, saj pomagajo premoščati družbene in prostorske razlike, s čimer vplivajo na tako izobraževalne rezultate kot vitalnost mest. Avtorja sta se osredotočila na univerzitetni kampus na Aškerčevi cesti v Ljubljani, pri čemer sta proučila vpliv strateškega prostorskega oblikovanja na socialne in akademske interakcije. Na podlagi empiričnih in teoretičnih izsledkov v članku predstavita, kako lahko akademski prostori, ki so dobro povezani z lokalno skupnostjo, pomagajo ustvariti bolj povezane in odporne mestne krajine. Poleg tega ponudita uporabna priporočila za vodstva univerz, urbaniste in oblikovalce politik, ki si prizadevajo za razvoj vključujočih in prilagodljivih univerzitetnih kampusov.

2 Teoretično ozadje

Pri drugačnem zamišljanju tega, kako so prostori koristni skupnostim, Harvey (2001) navaja, da mora drugačna prostorska paradigma temeljiti na globokem razumevanju tega, kako družbene strukture oblikujejo kolektivno zavest in kako ta oblikuje njih. Teorija družbene produkcije prostora, ki jo je razvil Lefebvre (1991), navedeno dopolnjuje z razlago, kako različni družbeni sistemi, tudi akademske skupnosti, ustvarjajo različne prostorske oblike. Francoski filozof ugotavlja, da so mestni prostori v dialektičnem razmerju z družbenimi odnosi (Lefebvre, 1996), pri čemer mestnih prostorov ne obravnava kot pasivna ozadja, ampak kot dinamične udeležence družbenih procesov, ki oblikujejo in jih oblikujejo interakcije v njih (Lefebvre, 1991). Njegov koncept kraja je tesno povezan z doživljeno izkušnjo, strnjeno v konceptu doživljenega prostora, ki vključuje osebne, čustvene in simbolične razsežnosti prostora. To se ujema s širšim razumevanjem kraja kot prostora, ki mu človeške izkušnje dajejo pomen.

Soja Lefebvrov koncept doživljenega prostora nadgradi s konceptom tretjega prostora, ki združuje snovne in izkustvene razsežnosti družbenega obstoja. Sojev koncept tretjega prostora presega tradicionalne meje med javnim in zasebnim, med delom in prostim časom ter ustvarja hibridne prostore, ki omogočajo dinamične interakcije (Soja, 1996). Ta koncept je zlasti pomemben v kontekstu večnamenskih prostorov v sodobnih mestnih okoljih, kjer so univerze vključene v mestno tkivo, da bi spodbujale rast živahnih mestnih središč (Bugarič, 2009). Taki prostori, ki so dostopni tako akademski skupnosti kot javnosti, z najrazličnejšimi aktivnostmi spodbujajo občutek pripadnosti in sodelovanje. Z združevanjem univerzitetnih in skupnostnih prostorov ta območja omogočajo aktivno izmenjavo idej in skupnostno vključevanje, s čimer bogatijo tako akademsko kot mestno življenje (Healey, 2008).

Sojev (1996) koncept tretjih prostorov in drugi koncepti večfunkcionalnih ali hibridnih prostorov vključujejo podobno dinamiko izmenjave in sodelovanja med ljudmi raznovrstnih poklicev, izobrazbe in izkušenj kot Oldenburgov koncept tretjih prostorov. Oldenburg (1989: 16) tretje prostore opredeli kot splošno oznako za najrazličnejše javne prostore, na katerih se odvijajo redna, prostovoljna, neformalna in z veseljem pričakovana druženja posameznikov zunaj doma in službe. Opiše tudi funkcije tretjih prostorov: to so prostori, ki povezujejo skupnost, kjer se sprejemajo novinci, posamezniki najdejo somišljenike, ljudje se zbirajo in bolje spoznavajo, izraža se raznolikost skupnosti, ljudje se zabavajo in sproščajo ter potekajo intelektualne razprave (Oldenburg, 1997), pogosto pa so to tudi prostori, ki jih ljudje uporabljajo kot pisarno (Waxman idr., 2007).

Oldenburg je poleg tega pojasnil tudi pomen tretjih prostorov v univerzitetnih kampusih, ki bi po njegovem mnenju morali najti načine, da povečajo obseg učnih aktivnosti okrog in zunaj predavalnic. Menil je, da bi se morali načrtovalci kampusov, dekani in profesorji zavedati ključnega pomena posebnosti univerzitetnih prostorov, ki so ali bi morali biti prostori za druženje ter dobivanje, pogovor in zadrževanje. Več pozornosti bi bilo treba nameniti prostorom za pogovor, kot so skupni prostori v študentskih domovih, avtonomni študentski prostori na fakultetah, knjigarne, jedilnice in okrepčevalnice, lokalne restavracije in picerije, kavarne z letnimi vrtovi, kotički za pogovore, vrtovi v kampusu, študentski centri, prostorne veže na fakultetah, prostori za profesorje, kotički za pogovor v knjižnicah, klopi na hodnikih fakultet in ob potkah na prostem, domovi bratovščin in sestrstev, televizijske sobe in prostori za igranje namiznega tenisa, biljarda in kart. Za ustvarjanje uspešnih tretjih prostorov v univerzitetnem kampusu je določil tri parametre: morajo biti lahko dostopni, ponujati morajo hrano in pijačo ter biti oblikovani tako, da privabljajo študente in jih spodbujajo, da tam ostanejo dlje časa (Oldenburg, 1997: 90, 93–94).

Več raziskav se je osredotočalo na tretje prostore v univerzitetnih kampusih, njihove ugotovitve pa so nadgradile Oldenburgove izsledke. Na primer, Banning idr. (2010) so proučevali mnenja študentov o tretjih prostorih. Analizirali so uporabnike teh prostorov, pogostost njihovih obiskov ter lokacijo in tipologijo obiskanih prostorov. Večina študentskih aktivnosti na tretjih prostorih je bila povezana s socialnimi interakcijami (druženjem, pogovarjanjem, uživanjem hrane in pijače, branjem in učenjem). Zanimivo je, da je večina študentov tretje prostore našla zunaj univerzitetnega kampusa, zlasti v bližnjih kavarnah. Poleg tega so ugotovili, da so tretji prostori pomembni za študente, saj spodbujajo socialne interakcije in pogovore, hkrati pa prispevajo k zadovoljstvu in razvoju študentov, zmanjšujejo stres ter izboljšajo kakovost in učinkovitost univerz.

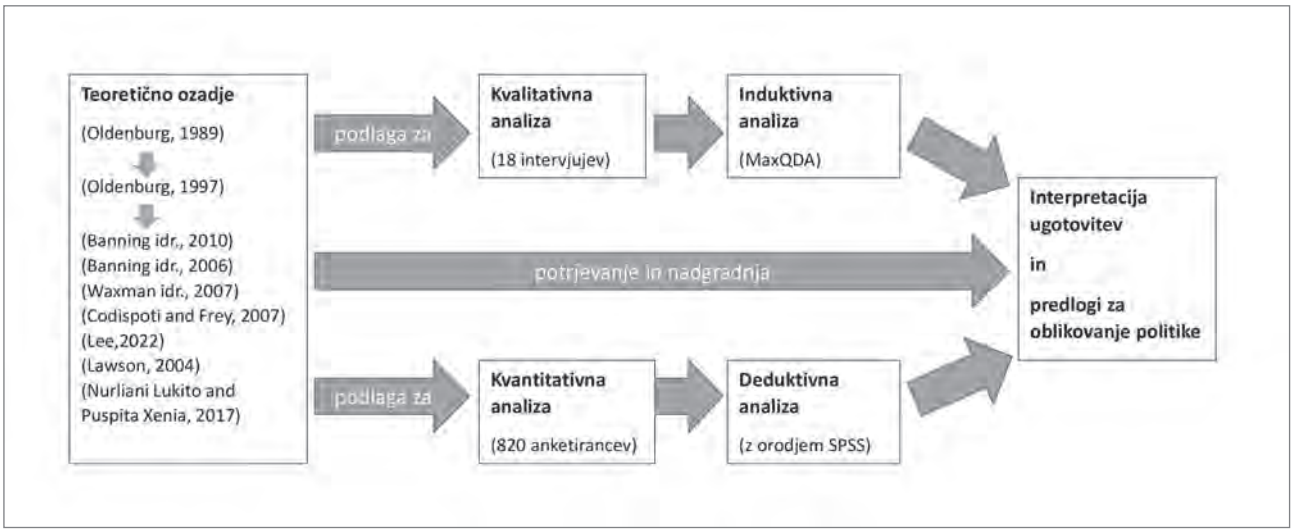
Podobno je tudi v raziskavi, ki so jo izvedli Waxman idr. (2007), večina študentov navedla, da je njihov najljubši tretji prostor zunaj kampusa (zlasti kavarne in restavracije). Glavni razlogi za obisk teh prostorov so bili druženje, sprostitev, uživanje hrane in pijače, pobeg od vsakdana ter delo ali učenje. Med pomembnimi dejavniki, ki so vplivali na izbor tretjega prostora, so bili vzdušje, lokacija in možnost druženja. Proučevalci so sestavili tudi seznam najbolj priljubljenih tretjih prostorov med študenti: na prvem mestu so bile kavarne, na drugem restavracije, nato pa so sledile knjigarne, športni centri in referat za študentske zadeve.

V literaturi so najpogosteje obravnavani tretji prostori na univerzah knjižnice in kavarne. Univerzitetna knjižnica je središče kampusa ter je hkrati temelj skupnosti in tretji prostor (Lawsen, 2004). Knjižnice so po navadi odprte dolgo in so lahko dostopne za vse univerzitetne deležnike. So večnamenski objekti, v katerih je dobrodošel vsak član skupnosti, in imajo največ značilnosti tretjih prostorov, ki jih je navedel Oldenburg. Zamisel o sprostitvi in druženju študentov med odmori se ne ujema z nekaterimi vidiki vloge bolj tradicionalnih knjižnic, ki naj bi bile tihi kraji in v katerih hrana in pijača nista dovoljeni. Oblikovalci bi morali (v prihodnje) v zasnove knjižnic vključiti tudi kavarne ali skupne prostore, kjer je običajno bolj bučno, hkrati pa poskrbeti za tihe kotičke (Waxman idr., 2007).

Kavarne so se izkazale tudi za najbolj priljubljene prostore za počitek in prosti čas. Tudi raziskava, ki jo je izvedla Narae Lee (2022), je pokazala, da so najbolj priljubljeni tretji prostori na univerzah tisti, kjer se lahko študenti družijo ob hrani in pijači. Podobno so že Banning idr. (2006) ugotovili, da so kavarne najbolj priljubljen tretji prostori med študenti. Sodobne kavarne večinoma ne spodbujajo stikov med neznanci, ampak ponujajo prostor za sprostitev, delo in pogovor, tudi prek digitalnih vmesnikov. Pogovor je še vedno glavna aktivnost, pri čemer številne stranke uporabljajo tudi elektronske naprave. Povezanost ljudi s fizičnimi prostori se je zaradi svetovnega spleta, spletnih pogovorov in družbenih omrežij spremenila. Zaradi prepletenosti sodobne kulture s komunikacijsko tehnologijo so se spremenile tudi prvotne značilnosti tretjih prostorov, kot jih je opredelil Oldenburg (Lukito in Xenia, 2017).

3 Raziskovalni cilji in metodologija

Avtorja sta na podlagi Oldenburgovega koncepta tretjih prostorov (Oldenburg, 1989) kot teoretičnega okvira in razširjenih kategorij tretjih prostorov v univerzitetnih kampusih (Oldenburg, 1997) proučila tretje prostore v univerzitetnem kampusu ob Aškerčevi cesti v Ljubljani. Osredotočila sta se na naslednja raziskovalna vprašanja: 1. Katere tretje prostore



Slika 1: Uporabljeni metodološki procesi (ilustracija: avtorja)

uporabljajo deležniki (študenti in profesorji) v kampusu in kje so ti prostori (družbeno mapiranje)? 2. Kakšen je pomen tretjih prostorov za deležnike? 3. Kakšni so predlogi deležnikov za izboljšanje teh prostorov?

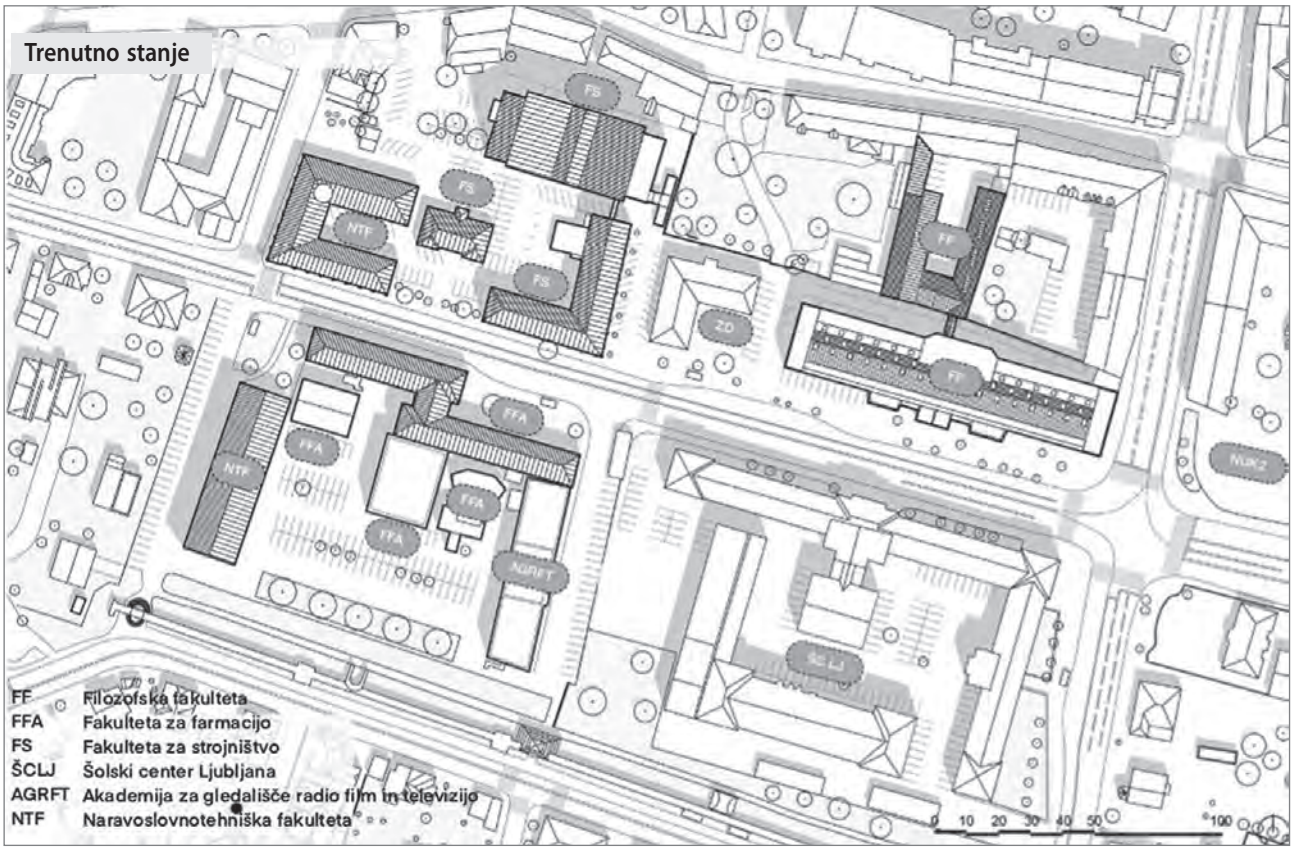
Cilj raziskave je bil preveriti, ali Oldenburgove (1997) ugotovitve o tretjih prostorih na univerzah, ki so jih nato nadgradili Banning idr. (2010), Waxman idr. (2007) in drugi raziskovalci (glej sliko 1), veljajo tudi za proučevani kampus. Na podlagi analize rezultatov sta avtorja določila tretje prostore v proučevanem kampusu, opredelila njihov vpliv in navedla nekatere predloge za oblikovanje prihodnjih (in sedanjih) univerzitetnih kampusov.

Podatki za raziskavo so bili zbrani v okviru projekta Koncept trajnostnega prostorskega razvoja Univerze v Ljubljani (ULTRA 2022–25). Avtorja sta v raziskavi uporabila mešano metodo, tj. kombinacijo kvalitativnih in kvantitativnih metod, ki omogoča vključitev raznovrstnih vidikov in vrst podatkov ter s tem bolj poglobljeno in širšo analizo (Creswell in Plano Clark, 2018).

Za kvalitativni del raziskave sta podatke pridobila z intervjuji, in sicer z osmimi študenti in desetimi profesorji s fakultet na Aškerčevi. Pri analizi intervjujev sta proučila še dodatne surove podatke, na podlagi česar sta lahko lažje določila in razumela naravo tretjih prostorov v obravnavanem kampusu.

Vsem vprašanim sta zastavila enaka polstrukturirana in odprta vprašanja. Intervjuje sta analizirala s programskim orodjem MaxQDA 2020. Pri analizi pridobljenih kvalitativnih podatkov sta določila kode, kategorije in teme. Podatke sta v glavne teme in podteme uredila v treh korakih, tj. z odprtim, osnim in selektivnim kodiranjem. V prvem koraku sta uporabila odprto kodiranje, saj kodiranje z vnaprej določenimi kodami ni bilo primerno zaradi omejenosti predefiniranih kod. V drugem koraku (osno kodiranje) sta podobne kode združila v kategorije, te pa v glavne teme. Teme so tako vključevale značilne prototipe tretjih prostorov. V tretjem koraku (selektivno kodiranje) sta s proučevanjem vzorcev prepoznane kategorije preoblikovala. Kategorije in povezave med njimi sta na novo opredelila, na podlagi česar sta lahko analizirala in nazadnje potrdila tipologijo tretjih prostorov, hkrati pa sta lahko dodala nove tretje prostore in tako oblikovala nove kategorije (npr. predloge za izboljšanje tretjih prostorov).

Kvantitativni del raziskave je temeljil na anketi, v kateri je sodelovalo 820 študentov treh visokošolskih ustanov na Aškerčevi cesti: Filozofske fakultete, Naravoslovnotehniške fakultete ter Akademije za gledališče, radio, film in televizijo. V anketi sta avtorja proučevala navade in potrebe študentov na tem območju, da bi pridobila podatke, ki lahko olajšajo prihodnje arhitekturno in prostorsko načrtovanje. Anketa je večinoma vsebovala vprašanja zaprtega tipa, na nekaterih mestih pa so lahko študenti podali tudi svoje predloge. Avtorja sta podatke analizirala in statistično obdelala s programom SPSS. Podatki bodo dostopni tudi v Arhivu družboslovnih podatkov Inštituta za družbene vede na Fakulteti za družbene vede, kar zagotavlja preglednost in podlago za prihodnje raziskave.



Slika 2: Trenutna prostorska ureditev proučevanega območja (vir: Sadar idr., 2024)

4 Študija primera

4.1 Univerzitetni kampus

Univerza v Ljubljani izvaja ambiciozen projekt prostorske ureditve fakultet na Aškerčevi cesti, imenovan Kampus Center. To je eden izmed njenih največjih projektov, v okviru katerega je načrtovana tudi selitev Fakultete za strojništvo in Fakultete za farmacijo v nove, sodobne prostore.

Omenjena selitev naj bi bila dokončana do leta 2027, nato pa se bo začela prenova fakultet, ki ostajajo na območju. V središče kampusa bodo umeščene tudi Centralna tehniška knjižnica in vse knjižnice v kampusu, ki so povezane s centralno humanistično knjižnico Filozofske fakultete Univerze v Ljubljani, 2024). S prenovo bo oblikovan skupni prostor, ki bo zagotavljal boljše razmere za študij in raziskave, hkrati pa bo spodbujal interdisciplinarno sodelovanje med fakultetami. Območje med Foersterjevim parkom in Rimskim zidom, na katero se projekt nanaša, je mogoče s prenovo izboljšati. Zunanje površine so trenutno zanemarjene, manjši zeleni žepi so neurejeni, območje je zapolnjeno z avtomobili. Z načrtovano prenovo bodo zelene površine uredili in uvedeni bodo ukrepi za umiritev prometa, ki bodo povečali dostopnost območja in kakovost življenja v tem delu mesta.

Cilj projekta Kampus Center ni samo rešiti prostorske težave fakultet na tem območju, ampak tudi ustvariti prožen in odprt akademski prostor, ki bo z javnim prostorom in skupnimi programi povezan z mestom. Predvideni so trajnostna gradnja z ničelnim ogljičnim odtisom, uporaba obnovljivih virov energije ter izboljšanje dostopnosti in mobilnosti. S tem bo prenova pomembno prispevala k lepši podobi mesta in večji kakovosti življenja v središču Ljubljane (Univerza v Ljubljani, 2024).

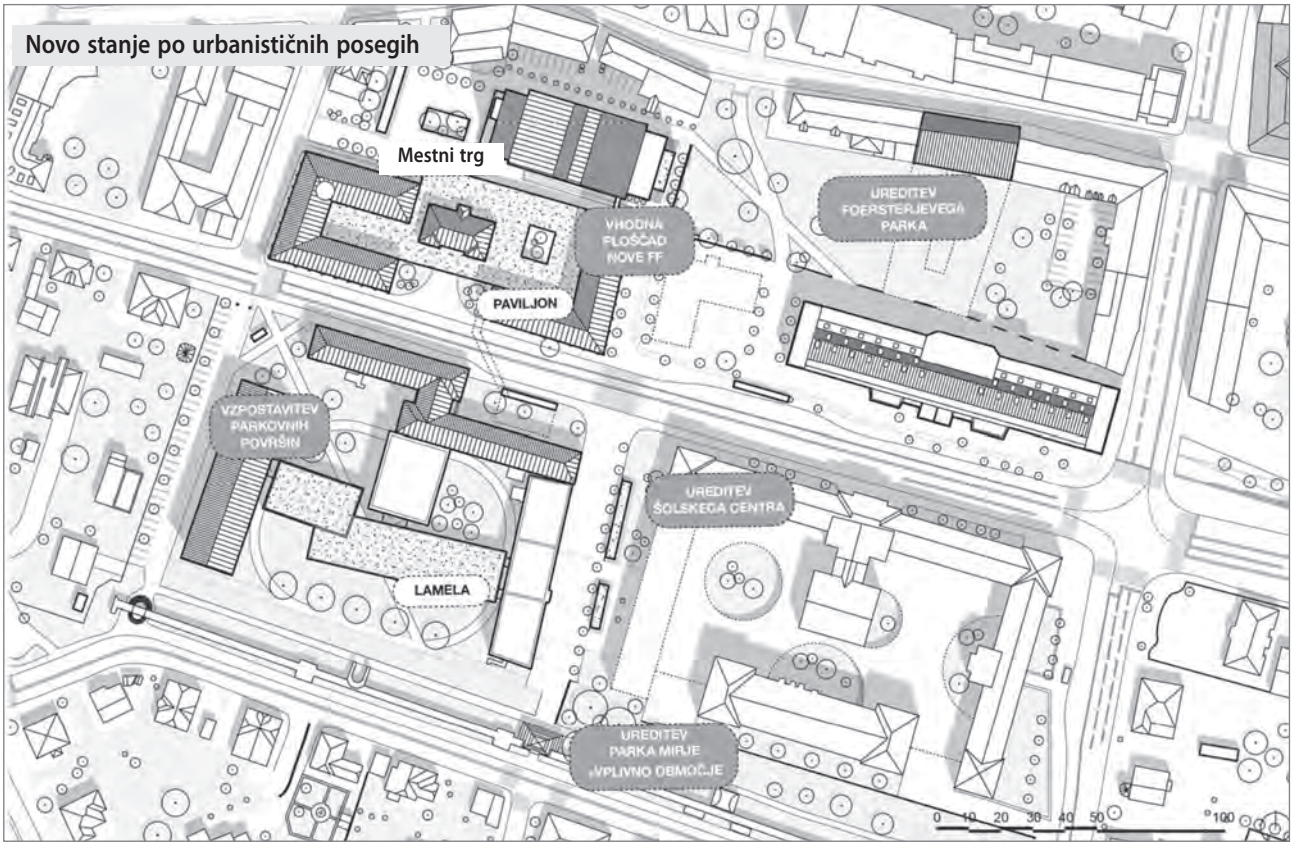
4.2 Kvalitativna analiza

Na podlagi kvalitativne analize intervjujev s študenti in profesorji sta avtorja lahko določila in proučila raznovrstne tretje prostore in njihov pomen. V nadaljevanju so navedeni najbolj priljubljeni tretji prostori med študenti in profesorji[1] .

4.2.1 Kavarne in restavracije

Iz intervjujev je razvidno, da so kavarne in restavracije najpomembnejši in najbolj priljubljeni tretji prostori za študente in profesorje. Zanje so to tista prava družbena vozlišča kampusa, čeprav so večinoma zunaj njega. Uporabljajo jih iz več razlogov, ne samo za uživanje hrane in pijače, med drugim za:

- preživljanje odmorov med predavanji: »vmes imaš velike luknje, zato greš takrat v kavarno ali pa jest« (študent 1);



Slika 3: Načrtovana prostorska ureditev območja (vir: Sadar idr., 2024)

- delo in učenje: »včasih ... greš v kavarno ali na podoben kraj pisat nalogo« (študent 1); »če delamo na skupnem projektu, gremo v že omenjene kavarne Semafor, Living Room, Foerster« (študent 2); »po navadi se dobimo v kaki kavarni in se ne zadržujemo po drugih fakultetah« (profesor 1);
- sestajanje s prijatelji in vrstniki ter druženje: »zaposleni in študenti se pogosto dobivajo v kavarnah, kjer strežejo kavo in kosilo. Mislim, da je to precej priljubljeno« (profesor 2); »za druženje so zelo priljubljene kavarne za Filozofsko fakulteto« (profesor 1).

Tako študenti kot profesorji so opazili, da bar K16 na Filozofski fakulteti pogosteje obiskujejo profesorji: »Vem, da nekateri profesorji hodijo v K16, v to sem prepričan« (študent 3); »vmes imaš lahko nekaj časa, da greš na kavo, in greš v naš hišni bar, ki ga imamo na fakulteti ... Zato osebno ne hodim ven iz fakultete« (profesor 3); »naš bar K16 kar veliko uporabljamo za druženje ali kratke sestanke« (profesor 3); »pogosto grem v K16 na kavo« (profesor 4).

Intervjuvanci so navedli, da je v času kosila zelo težko najti prosto mesto v kavarni ali restavraciji, ker so vse polne: »Takrat je povsod gneča in moraš iti na tri različne kraje, da dobiš prosto mesto za kosilo« (študent 3); »okoliške kavarne so tako polne, da ne najdeš prostega mesta« (študent 2).

4.2.2 Knjižnice

Tudi knjižnice so se izkazale za pomemben tretji prostor za študente. Uporabljajo jih za delo ali učenje: »najrajši se učim doma ... ker na fakulteti ni prostora, če pa že ne morem domov, se učim v knjižnici, ne na fakulteti« (študent 4), »kolikor vem, se večina ljudi ne gre učit na fakulteto, ampak v Centralno tehniško knjižnico, ker na fakulteti ni prostora« (študent 3).

V knjižnicah močno pogrešajo sobo za delo, učenje ali sestanke, kjer bi lahko bilo bučno in bi jo lahko uporabljali za skupinsko delo: »imamo vsaj čitalnice in knjižnice, ampak tam moraš biti tiho« (študent 6); »že večkrat sem zaman iskal nek prostor na Filozofki fakulteti, ... kjer bi se lahko s sošolci usedli, se skupaj učili in pogovarjali, ker preprosto ni prostora, ki bi to omogočal« (študent 6).

V kampusu na Aškerčevi je več manjših oddelčnih knjižnic, v bližini (10 minut hoje stran) pa sta še dve večji knjižnici: Centralna tehniška knjižnica ter Narodna in univerzitetna knjižnica. Glavna težava, zlasti pri oddelčnih knjižnicah, je pomanjkanje prostora: »V knjižnici na fakulteti ni prostora. V naši [oddelčni] knjižnici je samo en stol« (študent 3); »Centralna tehniška knjižnica je lahko zelo zasedena. Če bi naša fakulteta imela svojo knjižnico, bi lahko hodili tja«

Preglednica 1: Navzkrižna analiza odgovorov na vprašanji A in B (v %)

		Vprašanje A: Prosim, izberite najpomembnejši razlog za obisk fakultete.					
		Predavanja (v %)	Vaje/seminarji (v %)	Druženje z vrstniki (v %)	Raziskave/samostojni študij (v %)	Drugo (v %)	Skupaj (v %)
Vprašanje B: Kdaj obiščete fakulteto in druge prostore (knjižnice, laboratorije itd.)?	Samo, ko imam predavanja.	25,6	43,3	2,0	1,0	1,4	73,4
	Tudi ob dnevih, ko nimam obveznosti.	9,5	10,3	1,7	2,5	2,5	26,6
Skupaj (n = 706)		35,1	53,7	3,7	3,5	4,0	100

Vir: avtorja

(študent 3); »v oddelčnih knjižnicah ni prostora za učenje« (študent 4); »Knjižnice in čitalnice niso zaživele – to je zaradi pomanjkanja prostora. Študenti ... se v njih ne zadržujejo, ker so premajhne« (profesor 1).

4.2.3 Posebne lokacije v kampusu

Več študentov in profesorjev meni, da na fakultetah ni ustreznih prostorov, kjer bi se lahko dobivali in skupaj delali: »Primanjkuje javnih prostorov – pa tudi prostorov na fakulteti in v njeni okolici –, ki bi bili primerni za neformalna srečanja ali pa za sestanke« (profesor 3); »ni prostora za druženje« (profesor 5). Kljub temu je v kampusu nekaj notranjih in zunanjih prostorov v lasti univerze, ki se na neki način uporabljajo in dojemajo kot tretji prostori.

4.2.3.1 Notranji prostori

Poleg že omenjenega bara K16 na Filozofski fakulteti so najbolj priljubljeni notranji tretji prostori v kampusu hodniki oddelkov s klopmi, učilnice, prostori z avtomati za kavo in avtonomni študentski prostor, imenovan K17.

- Hodniki oddelkov: »Tudi klopi v vsakem nadstropju so super. Preprosto sedeš in ješ«; »Ko imamo večje luknje med predavanji, se pač družimo na hodniku« (študent 3); »na fakulteti imamo na koncu hodnikov nekaj miz in včasih s sošolci tam skupaj delamo seminarske naloge ali čakamo predavanja«; »potem delamo na teh mizah na fakulteti« (študent 2); »imamo te provizorične klopi na koncu hodnikov, kjer se po navadi zbirajo in družijo študenti pa tudi nekateri zaposleni«; »potem delamo na teh mizah na fakulteti« (profesor 5).
- Učilnice in posebne čitalnice: »Za druženje imamo dve učilnici, ki pa se po moje redko uporabljata. Teoretično naj bi imeli čitalnico, čeprav tega sploh nisem vedel ... Nikoli nisem šel tja, ker je v kleti in je tam samo ena učilnica« (študent 3); »v kleti je bila učilnica, ki je bila nekakšna čitalnica, in si lahko šel tja« (študent 2).
- Prostori z avtomati za kavo: »ali pa morda spodaj pri kavomatu ... Tam najpogosteje srečaš druge ljudi, ker pravzaprav nimamo prostora za hrano« (študent 7); »s kolegi grem na kavo, potem pa še morda do avtomata s prigrizki« (profesor 1).
- Avtonomni študentski prostor K17: »Zdaj imajo študenti nekaj manjših prostorov, ki so jih v zadnjih letih uredili zanje, kamor se lahko umaknejo« (profesor 3); »V avtonomnem študentskem prostoru K17 ... je prostora samo za dve skupini prijateljev. Če vidiš, da je tam že ena skupina, je nočeš motiti s svojo skupino ali obratno. Če je tam kdo glasen, se ne boš šel tja učit. Prostor se ne oglašuje. Preprosto ni možnosti, da bi zanj od kjerkoli izvedel« (študent 3); »hodimo v K16 in K17, ker sta to skupna prostora, namenjena druženju in pogovoru, čeprav bi si morda želeli več miru« (študent 6).

4.2.3.2 Zunanji prostori

Zunanji prostori v neposredni bližini fakultet so zelo pomembna zbirališča, ki se uporabljajo kot tretji prostori za študente in zaposlene. Intervjuvanci so izpostavili zlasti pomen dvorišč, atrijev, stopnišč in klopi pred fakultetami: »blizu glavnega stopnišča pred Filozofsko fakulteto so klopi in zdi se mi, da je tam nekakšno zbirališče ... Mislim, rekel bi, da iz praktičnih razlogov, kot je to, da so tam klopi ... prostor, ki je zaščiten pred dežjem« (študent 6); »Mislim, da te klopi pred fakulteto zelo dobro funkcionirajo – tam se na primer zbirajo študenti« (profesor 1); »kar zadeva zunanjost stavbe, bi rekel, da je najpogostejša točka zbiranja kar stopnišče fakultete, ki je nekako najbolj prijazno« (profesor 5); »stopnišče ... je tudi zbirališče, od koder se nato poti ločijo. Mislim, vsak od nas gre svojo pot. Je zadnja skupna stična točka ..., kjer lahko na hitro poklepetamo ali kaj podobnega« (profesor 4).

4.2.4 Parki

Parki in zelene površine blizu fakultet – čeprav majhni zaradi močno urbaniziranega območja – so dragoceni in privlačni tretji prostori:

- za srečevanje in druženje (družbena vozlišča): »Foersterjev vrt, kjer se večinoma zbirajo profesorji in študenti,

ker na naši fakulteti ni veliko prostora« (študent 4); »če pogledamo ta Foersterjev vrt ob fakulteti, je ob lepem vremenu precej živahen« (profesor 3);
- za občasne dogodke: »ko imamo maja knjižni sejem Liberak in potem je veliko različnih dogodkov. Tako da to je en tak prostor, ki ga fakulteta izkorišča« (profesor 3); »Foersterjev park ... je tudi prostor za take dogodke« (profesor 3);
- za predavanja na prostem: »profesorji imajo nekatere seminarje zunaj. Recimo, gredo zadaj, kjer je miren kotiček. Sam sem na primer imel seminarje na Špici ali pa v Botaničnem vrtu ... Imeli smo jih, to je malo prijetnejše okolje« (profesor 3).

4.2.5 Predlogi za trenutne in prihodnje tretje prostore

Študenti in profesorji so navedli več predlogov za izboljšanje delovnega in družabnega življenja v kampusu, na podlagi katerih bi lahko ustvarili nove tretje prostore ali izboljšali zdajšnje. Radi bi imeli prostore:
- za učenje, delo ali preprosto za druženje med prostimi urami: »Ko imamo proste ure, se po navadi družimo na svojem hodniku, kjer ni veliko miz ... Kolikor vem, se večina ljudi ne gre učit na fakulteto, ampak v Centralno tehniško knjižnico, saj na fakulteti ni prostora« (študent 3); »da bi imeli en velik prijeten prostor, kjer bi se dejansko lahko učili. To bi bilo res lepo« (študent 4); »No, gremo [v kavarno ali restavracijo], v bistvu tudi zato, da delamo na projektih ... Tako da bi bilo res lepo, če bi imeli nekaj takega bližje, na primer« (študent 5); »Lepo bi bilo imeti tako družabno središče, ker bi se lahko potem ljudje tudi zunaj delovnih prostorov dobivali in pogovarjali na bolj neformalen način« (profesor 6); »na fakulteti in v njeni okolici primanjkuje javnih prostorov, ki bi bili primerni za druženje ali neformalna srečanja« (profesor 3);
- ki so brezplačni za uporabo (nekomercialni): »Zdi se mi, da primanjkuje prostorov, kjer ti ni treba kupiti kave ali jesti. Pogrešam prostor, kjer bi se lahko samo družili ali pa delali v skupini« (študent 1); »Ja, zlasti to, tak prostor, kjer lahko preživljaš čas brezplačno ali se učiš, ker moraš v vsakem primeru it nekam na kavo in zanjo takoj plačati ... To manjka – na splošno nek topel prostor, kjer se lahko mladi zadržujejo brezplačno in kjer se lahko bodisi učiš ali pa družiš« (študent 4);
- ki so dovolj veliki ali niso prenatrpani: »okoliške kavarne so tako polne, da ne moreš najti prostega mesta. Če so te kavarne preveč polne, gremo večinoma drugam« (študent 2); »ni večjih prostorov, kjer se lahko družimo ali učimo, na primer, tako da zagotovo nimamo dovolj prostora« (študent 5);
- ki vključujejo ločeno sobo, kjer bi se lahko pogovarjali ali delali v skupinah (ne samo »tihe sobe«): »Boljše bi bilo, če bi bil prostor urejen tako, da se v njem ne bi bilo treba samo potiho učiti« (študent 1); »še eno zanimivo vprašanje je, kam lahko grem, če imam sestanek prek Zooma in moram govoriti na glas« (študent 3).

Študenti so poleg tega predlagali nekaj konkretnih izboljšav v povezavi s tretjimi prostori v kampusu. Predlagali so, da bi lahko predavalnice pustili odprte, ko niso v uporabi: »Dejstvo je, da ne smemo biti v predavalnicah, če v njih nimamo predavanj ..., včasih te lahko varnostnik nažene, če si v predavalnici, ko ne bi smel biti ali ko nimaš predavanj« (študent); »[Velika omejitev je,] da so predavalnice zaprte. Da ne moramo prosto dostopati do nekaterih stvari na fakulteti, ki so na voljo. Treba se je posebej dogovoriti« (študent 7).

Študenti so poleg tega predlagali ustanovitev večjega in primernejšega študentskega kluba, kjer bi se lahko zbirali in bili kreativni kot študentska skupnost, saj je trenutni študentski prostor K17 premajhen in prenatrpan: »na Filozofski fakulteti nimamo klubov ali česarkoli ..., zato, ja, to bi bilo res dobro ..., kar imamo na fakulteti, je na primer ta avtonomni študentski prostor, kjer lahko v bistvu delaš karkoli, vendar je tako majhen, da je večino časa popolnoma poln, ker se ljudje tam učijo ali delajo skupinske naloge« (študent 1).

4.3 Kvantitativna analiza

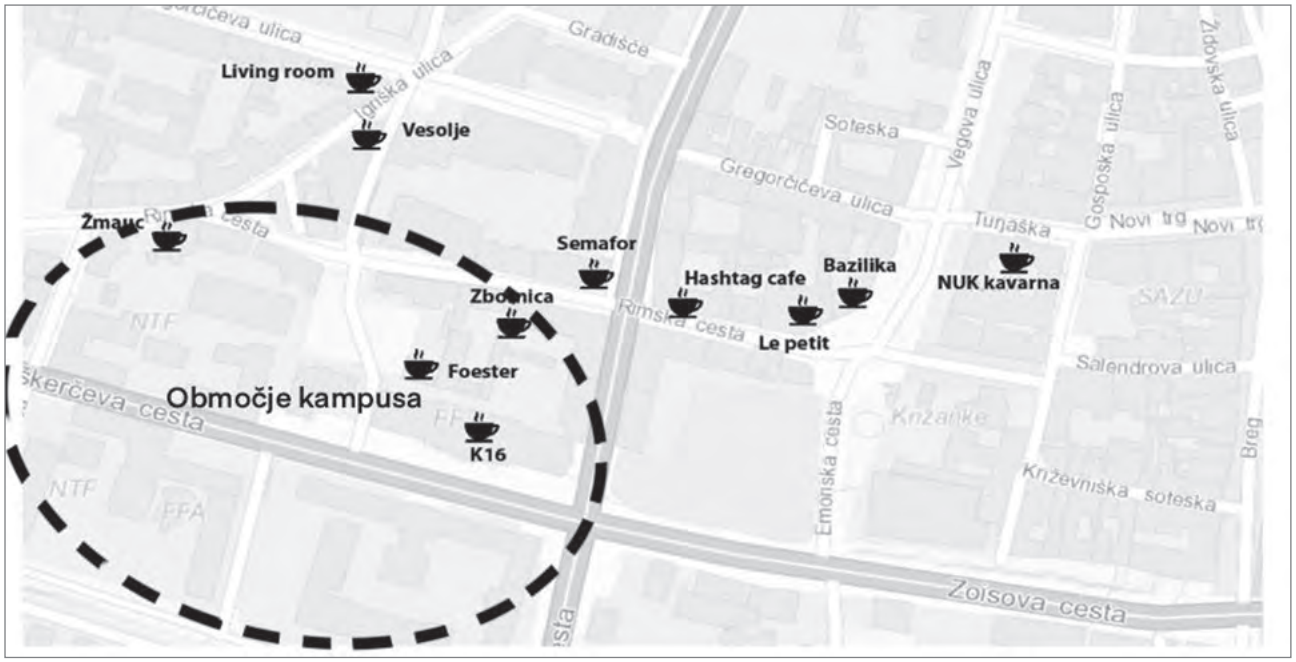
V preglednici 2 so prikazane razlike med študenti, ki fakulteto obiščejo samo ob dnevih, ko imajo študijske obveznosti, in tistimi, ki jo obiščejo tudi takrat, ko jim ne bi bilo treba. Rezultati ankete so pokazali, da približno četrtina (26,6 %) študentov obišče fakulteto tudi, ko nimajo obveznosti. To kaže, da razmeroma velik delež študentov prostore na fakulteti in v njeni okolici uporablja zaradi lastnih interesov, in sicer kot kvazijavne prostore. V preglednici so odgovori anketirancev razvrščeni glede na razloge za uporabo prostorov v kampusu, ki so ločeni glede na to, ali spadajo k obveznostim, ki izhajajo iz učnega načrta, ali k neformalni rabi. Navedeno se ujema s konceptom tretjih prostorov.

Sledilo je ročno razvrščanje odgovorov na odprto vprašanje C, ki se je glasilo: Ker ste izbrali odgovor »Tudi ob dnevih, ko nimam obveznosti«, navedite razlog za obisk fakultete. Ta korak je vključeval izvoz podatkov, njihovo kategorizacijo v preglednici ter uvoz v programsko orodje SPSS za nadaljnjo analizo. To je omogočilo strukturirano analizo kvalitativnih podatkov in njihovo pretvorbo v kvantitativne kategorije. Študenti so bili razvrščeni v več kategorij hkrati, saj so njihovi odgovori lahko ustrezali več kategorijam. Večina študentov (66,6 7%) prostore na fakulteti ob dnevih, ko nimajo obveznosti, uporablja predvsem za učenje in raziskovalno delo, kar vključuje

Preglednica 2: Analiza odgovorov na vprašanje D

Prostori	Vprašanje D: Kako pogosto uporabljate skupne prostore na fakulteti in območja blizu fakultete, ko nimate študijskih obveznosti?				
	Nikoli (v %)	Manj kot enkrat mesečno (v %)	Enkrat mesečno (v %)	Enkrat tedensko (v %)	Vsak dan (v %)
Študijski prostori (predavalnice, laboratoriji, seminarske sobe)	35,0	19,9	15,2	20,5	9,3
Knjižnice in čitalnice	12,8	24,7	28,2	27,0	7,3
Kavarne	12,9	11,6	23,4	35,0	17,1
Zunanji prostori blizu fakultete (javne površine s pripadajočo zunanjo opremo, kot so stoli, klopi, mize idr.)	18,5	19,9	16,2	26,9	18,5

Opomba: V analizo je bilo vključenih samo 143 anketirancev, ki so izjavili, da fakulteto obiskujejo tudi, kadar nimajo študijskih obveznosti.
Vir: avtorja.



Slika 4: Najpogosteje obiskane kavarne blizu kampusa (ilustracija: avtorja)

pisanje zaključnih nalog in pripravo na izpite. 37,84 % jih obišče knjižnico, 7,21 % pa fakulteto obišče zaradi predavanj. Zaradi skupinskega dela in projektov jo obišče 15,32 % študentov, za druženje pa 14,41 %, kar odraža pomembno vlogo teh prostorov pri oblikovanju skupnosti, 14,41 % študentov obišče fakulteto zaradi administrativnih opravil, 9,91 % pa zaradi spodbudnega okolja za učenje.

Podatki, pridobljeni z odgovori na vprašanje C, kažejo, da so študenti zelo vključeni v akademske aktivnosti, tudi kadar nimajo predavanj, vaj ali seminarjev. Glavni namen univerzitetnih prostorov torej ostaja akademski, s posebnim poudarkom na učenju in raziskovalnem delu. Pri tem imajo ključno vlogo knjižnice, kar je razvidno tudi iz precejšnjega deleža študentov, ki jih uporabljajo. Čeprav je udeležba na predavanjih, vajah in seminarjih temeljni vidik študentske izkušnje, v drugem podatkovnem nizu ta ni tako izrazit. Pomen skupinskega dela in socialnih stikov poudarja potrebo po sodelovalnih okoljih na univerzi in v pobudah, ki prispevajo k oblikovanju skupnosti. Pomembna so tudi administrativna opravila in osebne preference, ki kažejo, da uporaba univerzitetnih prostorov presega zgolj študijski okvir.

Preglednica 2 kaže, kako pogosto študenti obiščejo skupne prostore na fakulteti in območja v bližini, kadar nimajo študijskih obveznosti. Ta podatek je pomemben za razumevanje funkcije in rabe tretjih prostorov v kampusu ter za raziskovalni vprašanji, ki se nanašata na njihov pomen in značilnosti.

Študenti pogosto obiskujejo restavracije, in sicer jih 34,5 % študentov obišče vsaj enkrat na teden, 20,6 % študentov pa vsak dan. To kaže, da so restavracije pomembna družbena vozlišča, kjer se lahko študenti neformalno družijo. Velik pomen imajo tudi knjižnice in čitalnice, ki jih vsaj enkrat tedensko obišče

Slika 5: Najpogosteje obiskane restavracije blizu kampusa (ilustracija: avtorja)

27,0 % študentov, vsaj enkrat mesečno pa 23,4 % študentov. Majhen delež dnevnih obiskov (7,3 %) vseeno kaže potrebo po privlačnejših prostorih za učenje. Očitno je, da učni prostori, kot so predavalnice ter prostori za vaje in seminarje, niso dovolj izkoriščeni. 35,0 % študentov jih, kadar nimajo študijskih obveznosti, nikoli ne uporablja, kar kaže, da jih dojemajo kot formalne in toge prostore. Dobro obiskani so tudi zunanji prostori (26,9 % študentov jih uporablja vsaj enkrat tedensko, 18,5 % pa vsak dan), ki jih študenti uporabljajo za sprostitev in neformalna srečanja. Kavarne, ki so pomembni tretji prostori za druženje in učenje, enkrat tedensko obišče 35 %, dnevno pa 17,1 % študentov.

Pri analizi odgovorov na vprašanje E (Kam greste najpogosteje na kavo med odmori?) sta avtorja uporabila metodo ročnega razvrščanja v kategorije (tj. metodo družbenega kartiranja). Kategorije sta oblikovala na podlagi pogostosti odgovorov; če se je isti odgovor pojavil vsaj dvakrat, sta ga uvrstila v svojo kategorijo. S tem postopkom sta določila enajst najpogostejših lokacij, ki so prikazane na sliki 4. Vseh 334 dobljenih odgovorov sta avtorja dodatno razvrstila v tri skupine glede na oddaljenost lokacije od kampusa in njene značilnosti. Rezultati so pokazali, da 98 (29,3 %) študentov najraje zahaja v bližnje kavarne, dvesto študentov pa je bilo razvrščenih v kategorijo Drugo, kar pomeni, da mnogi nimajo točno določene kavarne v bližini, kamor bi najraje zahajali, ali pa raje obiskujejo druge lokale v kampusu ali zunaj njega. Preostalih 36 (10,8 %) študentov običajno najraje hodi na kavo v kampusu, in sicer uporabljajo kavomate ali zahajajo v bar K16 na Filozofski fakulteti in avtonomni študentski prostor K17.

Po drugi strani je analiza najbolj priljubljenih lokacij za kosilo med študenti (glej sliko 5) jasno pokazala, da študenti izbirajo restavracije, ki so jim priročne, cenovno dostopne in imajo raznovrstno ponudbo. Najrajši imajo lokale blizu kampusa in tiste z ugodnimi cenami za študente. Poleg tega njihovi odgovori poudarjajo pomen raznovrstne ponudbe, ki ustreza različnim okusom in finančnim zmožnostim študentov.

Avtorja sta kraje, kamor študenti hodijo na kosilo, razvrstila v naslednje kategorije glede na njihovo vrsto in značilnosti: možnosti za obedovanje v kampusu (študentske menze in jedilnice v stavbah v kampusu), restavracije in kavarne blizu kampusa (41,8 % jih ima raje zaradi priročnosti in raznovrstne ponudbe), lokali s hitro prehrano (kjer lahko študenti kaj na hitro pojejo), trgovine z živili in supermarketi (13,8 % študentov tam kupuje že pripravljene obroke), hrana, prinesena od doma (15,2 % študentov prinese hrano od doma), in drugo. Rezultati so pokazali, da študenti zaradi dostopnosti in cenovne ugodnosti najpogosteje izberejo bližnje kavarne in restavracije. Sledijo možnosti v kampusu (13,5 %) in lokali s hitro prehrano (4,9 %). Te izbire kažejo, kako se študenti vključujejo v okoliško mestno krajino, ki podpira najrazličnejše prehranjevalne potrebe. Izsledki nakazujejo, da bi lahko več družabnih prostorov v kampusu ali v njegovi bližini izboljšalo prehranjevalne izkušnje študentov, kar bi še okrepilo povezavo med univerzo in mestno infrastrukturo.

Preglednica 3: Priporočila za oblikovalce politik

Priporočilo	Kontekst	Empirični izsledki
1. Preureditev in širitev tretjih prostorov	Naložbe v preureditev prostorov, da postanejo prožnejši in primernejši za formalne in neformalne interakcije; razširitev kavarn in knjižnic z več prostori za skupinsko delo, razprave in druženje; oblikovanje novih dostopnih in prijaznih tretjih prostorov.	Kvantitativni izsledki: več kot tretjina študentov meni, da so formalni študijski prostori preveč togi. Kvalitativni izsledki: kavarne in restavracije so priljubljena družbena vozlišča, vendar v kampusu primanjkuje dostopnih in prožnih prostorov za skupinsko delo.
2. Razvoj nekomercialnih družbenih vozlišč	Ureditev skupnih prostorov in večnamenskih dvoran, ki so prosto dostopni; zagotovitev prostorov, kjer se lahko študenti in profesorji družijo, ne da bi se od njih pričakovalo, da opravijo nakup.	Kvalitativni izsledki: študenti in profesorji so izrazili veliko željo po nekomercialnih prostorih, zlasti za učenje in druženje, trenutna odvisnost od kavarn zunaj kampusa kaže na pomanjkanje tovrstnih prostorov v kampusu, ki bi bili prosto dostopni.
3. Spodbujanje prožnosti in dostopnosti	Oblikovanje večnamenskih prostorov, vključno z modularnim pohištvom, večnamenskimi sobami in prilagodljivimi zunanjimi površinami, to bi omogočilo izvajanje najrazličnejših aktivnosti, od individualnega učenja do sestankov.	Kvantitativni izsledki: nekateri prostori v kampusu so premalo izkoriščeni, kar pomeni, da trenutna ureditev ne ustreza raznovrstnim potrebam skupnosti. Kvalitativni izsledki: študenti so nakazali potrebo po bolj prilagodljivih prostorih, zlasti za skupinsko delo in neformalna srečanja.
4. Vključitev v mestno tkivo	Vključevanje deležnikov z različnih ravni, od nacionalne do lokalne, v načrtovalski proces; brezhibno povezovanje prostorov v kampusu z urbanimi vsebinami (javnim prevozom, površinami za pešce, bližnjimi javnimi prostori); povečanje dostopnosti in pomena prostorov v kampusu za širšo skupnost.	Kvalitativni izsledki: kavarne in zunanje površine blizu kampusa so pomembna družbena vozlišča in če bi bile bolje povezane z mestnim okoljem, bi se povečali njihova uporaba in dostopnost. Kvantitativni izsledki: študenti urbane vsebine blizu kampusa veliko uporabljajo.
5. Vključujoče in participativno oblikovanje	Oblikovanje prostorov v kampusu ob upoštevanju mnenj raznovrstnih deležnikov (študentov, profesorjev in drugih članov skupnosti).	Kvalitativni izsledki: intervjuji so razkrili močno potrebo po prostorih, ki ustrezajo raznovrstnim potrebam, vključno z bolj tihimi območji za učenje, družbenimi vozlišči in prostori za skupinsko delo, deležniki so izpostavili pomen vključevanja več mnenj v načrtovalski proces, da se zagotovi izpolnjevanje teh potreb.

Vir: avtorja

5 Razprava in priporočila

Univerze pomembno prispevajo k gospodarski vitalnosti mestnih območij, zaradi česar se mesta čedalje bolj spreminjajo v idejni kapital (Blackwell idr., 2002; Pastor idr., 2013; Melhuish, 2020). Vpliv univerz kot gonil gospodarstva in kulturnih središč pa je močno odvisen od njihove sposobnosti privabljanja študentov in vzpostavljanja smiselnih povezav z okoliško skupnostjo. Kvantitativna analiza je pokazala, da 26,6 % študentov kampus obišče tudi, kadar nimajo študijskih obveznosti, kar pomeni, da vloga univerzitetnih kampusov presega zgolj zadovoljevanje formalnih študijskih potreb. Podatki so poleg tega pokazali, da so nekateri prostori (npr. študijski prostori ter prostori za vaje in seminarje) premalo izkoriščeni, saj jih 35,0 % študentov nikoli ne uporablja, kadar v kampusu nimajo študijskih obveznosti. Navedeno kaže, da te prostore dojemajo kot preveč formalne ali premalo prožne, da bi lahko zadovoljevali spreminjajoče se potrebe študentov in profesorjev. Po drugi strani študenti pogosto obiskujejo restavracije in kavarne (restavracijo vsaj enkrat tedensko obišče 55,1 %, kavarno pa 52,1 % študentov), kar poudarja vlogo teh prostorov kot neformalnih družbenih vozlišč. Študenti pogosto obiščejo tudi zunanje javne prostore (45,4 %) in knjižnice (34,3 %) blizu kampusa, kar potrjuje pomen dostopnih in prijaznih tretjih prostorov.

Kvalitativni intervjuji omogočajo boljše razumevanje nekaterih tretjih prostorov, priljubljenih med študenti in profesorji. Kavarne in restavracije so bile opredeljene kot najpomemb-

nejši tretji prostori, ki pogosto delujejo kot družbena vozlišča, čeprav niso v kampusu. Vprašani jih ne uporabljajo samo za kosilo ali pijačo, ampak tudi za učenje, delo in druženje. Tudi knjižnice imajo pomembno vlogo, vendar je njihova precejšnja pomanjkljivost ta, da nimajo prostorov, ki bi omogočali skupinske razprave in skupinsko delo, ne da bi pri tem sodelujoči motili druge. Za neformalno druženje se uporabljajo tudi nekatere lokacije in prostori, kot so hodniki na fakultetah in zunanje klopi, kjer pogosto primanjkuje prostora ali udobja. Univerze in prostori, ki jih zasedajo, so torej izgubili vlogo zatočišča za učenje in raziskovalno delo ter so nekako postali izolirani od okoliške družbe.

Navedeno za oblikovalce programov študentskih storitev v kampusih in načrtovalce kampusov odpira naslednje vprašanje: zakaj kampusi niso primerna okolja za zagotavljanje tretjih prostorov? Raziskava je poleg tega pokazala, da je ponudba hrane in pijače glavna značilnost tretjih prostorov. Zakaj torej univerze ne bi želele zagotoviti družbenih in gospodarskih koristi, povezanih s tretjimi prostori? Avtorja z opravljeno raziskavo nista mogla odgovoriti na ta vprašanja, vendar pridobljeni podatki kažejo, da bi morale univerze tretje prostore v kampusih obravnavati kot prostore za neformalno učenje in morebitne dodatne dohodke (Banning idr., 2010). Na podlagi analize sta oblikovala več priporočil za odločevalce, ki sta jih strnila v pet glavnih predlogov za boljše družabno in urbanistično okolje ter boljšo akademsko izkušnjo v novih kampusih (glej preglednico 3).

Tretji prostori na univerzah, zlasti tisti, ki so vključeni v mestno okolje, so pomembna priložnost za krepitev povezav med akademskimi ustanovami in okoliškimi skupnostmi. Kljub vsemu še vedno ni jasno, zakaj teh univerzitetnih prostorov kljub bližini bolj aktivno ne uporablja širša skupnost (Jang, 2020: 171). Raziskava, predstavljena v tem članku, se je osredotočala na akademsko skupnost, ki je že sama po sebi zanimivo raziskovalno področje, smiselno pa bi bilo proučiti tudi možnosti vplivanja na širše družbeno okolje, v katerem je ta skupnost.

6 Sklep

Predstavljena raziskava je potrdila izsledke preteklih raziskav (Oldenburg, 1997; Waxman idr., 2007; Banning idr., 2010), da so kavarne, restavracije in knjižnice najpomembnejši tretji prostori v univerzitetnih kampusih, poleg teh so pomembni tudi drugi tretji prostori, kot so družbena vozlišča študentskih klubov, parki in razna mikrookolja v kampusu in zunaj njega (atriji, klopi, hodniki itd.; 1. raziskovalno vprašanje). Analiza je pokazala, da so tretji prostori na univerzah ključni javni prostori za druženje, sprostitev, preživljanje prostega časa v odmorih med predavanji ter individualno ali skupinsko delo in učenje (2. raziskovalno vprašanje). Na podlagi analize kvantitativnih in kvalitativnih podatkov je bilo mogoče izluščiti predloge študentov in profesorjev za izboljšanje tretjih prostorov, ki sta jih avtorja strnila v pet kategorij (preglednica 3; 3. raziskovalno vprašanje). Čeprav so ti izsledki podlaga za praktične izboljšave, so za boljše razumevanje povezav med univerzitetnimi prostori in okoliško skupnostjo, vključno z lokalnimi prebivalci in ponudniki storitev, potrebne nadaljnje raziskave. Te bi lahko pojasnile, kako ti tretji prostori delujejo v širšem družbenem in mestnem okolju, kar bi omogočilo vpogled v interakcijo skupnosti s kampusi v mestnih središčih. Raziskava, predstavljena v tem članku, dopolnjuje literaturo z obravnavanega področja z novo analizo tretjih prostorov na univerzah, s posebnim poudarkom na določanju njihovih značilnosti in pogosto podcenjenem vplivu, ki ga imajo ti prostori na študente in zaposlene. Poleg tega odločevalcem (urbanistom, ministrstvom, vodstvom univerz itd.) ponuja konkreten vpogled v tretje prostore in njihovo družbeno-prostorsko dinamiko.

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Opombe

[1] Vsi zapisi v spolno nevtralni obliki.

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Analiza kazalnikov zelenih površin: študija primera Sarajeva

Glavni cilji raziskave so bili: 1. analizirati naslednje kvantitativne kazalnike mestnih zelenih površin: njihov delež, njihovo skupno površino na prebivalca in skupno površino javnih mestnih zelenih površin na prebivalca na območju Sarajeva in njegovih občin; 2. predlagati najmanjši površini mestnih zelenih površin in funkcionalnih mestnih zelenih površin na prebivalca ter 3. predstaviti uporabljeni metodološki pristop k analizi količine in kakovosti mestnih zelenih površin ter njegovo uporabnost in pomen. Te površine so bile analizirane na podlagi ortofoto posnetkov in posnetkov orodja Google Satellite ter nato ročno kartirane. Skupna površina Sarajeva znaša 58,5 km^2, pri čemer so sklenjene zelene površine značilne za hribovite in gorate predele mesta, več pozidanih območij pa je v ravninskih topografskih enotah. Skupna površina javnih mestnih zelenih površin na prebivalca je 28,0 m^2 oziroma 9,8 m^2, če gozdni parki niso upoštevani. Rezultati raziskave lahko prispevajo k boljšemu razumevanju mestnih zelenih površin v Sarajevu in so lahko uporabni za odločevalce in oblikovalce politik.

Ključne besede: merjenje zelenih površin, nenadzorovana klasifikacija, kategorije zelenih površin, mestne zelene površine

1 Uvod

Mestne zelene površine (v nadaljevanju: MZP) so območja naravnih površin ali okolij, vključno s posebnimi vrstami urbanega zelenja, kot so ulična drevesa (Svetovna znanstvena organizacija, 2016). Obsegajo javne in zasebne odprte prostore na mestnih območjih, ki so večinoma porasli z rastlinjem (Hernandes idr., 2018), so različnih velikosti in imajo različne funkcije (Pinto idr., 2022). MZP ključno vplivajo na kakovost življenja mestnih prebivalcev. Zagotavljajo privlačne prostore za angažiranje skupnosti, ki spodbujajo socialne stike in krepijo občutek pripadnosti prebivalcev (Cattell idr., 2007; Peters idr., 2010; Thompson idr., 2016). Uporaba zelenih površin zmanjšuje stres, tesnobo in depresijo, kar prispeva k boljšemu duševnemu počutju, hkrati pa odprti prostori spodbujajo telesno aktivnost, ki krepi javno zdravje (Tzoulas idr., 2007; Barton in Pretty, 2010). Z ekološkega vidika MZP pomembno prispevajo k zmanjševanju negativnih vplivov podnebnih sprememb na mestna območja. Blažijo učinke mestnih toplotnih otokov, saj ustvarjajo hladnejšo mikroklimo, s senco zmanjšujejo porabo energije, izboljšujejo kakovost zraka in vežejo ogljikov dioksid iz ozračja (Nowak in Dwyer, 2007; Tzoulas idr., 2007; Bowler idr., 2010). Poleg tega omogočajo, da meteorne vode odtekajo v tla, in s tem zmanjšujejo nevarnost poplav (Lennon idr., 2014). MZP pomagajo ohranjati biotsko raznovrstnost in izboljšujejo povezljivost habitatov (Farinha-Marques idr., 2017). V raziskavi, predstavljeni v tem članku, se MZP nanašajo na celovit sistem območij v mestnem okolju, ki ga večinoma prekriva rastlinje, saj k zagotavljanju omenjenih funkcij skupno prispevajo vse vrste zelenih površin v mestu.

Cilj urbanističnega načrtovanja in izvajanja projektov bi moral biti razvoj kakovostne mestne zelene infrastrukture z optimalno količino, kakovostjo in prostorsko strukturo zelenih površin, ki bi mestnim prebivalcem zagotavljale številne koristi. Pri načrtovanju MZP se zaradi zagotavljanja skladnosti in zanesljivosti po navadi uporablja pristop, ki temelji na standardih (Maryanti idr., 2016). Standardi urejanja MZP imajo pomembno vlogo pri razvoju mestne zelene infrastrukture in učinkovitem načrtovanju rabe zemljišč, ki omogočata ohranjanje bioloških in ekoloških funkcij mestnih okolij (Vujković, 2003). Razumevanje osnovnih kazalnikov MZP, kot so delež MZP, skupna površina MZP na prebivalca, skupna površina javnih ZMP na prebivalca in razvrstitev MZP, je pomembno za reševanje širših globalnih izzivov, povezanih s trajnostnim razvojem, javnim zdravjem in družbeno pravičnostjo. Na podlagi teh kazalnikov lahko urbanisti lažje postavijo cilje, razporedijo vire in oblikujejo prostore, ki spodbujajo razvoj mestne zelene infrastrukture. Določanje deleža MZP je ključno za analizo splošnega stanja urbanega zelenja in odločanje o omejitvah gradnje. Večji delež MZP v mestnem okolju zagotavlja raznovrstne prednosti, kot so manjši učinki mestnih toplotnih otokov, večja biotska raznovrstnost in boljše splošno zdravje prebivalcev (Maas idr., 2006; Tzoulas idr., 2007; Bowler idr., 2010). S skupno površino MZP na prebivalca se izmeri količina vseh vrst zelenih površin, ki so na voljo prebivalcem. Skupna površina javnih MZP pa je kvantitativni kazalnik dostopnosti zelenih površin za vse prebivalce, ki lahko razkrije neenakosti pri dostopu do možnosti za rekreacijo in sprostitev. Spremljanje tega kazalnika mestom omogoča, da oblikujejo politike za reševanje neenakosti in zagotovijo, da imajo od zelenih površin korist vsi prebivalci, ne glede na družbenoekonomski status.

Za Sarajevo primanjkuje podatkov o količini in kakovosti MZP (Ballian idr., 2021). Podobno velja tudi za več manjših mest drugje po Evropi (Feltynowski in Kronenberg., 2020). Prakse na področju prostorskega načrtovanja se med sarajevskimi občinami razlikujejo, kar je posledica njihovih funkcionalnih vlog in zgodovinskega razvoja. Mesto Sarajevo je glavna upravna enota, sestavljajo pa jo občine Stari Grad, Centar, Novo Sarajevo in Novi Grad, od katerih ima vsaka svojo lokalno upravo. Kanton Sarajevo je eden izmed desetih kantonov v Federaciji Bosne in Hercegovine, sestavljen je iz devetih občin, štiri od teh so del mesta Sarajevo. S spremembami podrobnih prostorskih načrtov občine pogosto zmanjšajo površino MZP v korist gradbenih zemljišč. Zato je pomembno proučiti količino, prostorsko razporeditev in vrste MZP po občinah, na podlagi česar bi se lahko sprejeli standardi, ki bi bili prilagojeni lokalnim potrebam in značilnostim posameznih občin.

Veljavni standardi urejanja MZP v Sarajevu so opredeljeni v urbanističnem načrtu mesta Sarajevo za obdobje 1986–2015 (sh. *Urbanistički plan grada Sarajeva za urbano područje Sarajevo za period od 1986. do 2015. godine*, Sl. n. GS, št. 7/86). Merljive informacije o strukturi, količini in prostorski razporeditvi MZP so ena ključnih zahtev za določanje standardov, ki se uporabljajo pri trajnostnem urbanističnem načrtovanju. V starejši raziskavi srednjeročnega in dolgoročnega razvoja skupnostnih dejavnosti v Sarajevu, ki jo je izvedel inštitut za načrtovanje razvoja mesta Sarajevo (Zavod ..., 1985) in v kateri je bil poudarek na zelenih površinah, je bilo predlagano, da mora površina javnih MZP na prebivalca znašati najmanj 25–30 m^2 oziroma 130 m^2, če so upoštevani tudi gozdni parki. V skladu z urbanističnim načrtom mesta Sarajevo za obdobje 1986–2015 pa je bil cilj do leta 2015 doseči 47,9 m^2 zelenih površin na prebivalca za vse kategorije MZP. Najmanjša potrebna površina, določena v kategoriji kolektivne stanovanjske gradnje, je bila 6–8 m^2 na prebivalca, za vse stanovanjske zgradbe na mestnih območjih pa je bila določena površina 20 m^2 na prebivalca. Zelene površine z omejenim dostopom in za posebne namene naj bi zajemale 30 % do 50 % skupne površine MZP.

Preglednica 1: Osnovni podatki sarajevskih občin

Občina	Površina (v km²)		Koordinate	Nadmorska višina (v m)	Št. prebivalstva*
	Skupna	Urbaniz. območje			
Stari Grad	51,4	12,9	43°51′33″ N 18°25′57″ E	540–1500	35.015
Centar	33,0	16,0	43°52′08″ N 18°24′31″ E	531–1386	53.333
Novo Sarajevo	9,9	9,9	43°50′51″ N 18°21′23″ E	519–816	63.871
Novi Grad	47,2	47,2	43°51′09″ N 18°23′07″ E	482–850	122.751

* Podatki so bili pridobljeni od Zveznega statističnega urada (Federalni zavod za statistiku, 2020).

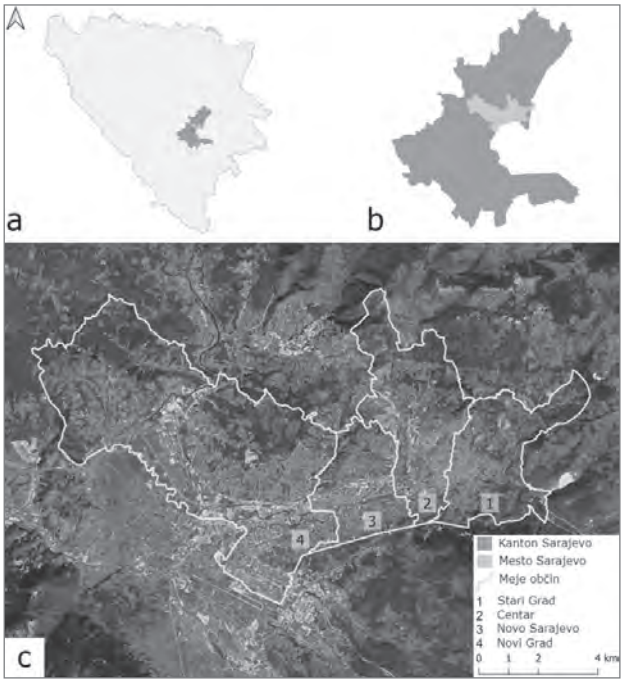
Avtorji domnevajo, da je treba standarde, ki so bili na podlagi okoljskih razmer sprejeti na mestni ravni, ponovno proučiti. Zaradi čedalje večjega prometa, posledic podnebnih sprememb, čedalje večje gostote pozidave in finančnega položaja prebivalcev v kritičnih razmerah, kot so epidemije in energetske krize, se kakovost okolja čedalje slabša. Zato bi bilo treba povečati površino zelenih območij. Za določitev najmanjših vrednosti in predlaganje standardov so ključne informacije o trenutnem stanju in kakovosti zelenih površin.

Avtorji so analizirali kazalnike MZP (delež MZP, skupno površino MZP na prebivalca in skupno površino javnih ZMP na prebivalca) za Sarajevo ter predlagali najmanjšo površino MZP in najmanjšo površino funkcionalnih MZP na prebivalca. Poleg tega so predstavili uporabljeni metodološki pristop ter njegova uporabnost in pomen pri analizi količine in kakovosti MZP.

2 Gradivo in metode

2.1 Proučevano območje

Območje raziskave je bilo urbanizirano območje Sarajeva, ki leži na jugovzhodu Bosne in Hercegovine in je upravno del Kantona Sarajevo. Njegova skupna površina znaša 141 km² ali 11 % ozemlja kantona (preglednica 1). Raziskava se je osredotočala na urbanizirano območje štirih občin, ki skupaj tvorijo mesto Sarajevo: Stari Grad, Centar, Novo Sarajevo in Novi Grad. To območje je opredeljeno tudi v prostorskem načrtu Kantona Sarajevo za obdobje 2003–2023 (sh. *Prostorni plan Kantona Sarajevo za period 2003-2023.*, Sl. n. KS, št. 26/06). Mesto na severu in severozahodu meji na občini Vogošća in Ilijaš, na jugu in vzhodu pa na Republiko Srbsko (slika 1). Nadmorska višina območja sega od 482 m v dolini reke Bosne do 1.534 m na gori Bukovik. Mesto ima razgiban relief, z dolinskimi in hribovitimi deli, ki imajo različno mikroklimo. To lahko povzroča temperaturne inverzije, manjši jakost in pogostost vetrov, pojav lokalnih vetrov in učinke mestnih toplotnih otokov (Općina Novo Sarajevo, 2023).



Slika 1: a) lokacija Kantona Sarajevo v Bosni in Hercegovini; b) lokacija Sarajeva v Kantonu Sarajevo; c) štiri občine v Sarajevu (vir: Google Satellite, 2022).

2.2 Analiza posnetkov satelita Sentinel-2A

Avtorji so za primerjavo rezultatov nenadzorovane razvrstitve in skupne površine MZP, ki so jo določili na podlagi fotografij in ročne vektorizacije MZP, uporabili posnetke satelita Sentinel-2A. 99,5 % uporabljenih posnetkov proučevanega območja je bilo brez oblakov ter ortorektificiranih in radiometrično korigiranih (stopnja obdelave 1C). Posnetki so bili pridobljeni julija 2020 na spletnem vozlišču programa Copernicus za dostop do znanstvenih podatkov satelitov Sentinel. Avtorji so uporabili štiri spektralne pasove (modrega, zelenega, rdečega in infrardečega) z ločljivostjo 10 m, s katerimi so določili štiri tipe vegetacije. Metodo nenadzorovane razvrstitve posnetkov satelita Sentinel-2A so izvedli v programskem orodju SAGA-GIS (algoritem najstrmejšega vzpona, k = 2, normalizirane vrednosti), s katero so pridobili binarni kategoriji pokrovnosti tal: območja z rastlinjem in brez njega. Območja z rastlinjem so pretvorili v vektorske poligone.

Preglednica 2: Razvrstitev MZP

Javne MZP	MZP z omejenim dostopom	MZP za posebne namene
Večji parki	Ob objektih in zgradbah	Pokopališča
Gozdni parki	• Ob športno-rekreativnih objektih	Drevesnice
Manjši parki	• Ob izobraževalnih ustanovah	
Obcestne zelene površine	• Ob zdravstvenih ustanovah	
Obvodne zelene površine	• Ob industrijskih objektih	
Zelene površine ob stanovanjskih blokih	• Ob verskih objektih	
	• Ob drugih javnih ustanovah	
	• Ob trgovskih objektih	
	• Ob samostojnih hišah	
	Mestni gozdovi	
	Kmetijske površine	
	Tematske ureditve	
	• arboretumi	
	• živalski vrtovi	
	• botanični vrtovi	
	• spominski parki	

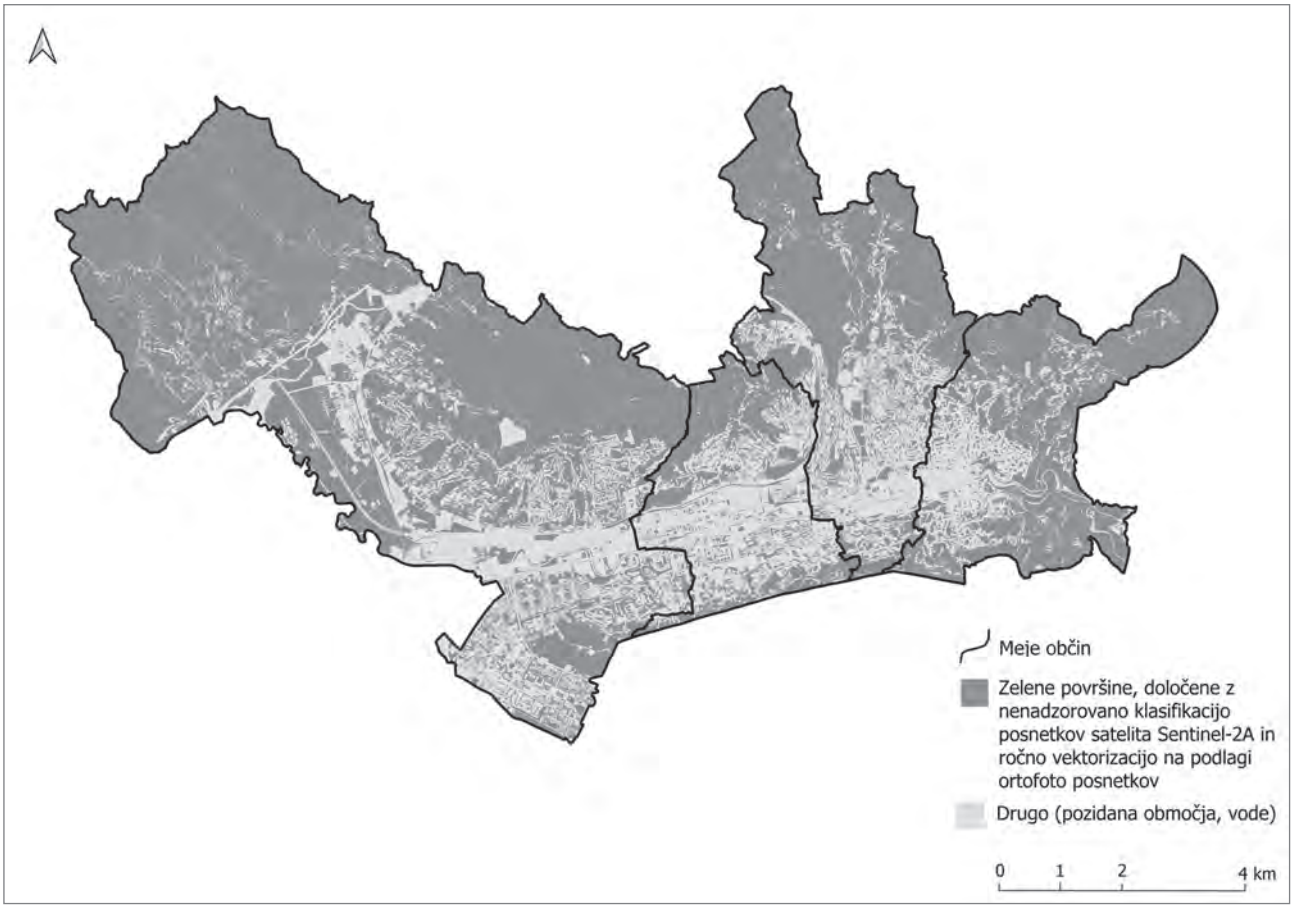
Vir: Vujković (2003)

2.3 Vizualna interpretacija, ročna vektorizacija ortofoto posnetkov in klasifikacija MZP

Avtorji so kot izhodišče za ročno vektorizacijo MZP uporabili ortofoto posnetke proučevanega območja z ločljivostjo 0,5 m, posnete junija 2009 (Zavod ..., 2024). Poleg tega so za vektorizacijo in razvrstitev MZP uporabili podatkovni sloj orodja Google Hybrid, ki je integriran v programsko orodje QGIS, in prostorske podatke vladnega portala Geoportal.ba, ki so jih pridobili med marcem in majem 2022. MZP so ročno pretvorili v poligone v programu QGIS, vsakemu poligonu pa so nato dodelili ustrezen razred oziroma kategorijo MZP (glej preglednico 2) na podlagi prostorskih podatkov in podrobnih informacij o proučevanem območju, ki so jih prispevali sodelujoči strokovnjaki.

V skladu s klasifikacijo, ki jo je oblikovala Ljiljana Vujković (2003), so avtorji MZP razvrstili v tri večje skupine mestne zelene infrastrukture: javne MPZ, MZP z omejenim dostopom in MZP za posebne namene (preglednica 2). Uporabljena razvrstitev temelji na razlikah v rabi zelenih površin, funkcijah zelenih površin v mestni zgradbi in njihovi prostorski razporeditvi. Javne MZP veljajo za najpomembnejšo prvino mestne zelene infrastrukture, saj zagotavljajo skoraj vse glavne funkcije v mestu, zlasti družbene. So osrednji prostori za druženje in socialne stike prebivalcev, zagotavljajo prostore za rekreacijo in so po navadi razporejene tako, da so dostopne večjemu delu mestnih prebivalcev. MZP z omejenim dostopom vključujejo zelene površine, do katerih ima javnost omejen dostop, in sicer zaradi posebne narave prostora, posebnih skupin uporabnikov, vstopnin itd. Te površine imajo estetsko, kulturno, izobraževalno, rekreacijsko in ekološko funkcijo. MZP za posebne namene opravljajo posebne funkcije, na primer uravnalne (vodovarstvena območja), kulturne (pokopališča) in oskrbovalne (drevesnice).

Večji parki so javne zelene površine, večje od 1,5 ha, manjši parki pa pokrivajo površino, manjšo od 1,5 ha. Obcestne zelene površine se nanašajo na urejene zelene pasove ob robovih cest in urejene zelene površine med prometnimi pasovi. Obvodne zelene površine se nanašajo na urejena zelena območja ob vodnih telesih, ki preprečujejo erozijo, izboljšujejo kakovost vode, zagotavljajo naravni življenjski prostor za divje živali, skupnosti pa ponujajo možnosti za rekreacijo. Zelene površine ob stanovanjskih blokih so večinoma manjša zelena območja okoli stanovanjskih zgradb, ki stanovalcem zagotavljajo prostor za sprostitev, aktivnosti v naravi in druženje, s čimer prispevajo k njihovemu dobremu počutju. Gozdi parki so gozdna območja, na katerih se ohranjeni naravni habitati gozdne krajine mešajo z najrazličnejšo rekreacijsko infrastrukturo in tako zagotavljajo prostor za aktivnosti v naravi. Pokopališča vključujejo zelene površine, ki zagotavljajo mirno okolje za razmišljanje. Drevesnice so zelene površine, namenjene proizvodnji rastlinskega materiala na odprtih prostorih. Zelene površine ob športno-rekreativnih objektih se nanašajo na naravno okolico športnih kompleksov ter zagotavljajo možnosti za sprostitev, druženje in druge aktivnosti. Zelene površine ob izobraževalnih ustanovah se nanašajo na naravna območja okoli šol, univerz in drugih izobraževalnih ustanov, ki izboljšajo izobraževalno izkušnjo s spodbujanjem učenja na prostem, telesnih dejavnosti in druženja. Zelene površine ob zdravstvenih ustanovah se nanašajo



Slika 2: Prostorska razporeditev zelenih (MZP) in zazidanih območij v Sarajevu, določena z nenadzorovano razvrstitvijo posnetkov satelita Sentinel-2A ter vizualno interpretacijo in ročno vektorizacijo ortofoto posnetkov (ilustracija: avtorji)

na naravna območja okoli bolnišnic in zdravstvenih domov, ki spodbujajo sprostitev in okrevanje ter izboljšuje duševno počutje. Zelene površine ob industrijskih objektih so zeleni prostori, namenjeni nevtralizaciji negativnih vplivov industrijske proizvodnje na okolico. Zelene površine ob verskih objektih polepšajo okolico cerkev, mošej in drugih verskih stavb ter zagotavljajo miren prostor za razmišljanje in zbiranje skupnosti. Zelene površine ob trgovskih objektih polepšajo okolico trgovin in nakupovalnih središč, saj zagotavljajo prijetno okolje za stranke in zaposlene ter privlačna območja na prostem za sprostitev in druženje. Zelene površine ob samostojnih hišah so večinoma zasebni vrtovi ob hišah v predmestju. Mestni gozdovi so ohranjena območja naravne krajine, gosto porasla z gozdom, v katera človek minimalno posega, njihov glavni namen je ohranjanje naravnih ekosistemov. Kmetijske površine na mestnih območjih vključujejo vrtičke, mestne kmetije in druge zelene prostore, namenjene pridelavi hrane, ki pomagajo krepiti lokalne prehranske sisteme in prehransko varnost. Tematske ureditve so urejene zelene površine, ki se osredotočajo na posamezno temo ali imajo točno določen namen (npr. arboretumi, živalski vrtovi, botanični vrtovi in spominski parki).

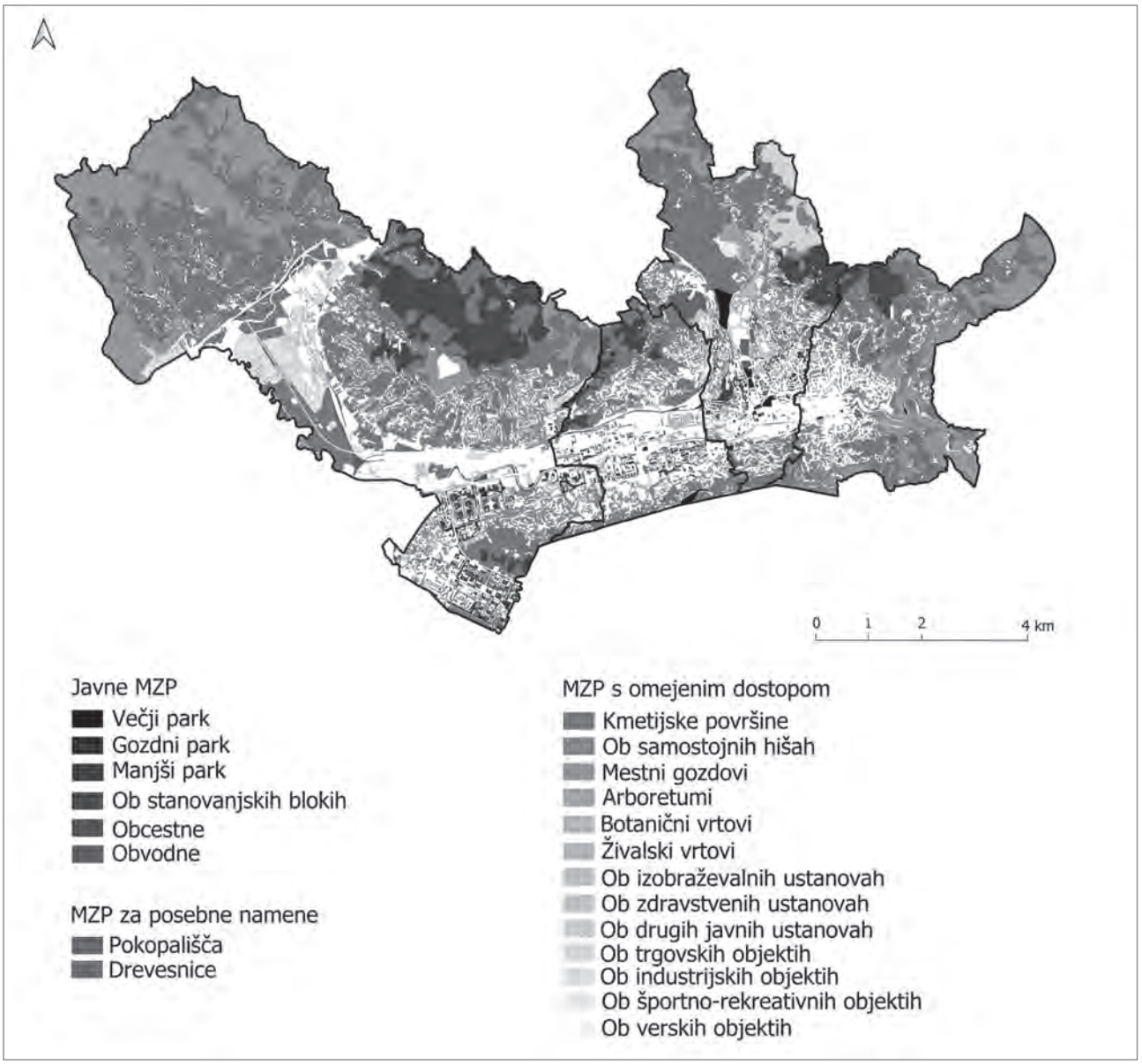
2.4 Pristop, ki temelji na standardih: opredelitev kazalnikov zelenih površin

Avtorji so analizirali naslednje kvantitativne kazalnike zelenih površin: delež MZP na celotnem območju mesta (v %), skupno površino MZP na prebivalca (v m^2) in površino javnih MZP na prebivalca (v m^2). Delež MZP pokaže ekološko in biološko učinkovitost zelenih površin. Določi se s količnikom skupne površine MZP in skupne površine mesta (enačba 1).

$$\text{Delež MZP} = \frac{\text{skupna površina MZP}}{\text{skupna površina mesta}} \times 100\ (\%) \quad \text{(enačba 1)}$$

Skupna površina MZP na prebivalca se določi s količnikom skupne površine MZP in števila prebivalcev na mestnem območju (enačba 2).

$$\text{Skupna površina MZP na prebivalca} = \frac{\text{skupna površina MZP}}{\text{št. prebivalcev}}\ (\text{m}^2 \text{ na prebivalca}) \quad \text{(enačba 2)}$$



Slika 3: Kategorije MZP v Sarajevu (v občinah Novi Grad, Novo Sarajevo, Centar in Stari Grad) (ilustracija: avtorji)

Družbena učinkovitost zelenih površin se ugotavlja s površino javnih MZP na prebivalca. Izračuna se kot količnik skupne površine javnih MZP in števila prebivalcev na mestnem območju (enačba 3).

$$\text{Površina javnih MZP na prebivalca} = \frac{\text{skupna površina javnih zelenih prostorov}}{\text{št. prebivalcev}} \ (\text{m}^2 \text{ na prebivalca}) \quad \text{(enačba 3)}$$

3 Rezultati

3.1 Skupna površina MZP

Skupna površina MZP v Sarajevu znaša 62,1 km², to so avtorji določili na podlagi nenadzorovane razvrstitve, ki je temeljila na posnetkih satelita Sentinel-2A. Dobljena vrednost je precej blizu vrednosti 58,5 km², ki so jo določili z ročno vektorizacijo MZP. Največjo površino MZP ima občina Novi Grad, in sicer 34,1 km², sledijo občini Centar in Stari Grad z 10,9 km² oziroma 9,2 km² ter občina Novo Sarajevo s 4,2 km². Zaradi drugačne prostorske ločljivosti razlika med skupno površino MZP in površino zazidanih območij, določena z nenadzorovano razvrstitvijo satelitskih posnetkov, za 6 % odstopa od raz-

Preglednica 3: Površine kategorij MZP (v ha) in njihovi deleži po občinah ter za celotno mesto

MZP		Stari Grad (v ha)	Centar (v ha)	Novo Sarajevo (v ha)	Novi Grad (v ha)	Sarajevo (v ha, skupno)
Javne	Površina	65,2	180,5	107,3	525,9	878,9
	Delež (v %)	7,1	16,5	25,5	15,4	15,0
Z omejenim dostopom	Površina	837,3	874,6	312,0	2,881,3	4,905,1
	Delež (v %)	90,7	79,9	74,1	84,5	83,9
Za posebne namene	Površina	20,9	39,9	1,6	3,7	66,0
	Delež (v %)	2,3	3,6	0,4	0,1	1,1
Skupno	Površina	923,4	1,095,0	420,9	3,410,8	5,850,0
	Delež (v %)	100,0	100,0	100,0	100,0	100,0

Vir: avtorji

Preglednica 4: Kvantitativni kazalniki MZP po občinah in za celotno Sarajevo

		MZP na prebivalca (v m^2)		
Občina	Zelene površine (v %)	Skupaj	Javne	Javne (brez gozdnih parkov)
Stari Grad	71,4	263,7	18,6	1,4
Centar	67,7	207,0	33,8	19,1
Novo Sarajevo	45,6	65,7	16,8	7,6
Novi Grad	72,1	277,8	42,8	11,0
Sarajevo skupaj	64,2	203,6	28,0	9,8

Vir: avtorji

Preglednica 5: Površina javnih MZP (v m^2) na prebivalca za izbrane kategorije MZP po občinah

Kategorija MZP	Občina			
	Stari Grad (v m^2)	Centar (v m^2)	Novo Sarajevo (v m^2)	Novi Grad (v m^2)
Večji parki	0	5,3	0,8	0
Manjši parki	0,6	0,7	1,1	1,1
Gozdni parki	17,2	14,8	9,2	31,9
MZP ob stanovanjskih blokih	0	12,3	4,6	6,9

Vir: avtorji

like, določene z ročnim kartiranjem. Razlike so vidne zlasti na mejah poligonov (slika 2). Sklenjene zelene površine so na hribovitih predelih mesta, bolj pozidana območja pa so značilna za ravna območja.

3.2 Klasifikacija MZP

Na podlagi rezultatov ročne vektorizacije MZP so avtorji določili 21 kategorij MZP. Na sliki 3 je razvidna njihova prostorska razporeditev, pri čemer beli deli pomenijo najgosteje pozidana območja, na katerih je zelo malo zelenja ali ga sploh ni.

Javne MZP zajemajo 8,79 km^2 ali 15,0 % skupne površine MZP v Sarajevu (preglednica 3). Največji delež v skupni površini MZP obsegajo MZP z omejenim dostopom (49,05 km^2 ali 83,9 %), najmanjši delež pa MZP za posebne namene (0,66 km^2 ali 1,1).

Med javnimi MZP v Sarajevu prevladujejo gozdni parki (10,1 %), zelene površine ob stanovanjskih blokih (3,1 %) in večji parki (0,6 %). Najpogostejši tipi MZP z omejenim dostopom so kmetijske površine (42,4 %), mestni gozdovi (23,9 %) in zelene površine ob hišah (12,3 %). V vseh občinah med javnimi MZP prevladujejo gozdni parki; ti so na obrobju proučevanega območja in so za mnoge prebivalce mestnega središča težje dostopni. Na drugem mestu so zelene površine ob stanovanjskih blokih. Tem sledijo večji parki, ki pa so samo v občinah Centar in Novo Sarajevo, kjer obsegajo 2,56 % oziroma 1,15 % skupne zelene površine. Struktura MZP z omejenim dostopom se po občinah razlikuje. V občinah Stari Grad, Centar in Novi Grad prevladujejo kmetijske površine, mestni gozdovi in zelene površine ob samostojnih hišah, v občini Novo Sarajevo pa kmetijske površine ter zelene površine ob hišah in izobraževalnih ustanov.

3.3 Kazalniki zelenih površin

Rezultati ročne vektorizacije so pokazali, da delež zelenih površin v Sarajevu znaša 64,2 %. Navedena vrednost je približno enaka deležu, določenemu z nenadzorovano razvrstitvijo satelitskih posnetkov, ki znaša 70,4 % (preglednica 4).

Skupna površina MZP na prebivalca v urbaniziranem delu Sarajeva znaša 203,6 m². Vrednost kazalnika se med občinami razlikuje (preglednica 4), večina pa ima podoben delež MZP, in sicer med 68 % in 72 %, skupna površina MZP na prebivalca pa se giblje med 207,0 in 277,8 m². Samo občina Novo Sarajevo ima precej manjši delež MZP (45,6 %) in precej manjšo skupno površino MZP na prebivalca (65,7 m²).

Površina javnih MZP na prebivalca v celotnem Sarajevu znaša 28,0 m². Večjo površino na prebivalca imata občini Novi Grad in Centar (42,8 oziroma 33,8 m² na prebivalca), manjšo pa občini Stari Grad in Novo Sarajevo (16,8 oziroma 18,6 m² na prebivalca). Če pri določanju površine javnih MZP na prebivalca niso upoštevani gozdni parki, ki po navadi ležijo na obrobju urbaniziranih območij, skupna površina javnih MZP na prebivalca v celotnem Sarajevu znaša 9,8 m². Najmanjšo površino ima občina Stari Grad, zgolj 1,4 m².

Ker javne zelene površine zagotavljajo največ družbenih funkcij in so po navadi dostopne velikemu številu mestnih prebivalcev na kratki razdalji, so avtorji izračunali kvantitativne kazalnike za naslednje kategorije MZP: za večje, gozdne in manjše parke ter zelene površine ob stanovanjskih blokih (preglednica 5).

4 Razprava

4.1 Kazalniki zelenih površin

Glede na intenzivno zmanjševanje površine zelenih prostorov je uporaba pristopa, ki temelji na standardih MZP, učinkovita metoda za ohranjanje teh prostorov. Izračunana vrednost površine javnih MZP v Sarajevu, ki znaša 28 m² na prebivalca, kaže, da ta površina ni zadostna in da zastavljeni cilj 47,9 m² na prebivalca (Urbanistički ..., Sl. n. GS, št. 7/86) ni bil dosežen. Optimalna površina, ki jo priporoča Svetovna znanstvena organizacija (2012), je 50 m² zelenih površin na prebivalca, ki naj bi najbolj blagodejno vplivala na splošno zdravje prebivalcev (Morar idr., 2014).

Prostorska dostopnost MZP je ključna za povečanje njihovih splošnih koristi za skupnosti. Avtorji so v raziskavi ugotovili, da je v Sarajevu lahko dostopnih samo 9,8 m² zelenih površin na prebivalca, saj večina gozdnih parkov leži na pobočjih. Čeprav MZP zagotavljajo najbolj ključne ekološke funkcije, se lahko njihov sociološki vpliv zmanjša, če niso dostopne velikemu deležu prebivalcev. Razlike v dostopnosti MZP so lahko posledica širših družbenogospodarskih neenakosti na mestnih območjih, zlasti v revnejših soseskah, ki imajo po navadi manj MZP, kar še povečuje socialne razlike (Dai, 2011). Poleg tega lahko omejena dostopnost MZP vpliva na manjšo telesno aktivnost prebivalcev in prispeva k bolj sedečemu življenjskemu slogu, ki povzroča zdravstvene težave, kot so debelost ter bolezni srca in ožilja (Giles-Corti idr., 2005; de Jalón idr., 2021).

Na podlagi izračunanih vrednosti kazalnikov in njihove primerjave s priporočenimi vrednostmi za MZP (Herzele in Wiedemann, 2003) je raziskava pokazala, da je treba za vzpostavitev trajnostnega mestnega okolja omejiti širjenje stavbnih zemljišč. V urbanističnem načrtu iz leta 1986 (Urbanistički ..., Sl. n. GS, št. 7/86) je opazno pomanjkanje zelenih površin. Sčasoma se začne na njih izvajati netrajnostna oblika gradnje, zato je v Sarajevu čedalje manj zelenih prostorov. Ker pa je mesto obdano z naravnim gozdom, je površina MZP na prebivalca nekoliko večja. Vpliv okoliških gozdnih območij na višjo vrednost tega kazalnika bi bilo treba podrobneje proučiti.

4.2 Najmanjša površina funkcionalnih javnih zelenih površin na prebivalca

Rezultati so pokazali, da skupni delež zelenih površin v Sarajevu znaša 64,2 % (ali 203,6 m² na prebivalca), kar je zadovoljivo. Povprečni skupni delež zelene infrastrukture, izračunan za 38 evropskih glavnih mest, je 42 % (Evropska agencija za okolje, 2022), Maes idr. (2019) pa so ugotovili, da povprečni delež MZP v evropskih središčnih mestih znaša 40 %. Po podatkih raziskave Evropske agencije za okolje (2022) ta delež v Sarajevu znaša 46 %. Razlike v rezultatih so najverjetneje posledica dejstva, da v raziskave niso bile vključene vse vrste zelenih površin. V Evropi je opazen jasen vzorec porazdelitve MZP: najmanj MZP je v južni in vzhodni Evropi, proti severu in severozahodu pa se njihovo število povečuje (Fuller in Gatson, 2009; Maes idr., 2019; Evropska agencija za okolje, 2022). Razlog za razmeroma velik delež MZP v Sarajevu je ta, da je v nekaterih urbaniziranih predelih mesta obrobje manj zazidano in da so na njem večja kmetijska in gozdna območja; to velja zlasti za občino Novi Grad. Večina tovrstnih območij je funkcionalno omejena v smislu zagotavljanja neposrednih koristi za prebivalce in mnogim prebivalcem ni dostopna. Vseeno zagotavljajo zelo pomembne habitatne, uravnalne in/ali oskrbovalne ekosistemske funkcije. Zato je pomembno upoštevati količino funkcionalnih javnih MZP, ki zagotavljajo najrazličnejše koristi, ter se osredotočiti na njihovo ohranjanje in izboljšanje, zlasti z določitvijo najmanjše površine javnih MZP na prebivalca.

Rezultati raziskave so pokazali, da je delež javnih MZP v celotnem Sarajevu 10,2 %, po podatkih Evropske agencije za okolje (2022) pa naj bi ta znašal 5 %. Skupni delež javnih MZP na prebivalca se med občinami razlikuje, kar je bilo pričakovano. Nekatere občine imajo večji delež (npr. Novi Grad in Centar), druge pa manjšega (npr. Stari Grad in Novo Sarajevo). To je odvisno od njihove funkcionalne vloge v zgradbi in zgodovinskem razvoju mesta. Pri določanju standardov MZP je zato pomembno upoštevati raznovrstnost mestnih okolij, saj imajo nekatere soseske posebne značilnosti in potrebe.

V raziskavi srednje- in dolgoročnega razvoja skupnostnih dejavnosti v mestu, ki se je osredotočala na urbano zelenje, so bile za naslednje kategorije MZP predlagane optimalne vrednosti na prebivalca: 8 m^2 za večje parke, 4 m^2 za manjše parke, 100 m^2 za gozdne parke in 8 m^2 za zelene površine ob stanovanjskih blokih. Analiza rezultatov kazalnikov za celotno Sarajevo je pokazala, da optimalne vrednosti niso dosežene v nobeni od navedenih kategorij. Rezultati so bili namreč naslednji: 1,2 m^2 na prebivalca za večje parke, 1,0 m^2 za manjše parke, 21,4 m^2 za gozdne parke in 6,5 m^2 za zelene površine ob stanovanjskih blokih.

Rezultati te analize kažejo, da ima Sarajevo dobre možnosti, da se razvije v trajnostno zeleno-modro mesto. Ker imajo najgosteje poseljeni deli mesta najmanj zelenih površin in ker je prostorska dostopnost MZP, ki bi zadovoljila minimalne potrebe prebivalcev, v mestu vprašljiva, bi bilo treba spremeniti veljavne urbanistične zakone in določiti standarde, ki bi zagotovili zadostno količino MZP v mestu. Treba bi bilo oblikovati urbanistične smernice, ki bi se osredotočale posebej na MZP, in jih vključiti v urejanje prostora, s čimer bi zagotovili ohranjanje mestne zelene infrastrukture in poskrbeli, da vlagatelji v nove projekte vključijo dovolj velik delež zelenih površin. Javne MZP bi bilo treba zavarovati s pravnimi ukrepi in formalno priznati za javne dobrine, s čimer bi preprečili njihovo zazidavo (Ballian idr., 2021). Smernice bi morale nujno upoštevati minimalni standard 9 m^2 javnih MZP na prebivalca. Na obrobju mesta, kjer je na voljo več zemljišč, bi se morala prizadevanja usmeriti v doseganje optimalnega standarda javnih MZP na prebivalca, prilagojenega specifičnim potrebam posameznih sosesk, pri čemer bi se morali upoštevati dejavniki, kot so gostota prebivalstva in kakovost MZP. Zaradi edinstvene topografije Sarajeva je ključno, da se v okviru sprememb prostorskih dokumentov prednostno zavarujejo kmetijska območja visoke vrednosti, mestni gozdovi in gozdni parki. Kmetijska zemljišča so pomembni ekološki blažilci in zagotavljajo ključne storitve, kot sta ohranjanje tal in pridelava hrane. Ta območja so še zlasti dragocena na nagnjenem terenu na obrobju mesta, kjer pomagajo uravnavati meteorne vode in preprečujejo erozijo tal. Mestni gozdovi in gozdni parki, ki so večinoma na obrobju mesta, pomagajo ohranjati ekološko povezljivost med mestnimi in podeželskimi območji, hkrati pa odvajati meteorne vode in stabilizirati tla. Linearne zelene površine, kot so drevoredi in obvodne MZP, so pogosto spregledane, čeprav so pomembna sestavina mestne zelene infrastrukture. V prostorskih dokumentih višjega reda po navadi niso jasno opredeljene, kljub temu pa so zelo pomembne za oblikovanje sklenjenih omrežij zelenih koridorjev, ki povezujejo raznovrstne zelene površine po mestu. Poleg zagotavljanja rekreacijskih poti so ta območja ključna za krepitev biotske raznovrstnosti, hlajenje mestnega okolja ter izboljšanje kakovosti zraka in prevetrenosti. Glede na omejene možnosti ureditve novih, večjih MZP v središčnih, gosto pozidanih območjih Sarajeva je pomembno ohraniti in razširiti linearne zelene površine in uvesti alternativne oblike urbanega zelenja. Nenazadnje bi tudi vključevanje javnosti v načrtovanje, ankete in fokusne skupine pomagalo izboljšati stanje glede MZP, da bi ustrezale željam in potrebam lokalnih prebivalcev, s čimer bi zagotovili, da standardi MZP izražajo vrednote skupnosti.

4.3 Metodološki pristop ter njegova uporabnost in pomen

Raziskava pomembno prispeva k razumevanju MZP v Bosni in Hercegovini, saj daje osnovne informacije o količini, prostorski razporeditvi in kategorijah MZP. Je prva raziskava te vrste in tega obsega, ki je bila opravljena na ravni Sarajeva in njegovih občin. Po prostorski in tematski podrobnosti presega podatke, ki so na voljo v okviru projekta Urban Atlas, in druge geoprostorske podatke o MZP v Sarajevu. Za natančnejše načrtovalske odločitve so potrebni vhodni podatki višje ločljivosti. Predlagani pristop združuje samodejno prepoznavanje območij z rastlinjem in brez njega na posnetkih satelita Sentinel-2A ter podrobnejšo ročno vektorizacijo in razvrstitev MZP na podlagi ortofoto posnetkov višje ločljivosti. Metodološki pristop, uporabljen v tem članku, je zato uporaben za vsa mestna območja v Evropi. Prostorske informacije, pridobljene s temi metodami, se lahko preprosto in sproti posodabljajo skozi čas. Izsledki raziskave bodo pripomogli k boljšemu razumevanju MZP v Sarajevu, odločevalci in oblikovalci politik pa jih lahko uporabljajo kot podlago za urejanje prostora in splošno upravljanje mestnega prostora na področju krajinske arhitekture, priporočanje norm za MZP v prihodnjih prostorskih načrtih, ohranjanje in izboljšanje MZP ter zaščito dragocenih ekosistemskih storitev. Izsledki poleg tega zagotavljajo izhodišče za nadaljnje raziskave na tem področju ter omogočajo boljši vpogled v stanje, kakovost in pomen MZP, njihovo prostorsko dostopnost in ekosistemske storitve, ki jih zagotavljajo, na podlagi česar se lahko izboljša njihovo upravljanje. Raziskavo bi bilo smiselno razširiti na druge občine v Kantonu Sarajevo, ob upoštevanju stopnje urbanizacije in možnosti izboljšanja mestne zelene infrastrukture, ter na druga večja mestna območja

v Bosni in Hercegovini, da bi dobili vpogled v stanje MZP in ustvarili podlago za načrtovanje in upravljanje zelenih površin v skladu s trajnostnim razvojem mest.

4.4 Omejitve

Čeprav raziskava prispeva pomembne izsledke, je imela nekatere omejitve, ki lahko vplivajo na točnost njenih ugotovitev. Časovni razmik med obdobjem raziskave in ortofoto posnetki lahko povzroči neskladja pri vektorizaciji MZP, kar so avtorji delno rešili z uporabo dodatnih geoprostorskih podatkov, vključno s podatkovnim slojem orodja Google Hybrid in podatki, ki so na voljo na vladnem spletnem portalu Geoportal.ba. Poleg tega je klasifikacija MZP temeljila na združevanju geoprostorskih podatkov s poglobljenim poznavanjem obravnavanega urbaniziranega območja, ni pa vključevala dodatnih metod, kot so terenski ogledi. To bi lahko povzročilo nepravilnosti v razvrstitvi. Pri nadaljnjih raziskavah bi bilo treba uporabiti ažurirane geoprostorske podatke in naprednejše metode klasifikacije, kar bi ublažilo navedene omejitve ter izboljšalo točnost in uporabnost rezultatov.

5 Sklep

Glede na to, da ni uradnih podatkov o proučevanem mestnem območju, raziskava zagotavlja zanesljive informacije o kategorijah MZP v Sarajevu. Poleg tega je na podlagi kazalnikov zelenih površin mogoče presoditi kakovost mestnega prostora s primerjavo z znanimi standardi. Ugotovljena skupna površina javnih MZP na prebivalca je bila 28,0 m^2 oziroma 9,8 m^2, če gozdni parki niso bili upoštevani. Priporočeni optimalni standardi ZMP, ki so bili za Sarajevo predlagani leta 1985, in optimalni standard 50 m^2 zelenih površin na prebivalca, ki ga priporoča Svetovna zdravstvena organizacija, v mestu niso bili doseženi. Predstavljeni izsledki bodo pripomogli k boljšemu razumevanju MZP v Sarajevu, odločevalci in oblikovalci politik pa jih lahko uporabljajo kot podlago za urejanje prostora ter ohranjanje in izboljšanje prostorov.

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Tina COTIČ
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Neizkoriščen potencial začasne rabe prostora: študija primera Avtomatik Delovišče v Kopru

V mnogih sodobnih mestih so degradirani oziroma nezadostno izkoriščeni ali zapuščeni prostori velik izziv ali neizkoriščena priložnost. Začasna raba prostora se je v takih primerih izkazala kot učinkovita prostorska praksa, ki omogoča najboljšo rabo prostorskih virov v nekem času in kraju. V zadnjih dveh desetletjih se v akademskih krogih veliko piše o začasni rabi. Večinoma jo enoglasno hvalijo, utemeljujejo jo kot družbeno napredno, ekonomsko razumno in fleksibilno prostorsko prakso, ki lahko vzbudi inovativno, novo in vključujočo kulturo mestnega življenja. Obravnavajo jo kot katalizator sprememb, ki lahko razmeroma hitro, na podlagi eksperimentalnih rešitev oživi degradirane prostore ter hkrati ohranja njihovo zgodovinsko, identitetno in okoljsko vrednost. V članku se teoretična spoznanja o začasni rabi prostora preverjajo z rezultati, ki so bili pridobljeni s participativno študijo primera začasne rabe prostora Avtomatik Delovišče v mestu Koper. Študija se osredotoča na učinke, ki jih je ta prostorska praksa sprožila v mestnem okolju in na podlagi katerih se proučuje vloga te prakse pri urbani regeneraciji. Pri tem se na podlagi pluralne študije primerov začasne rabe v drugih mestih v Sloveniji ugotavlja, kako lahko alternativni, začasni projekti pripomorejo k povečanju urbane raznolikosti, vključevanju skupnosti, ustvarjalnosti, inovativnosti in krepitvi lokalne identitete. Hkrati se proučuje tudi, kako začasno rabo dojemajo in sprejemajo prebivalci Kopra, kako strokovna javnost in kako predstavniki Mestne občine Koper.

Ključne besede: začasna raba prostora, degradirana urbana območja, trajnostni urbani razvoj, regeneracija, družbena kohezija, kulturni kapital, mesto Koper

1 Uvod in ozadje raziskave

V enaindvajsetem stoletju je začasna raba prostora postala pogosta prostorska praksa, ki se pojavlja v številnih mestih po Evropi ter privablja vse večjo pozornost akademikov, širše javnosti in politike (Stevens in Dovey, 2023). Napisanih je veliko knjig, študij in člankov, v katerih so proučevali na kakšen način začasna raba prispeva k urbanemu razvoju v Evropi. Med avtorji, ki so o tem največ pisali, so Haydn in Temel, 2006; Sfs, 2007; Bishop in Williams, 2012; Oswalt idr., 2013; Andres, 2013; Colomb, 2012; Lydon in Garcia 2015; Madanipour, 2017a; Stevens in Dovey, 2023. V tem članku bomo izpostavili pisce o začasni rabi prostora, ki so posebej pomembni v slovenskem kontekstu.

Koncept začasne rabe prostora se v Sloveniji s prostorskimi pojavi (npr. vrtičkarstvo, neformalne stojnice, parkirne površine itd.) pojavlja že dlje časa. Novejša raba tega koncepta, ki se nanaša na procese revitalizacije mest pa se je v Sloveniji razširila in utrdila predvsem v zadnjem desetletju (glej npr. Mreža za prostor, 2018; Šifkovič Vrbica idr. 2014, 2015; Jurman in Lovšin, 2021). Treba je omeniti, da je bilo do zdaj pri nas razmeroma malo znanstvene literature, ki bi se neposredno navezovala na začasno rabo z vidika urbane regeneracije . Avtorji, ki so o tem pisali so: Kurnik in Beznec, 2009; Uršič, 2011; Cvejić idr., 2015; Pignar, 2015; Vilfan, 2015; Cotič in Lah, 2016; Cotič, 2023; Gatouillat in Nikšič, 2023. Veliko več znanstvenih prispevkov se ukvarja s participacijo v urejanju prostora v Sloveniji, pri čemer je začasna raba obravnavana le kot ena od možnih participativnih prostorskih praks, ki lahko pripomorejo k urbani regeneraciji, kot npr.: Cerar, 2015; Uršič, 2021).

V zadnjem času je nastalo nekaj pomembnih praks začasne rabe prostora v Sloveniji, ki so se oblikovale pod okriljem nevladnih organizacij, predvsem kulturno-umetniških društev, ki si v okviru svoje dejavnosti prizadevajo za trajnostno urejanje prostora. Med aktualnimi praksami velja izpostaviti začasni produkcijski prostor Krater (Ljubljana), Participativno ljubljansko avtonomno cono – PLAC, GT22 (Maribor) in nedavno vzpostavljeni AKC Nama (Škofja Loka). Prakse začasne rabe, ki so se že končale in so pustile sled predvsem v obliki družbeno-kulturnih in trajnostnih učinkov v prostoru, so Onkraj gradbišča (Ljubljana), Kreativna cona Šiška (Ljubljana), Tobačna tovarna (Ljubljana), Avtonomna tovarna Rog (Ljubljana), Carinarnica (Nova Gorica), Ustvarjalna platforma Inde (Koper) in ne nazadnje tudi Avtomatik Delovišče (Koper). Iz naštetega je razvidno, da je večina teh praks nastala v Ljubljani, zelo malo pa v drugih mestih po Sloveniji.

Obstaja več razlogov, zakaj postaja ta prostorska praksa v evropskih mestih nov urbani trend. Mednje spadajo predvsem nedavna gospodarska kriza, ki je izpostavila potrebo po strategijah recikliranja in ponovne uporabe, omejeni viri, skrb za ohranjanje arhitekturne dediščine, vse večje zavedanje o pomenu trajnostnega razvoja ter naraščajoč pomen participacije v urejanju prostora (Urban Education Live, 2019, 2020; Galdini, 2020; Uršič, 2023; HEI-TRANSFORM, 2024). Tehnološke spremembe in vse večja negotovost na trgu dela spodbujajo ustvarjalnost, nove kulture trende, socialne inovacije ter številne prožne in prehodne prostorske prakse. Hkrati spodbujajo tudi multidisciplinarno razmišljanje o možnih orodjih načrtovanja urbanega prostora. Prakse začasne rabe oziroma začasnega urbanizma so alternativna metoda urbanističnega načrtovanja, usmerjena v aktivirajte prostora, ki ga je treba preoblikovati, hkrati pa vpliva tudi na družbeno-ekonomske spremembe v okolju (Blumner, 2006; Andres in Kraftl, 2021). Začasni urbanizem je opredeljen kot začasna narava urbanističnih procesov, pri čemer sta izpostavljena dva ključna koncepta, čas in začasnost (Madanipour, 2017b). Začasnost izraža sodobno pojmovanje časa, fragmentacijo družbe in hkrati potrebo po eksperimentiranju in inovacijah. Začasni urbanizem priznava večplastne interakcije in potrebo po prilagodljivosti ter odzivnosti na nenehno spreminjajoče se urbane ritme (Andres in Kraftl, 2021). Vključuje začasne, večinoma neformalne in predvsem od spodaj navzgor usmerjene prakse, ki jih izvajajo javni, zasebni in civilnodružbeni akterji (Henneberry, 2017; Madanipour, 2017b). S svojim, v večini primerov kolektivnim značajem utirajo pot družbenim inovacijam, spodbujajo socialno kohezijo in okoljske vrednote (Simões Aelbrecht idr., 2021). Sočasno lahko podpirajo gospodarske dejavnosti in spodbujajo valorizacijo kulturne dediščine ter hkrati delujejo kot protiutež togemu formalnemu načrtovanju prostora (glej npr. HEI-TRANSFORM, 2024). Prakse začasne rabe namreč omogočajo eksperimentalno in igrivo, hkrati pa zelo konkretno iskanje rešitev, ko tradicionalne razvojne strategije odpovejo (De Smet, 2013). Lehtovuori in Ruoppila (2012: 30) izpostavljata, da imajo primeri začasne rabe »zmožnost raziskovati nadaljnje potenciale krajev, kjer se izvajajo. So vmesnik med trenutnim dogajanjem in trajno prenovo«. Predhodne raziskave kažejo še, da so intervencije začasnih uporabnikov v procesu urbane regeneracije zelo učinkovite, saj niso osredotočeni zgolj na prostor, na njegovo fizično prenovo oziroma preobrazbo, so usmerjeni predvsem v ljudi, na družbeni vidik produkcije prostora (Lefebvre, 1991; Klaff, 2014; Marra idr., 2016), prav to pa je ključna značilnost te prostorske prakse.

V tem kontekstu raziskujemo vlogo in pomen začasne rabe prostora pri urbani regeneraciji na primeru Avtomatik Delovišča (v nadaljevanju Delovišče). S kvalitativnimi raziskovalnimi metodami preverjamo učinke, ki jih je ta mali, eksperimentalni, začasni projekt povzročil v prostoru. Z uporabo pluralne študi-

je primerov začasne rabe prostora v drugih slovenskih mestih ugotavljamo, kako lahko take prostorske prakse pripomorejo k večji urbani raznolikosti, ustvarjalnosti, inovativnosti, lokalni identiteti in vključevanju lokalne skupnosti v urejanje prostora. Zanimalo nas je tudi, kako začasno rabo dojemajo prebivalci in strokovna javnost ter kakšno je sistemsko (institucionalno) okolje oziroma kateri je možni način vključevanja take prostorske prakse v urejanje prostora za Mestno občino Koper (v nadaljevanju: MOK). Zaključili bomo s sklepnimi ugotovitvami, omejitvami raziskave in priporočili za nadaljnje raziskovanje.

2 Učinki začasne rabe prostora

Članek se osredotoča na atipične primere začasne rabe prostora (ang. *extraordinary temporary uses*). Za nadaljnjo razpravo je treba namreč poudariti, da se primeri začasne rabe prostora delijo na tipične (ang. *ordinary temporary uses*) in atipične. Tipični primeri začasne rabe so komercialne prostorske prakse, h katerim se pogosto zatekajo javni/zasebni lastniki zemljišč, ki z dobičkonosno usmerjenimi, začasnimi rešitvami, kot je dobičkonosno zaračunavanje parkirnine na parkiriščih na praznih, neurejenih urbanih območjih ali oddajanje zemljišč za oglasne panoje, pridobivajo izključno ekonomsko korist (Martin idr., 2019). Članek tako obravnava ključne učinke atipičnih primerov začasne rabe, ki so večinoma nastali kot skupnostne pobude od spodaj navzgor ter za katere je značilno, da presegajo ekonomske interese in da razvijajo urbane forme, ki so v primerjavi s formalnim urbanističnim načrtovanjem s pristopom od zgoraj navzdol bolj prilagojeni lokalni urbani skupnosti.

2.1 Prostorski/okoljski učinki

Na podlagi že izvedenih primerov začasne rabe prostora je bilo ugotovljeno, da se prostorski/okoljski učinki teh praks v fizični obliki kažejo predvsem na naslednje načine: zmanjšajo, upočasnijo ali celo zaustavijo fizično degradacijo območja ter z minimalnimi posegi vzpostavijo razmere za ponovno izvajanje dejavnosti, kar vodi do redefiniranja degradiranega urbanega območja (v nadaljevanju: DUO) oziroma omogoči novo funkcionalno rabo, ki je večinoma fleksibilna, inovativna in ustvarjalna (Bishop in Williams, 2012; Colomb, 2012; Madanipour, 2017a). DUO tako pridobi novo uporabno in simbolično vrednost (Galdini in De Nardis, 2023). Z vnosom začasnih vsebin se izboljša tudi kakovost bivalnega okolja in vzpostavi se nova identiteta kraja. Pri tem je treba poudariti, da se primeri začasne rabe glede na fizične učinke v prostoru, po tem ko se končajo, večinoma delijo v dve skupini. V prvo spadajo primeri začasne rabe, ki ne povzročijo nobenih trajnih fizičnih sprememb na površinah ali konstrukcijah (npr. pop-up trgovine). Druga pa zajema primere začasne rabe, ki pustijo dolgoročne spremembe na obstoječihpovršinah ali konstrukcijah. Te spremembe lahko vključujejo adaptacijo ali odstranitev struktur, preoblikovanje talnih površin, spremembo mikrotopografije območja ali gradnjo novih struktur različnega obsega (npr. LX Factory v Lizboni ali Onkraj gradbišča v Ljubljani) (Cotič, 2023).

2.2 Ekonomski učinki

Začasna raba prostora je večinoma ekonomsko učinkovita tako za lastnika kot za začasne uporabnike. Za lastnika je začasna raba njegove nepremičnine skoraj vedno ekonomsko koristna, saj ohranja njegovo premoženje, zmanjšuje stroške vzdrževanja in preprečuje vandalizem. Lastnik se tako izogne dodatnim stroškom zavarovanja in varovanja nepremičnine pred nezakonito rabo (tj. okupacijo) prostora (Colomb, 2012; Bishop in Williams, 2013; Šifkovič Vrbica, 2015). Poleg tega se tako vrednost nepremičnine ohranja ali – v primeru nepremičnine brez tržne vrednosti – z vnosom začasnih vsebin celo zviša, nepremičnina pa izboljša svojo podobo in privabi več potencialnih uporabnikov (SfS, 2007: 37, Bishop in Williams, 2012: 43).

Za začasne uporabnike je začasna raba koristna, ker jim omogoča dostop do prostora po nizkih cenah ter jim tako daje priložnost za preizkušanje in razvijanje lastnih idej v praksi (Haydn in Temel, 2006; Bishop in Williams, 2012; Andres, 2013; Oswalt idr., 2013; Némethin in Langhorst, 2014). Z obravnavano prostorsko prakso se tako pogosto razvijejo nove ekonomije, kot so ekonomije souporabe, solidarnostne ekonomije ali darilne ekonomije, ki lahko privabijo nove kolektive in ustvarjalne posameznike na podlagi vpliva, ki ga imajo na lokacijo. Poudariti je treba, da je začasna raba lahko komercialna ali nekomercialna. Nekomercialna začasna raba, ki ni tržno naravnana, lahko omogoči komercialno, dobičkonosno rabo prostora (Bishop in Williams, 2013). Lastnik tako lahko del prazne stavbe odda za nizko ali neprofitno najemnino v nekomercialne namene (atelje, galerija itd.), drugi del stavbe, če ta seveda to dopušča, pa odda v začasni najem za komercialne namene (kavarna, trgovina itd.) za višjo najemnino in s tem zadosti tudi potrebam obiskovalcev. Colomb (2012: 136) poudarja, da so nekateri primeri začasne rabe že od začetka komercialni in se izvajajo kot del formalne ali sive ekonomije, drugi pa so nekomercialni in se izvajajo brez denarne menjave.

2.3 Družbeno-kulturni in trajnostni učinki

Začasna raba načeloma omogoča hitre in oprijemljive rezultate in tako spodbudi skupnost k uresničevanju skupnih ciljev, ki so osredotočeni na lokalne potrebe, ne na zunanje interese ali programe. V obdobju začasne rabe lahko uporabniki s svojimi aktivnostmi ponujajo raznolike družbene in kulturno-umetniške vsebine, ki predstavljajo pomemben element nematerial-

nega urbanega kulturnega in socialnega kapitala (Bourdieu, 1986). V ospredju je delovanje, ki mu smisel dajejo predvsem inovativne in alternativne prostorske prakse civilne družbe, ki se običajno odvijajo zunaj vladnega nadzora in so usmerjene k javnemu dobremu v prostoru, ne prakse, ki v prostor posegajo zaradi individualnih interesov po dobičkonosnosti in komodifikaciji prostora.

Študija literature na temo že izvedenih primerov začasne rabe prostora kaže, da ti lahko kljub svoji začasni ali kratkoročni naravi dolgoročno prispevajo k izboljšanju kakovosti vsakdanjega življenja v mestih in s tem tudi k vzdržnemu urbanemu razvoju (Križnik, 2015, 2018; Urban Education Live, 2019, 2020). Zanje je značilen participativni pristop pri načrtovanju, izvedbi in upravljanju (Cerar, 2015; Peterlin, 2015). Primeri začasne rabe lahko spodbudijo razvoj intenzivnih in raznovrstnih družbenih vezi ter tako obogatijo vsakdanje življenje prebivalcev in okrepijo socialni kapital, ki predstavlja ključen vir razvojne moči lokalnih skupnosti. Gre za oblikovanje trajnostnih skupnosti, ki so aktivne, vključujoče in varne ter vključujejo družbene vidike trajnosti (Office of the Deputy Prime Minister, 2005). Med drugimi lastnostmi, ki so značilne za trajnostne skupnosti, raziskovalci izpostavljajo še občutek skupnosti v zdravem in varnem okolju (Burton in Mitchell, 2006), družbene stike in stabilno skupnost prebivalcev z občutkom pripadnosti kraju, kjer živijo. V ospredju so torej kolektivni in skupni vidiki vsakdanjega življenja, kar krepi socialno kohezivnost zadevnega območja. Poleg tega primeri začasne rabe spodbujajo heterogenost z zgoščevanjem družbeno-kulturnih vlog, ljudi, informacij, dogodkov in srečevanj. S tem dopuščajo ustvarjalnost in urbano eksperimentiranje ter številne priložnosti za izražanje individualnih in skupinskih potreb, česar zaprta, standardizirana in socialno uniformna območja v mestu običajno ne omogočajo (Uršič, 2011: 8). S svojim delovanjem dokazujejo, da so spremembe v prostoru na boljše možne, česar pogosto odtujeni in dolgotrajni procesi urejanja prostora ne omogočajo (Peterlin, 2015: 6).

Iz tega sledi, da začasni uporabniki z izvajanjem začasnih dejavnosti lahko imajo pomembno vlogo v kulturni ponudbi mesta in pripomorejo k regeneraciji DUO, saj prispevajo k družbeni, kulturni in gospodarski raznolikosti ter vplivajo na lokalno proizvodnjo in potrošnjo (Uršič, 2011; Madanipou, 2017b; Urban Education Live, 2019, 2020). Madanipour (2017b) poudarja, da lahko začasni uporabniki z utelešenim in institucionaliziranim kulturnim kapitalom pomembno prispevajo k ekonomski vrednosti DUO, s čimer pomagajo spremeniti dojemanje nekega območja in pospešijo njegov razvojni proces. Vendar s tem ustvarjalna, nekomercialna začasna raba lahko pritegne tudi komercialno rabo prostora, ki poleg regeneracije DUO omogoča tudi možnosti zlorabe. S tem ko začasni uporabniki sprožijo ustvarjalno regeneracijo območja, povečajo njegovo vrednost in zanimanje zanj, kar lahko privede do urbane gentrifikacije, ki postopoma izrine te nekomercialne dejavnosti začasnih uporabnikov (Uršič, 2011; Colomb, 2012; Tardiveau in Mallo, 2014; Cerar, 2015; Madanipour, 2017b). Pri tem je treba poudariti, da v Sloveniji še ni bilo primerov, da bi začasno rabo izkoriščali načrtno za zviševanje vrednosti prostora, kar pa ne pomeni, da se taki motivi ne bodo začeli pojavljati. Zato lahko sklepamo, da je pojav navedenih procesov odvisen predvsem od urbanega okolja, v katerem se izvaja začasna raba, tipa začasne rabe, uspešnosti ali priljubljenosti začasnih vsebin in od pobudnika, ki je začasno rabo vzpostavil (Jurman in Lovšin, 2021; Cotič, 2023).

2.4 Tveganja ali negativni učinki začasne rabe prostora (komodifikacija, gentrifikacija, turistifikacija)

Začasno rabo je mogoče razumeti tudi na nasprotujoče si načine. Na eni strani ponuja nove priložnosti kreativnim podjetnikom, civilnim pobudam in lokalnim dejavnostim, na drugi strani pa se spreminja v preobrazbeni instrument, ki ga blagovne znamke ali korporacije izkoriščajo za vzpostavitev novih tržnih niš in pridobivanje novih potrošnikov (Ferreri, 2016; Madanipour, 2017b: 7; Urban Education Live, 2019, 2020). S posnemanjem ali izkoriščanjem urbane subkulture se pomen začasne rabe spremeni, saj postane zaželen družbeni trend (Colomb, 2012: 144; Madanipour, 2017b). Gre za premik od potrebe k izbiri, ki neposredno vpliva tudi na začasne uporabnike, ki lahko nevede postanejo akterji, vpleteni v procese komodifikacije, turistifikacije in gentrifikacije. Colomb (2012) na primeru Berlina pojasnjuje, kako namensko vključevanje primerov začasne rabe prostora, ki jih sprožijo oblikovalci politik in nepremičninski investitorji, povzroča pritisk nad začasnimi uporabniki, ogroža njihov obstoj ter uničuje njihovo spontano in eksperimentalno naravo. Posledice takega ravnanja vodijo v komodifikacijo, preobrazbo, izpodrivanje in izginotje alternativnih in nekomercialnih primerov začasne rabe ter s tem izzovejo intenzivne konflikte. Tak proces prizadene številna samonikla prizorišča, namenjena kulturi, umetnosti in zabavi. Ko začasna raba prostora revitalizira DUO, pripomore k zvišanju vrednosti teh območij ter spodbudi procese komodifikacije, gentrifikacije in turistifikacije. Čeprav je začasna raba lahko koristna za vzpostavitev dobrih tržnih razmer ali ustvarjanje novih vsebin, pristojne politike večinoma prezrejo nujno podporo, ki bi začasnim uporabnikom omogočila nadaljnje delovanje. Ustvarjalni posamezniki in skupine obenem zaradi globalizacije gentrifikacijskega trenda in intenzifikacije prenove in regeneracije mestnih središč vse težje najdejo poceni prostore v mestu, v katerih bi lahko eksperimentirali in razvijali svoje vsebine.

Preglednica 1: Predstavitev intervjuvancev, njihove šifre in funkcije ali vloge v Kopru

Intervjuvanec (šifra)	Predstavitev	Vloga
IN1	javni uslužbenec na Zavodu za varstvo kulturne dediščine Piran	predstavnik institucije
IN2	javni uslužbenec na Uradu za prostorski razvoj in nepremičnine na MOK	predstavnik institucije
IN3	krajinski arhitekt in začasni uporabnik platforme Delovišče	predstavnik stroke
IN4	arhitekt in vodja biroja v mestu Koper	predstavnik stroke
IN5	zaposlen strokovni delavec v Kulturnem in izobraževalnem društvu Pina	predstavnik nevladne organizacije
IN6	član Neodvisnega obalnega radia ter eden izmed pobudnikov začasne rabe prostora Ustvarjalna platforma Inde	predstavnik nevladne organizacije
IN7	predstavnik krajevne skupnosti Koper center	predstavnik institucije

Začasna raba je torej prožna oblika produkcije prostora, ki omogoča različne priložnosti različnim deležnikom: javnim oblastem, da se prepreči podoba urbanega propada, ustvarjalnim posameznikom za dostop do prostora po nizkih cenah, lastnikom za maksimiranje rabe premoženja in nepremičninski panogi za gentrifikacijo (Madanipour, 2017b). Pod pretvezo bleščečega kulturnega trenda človekoljubna fasada nudi podporo in hkrati normalizira prekarnost ter izpodriva tiste, ki morajo naprej, ko se kratka priložnost konča. Kot taka je začasna raba del širših urbanih procesov z večpomenskimi ekonomskimi, družbenimi in kulturnimi posledicami za deležnike.

3 Metodologija

Možnosti začasne rabe prostora smo preverjali z analizo primarnih podatkov, ki temeljijo na participativni študiji primera Delovišče v mestu Koper (opazovanje z udeležbo), ter nestrukturiranimi in polstrukturiranimi intervjuji z deležniki na lokacijah. Primarne podatke smo dopolnjevali z analizo sekundarnih podatkov iz pluralne študije primerov začasne rabe prostora v drugih mestih po Sloveniji. Ugotavljali smo, katere rezultate ali učinke so obravnavani primeri začasne rabe sprožile v prostoru, kako to rabo dojemajo in sprejemajo strokovna javnost in prebivalci v mestu Koper ter kakšen odnos je do nje vzpostavil MOK. Celotna študija temelji na raziskavah, ki so trajale med letoma 2017 in 2022.

Opazovanje z udeležbo je potekalo od novembra 2019 do marca 2020, za čas trajanja začasne rabe prostora Delovišče v Tomosovi stolpnici, v okviru dogodkov, ki jih je izvajalo Kulturno umetniško društvo C3. Pri tem so se izmenjale opazovalne strategije, pri čemer so bili raziskovalci v vlogi tako aktivnega zunanjega kot notranjega (znotraj skupine) opazovalca, tj. z neposredno udeležbo kot sopobudniki in soupravljavci vzpostavljenih prostorskih praks v procesu razvoja začasnih prostorov. Delovišče je tako zaradi delovno aktivne vloge raziskovalcev postalo eksperimentalno okolje, v katerem sta se prepletali tako teorija kot praksa.

Rezultate, pridobljene s to raziskovalno metodo, smo dopolnili z nestrukturiranimi intervjuji s posamezniki, ki so bili vpeti v začasno rabo v Tomosovi stolpnici (tj. s pobudniki in začasnimi uporabniki Delovišča). Opravljeni so bili med novembrom 2019 in marcem 2020. Potekali so individualno, v obliki nestrukturiranih odprtih pogovorov, pri čemer so se vprašanja oblikovala med intervjujem. Namen neformalnih intervjujev je bil ugotoviti, kako na prostorsko prakso gledajo izbrani intervjuvanci in kaj je po njihovem mnenju njena ključna vloga za mesto Koper.

S polstrukturiranimi intervjuji smo želeli ugotoviti, kako začasno rabo dojemajo akterji, ki se (ne)posredno ukvarjajo s prostorsko problematiko mesta Koper. Intervjuvanci so bili izbrani z namenskim vzorčenjem na podlagi lastne presoje, pri čemer so morali izpolnjevati nekatera merila. V ta namen je bilo namensko izbranih sedem predstavnikov, in sicer po dva predstavnika stroke in nevladnih organizacij in trije predstavniki institucij (glej preglednico 1). Vsi intervjuji so bili izvedeni od maja do junija 2022. Vprašanja so bila usmerjena k celoviti raziskavi koncepta začasne rabe in njenega pomena pri regeneraciji DUO v mestu Koper. Na podlagi intervjujev smo ugotavljali, kako izbrani intervjuvanci dojemajo začasno rabo, ali po njihovem mnenju omenjena prostorska praksa lahko prepreči degradacijo DUO v mestu Koper in kateri so po njihovem mnenju ključni dejavniki, ki zavirajo izvajanje omenjene prostorske prakse.

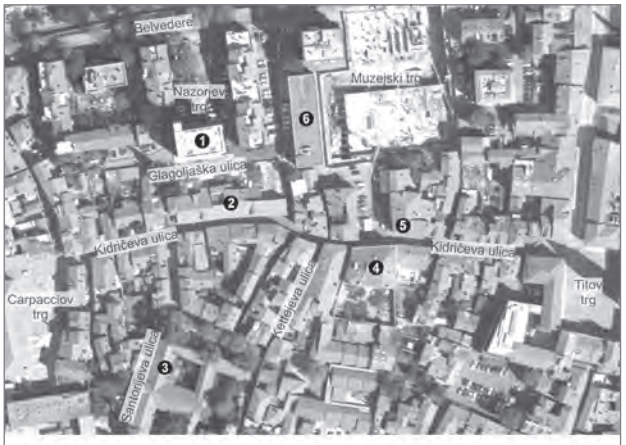
Za celovito razumevanje delovanja začasne rabe smo poleg participativne študije primera uporabili še metodo pluralne študije primerov. Izbrani so bili trije primeri začasne rabe prostora v Sloveniji, ki se med seboj razlikujejo po lokaciji in tipu začasne

rabe ter začasnih vsebinah, času rabe in lastništvu. Vsak primer je bil analiziran v odnosu do konteksta, v katerem je potekal proces prostorske implementacije, njegovega motiva za pobudo ter glede na učinke, ki jih je začasna raba sprožila v okolici. Podatki so bili pridobljeni s terensko raziskavo in narativnimi intervjuji, v katere so bili vključeni glavni pobudniki obravnavanih prostorskih praks. Izvedeni so bili med letoma 2017 in 2022. Primarni podatki so bili dopolnjeni s sekundarnimi viri.

4 Participativna študija primera: začasna raba prostora Avtomatik Delovišče

4.1 Značilnosti začasne rabe prostora Avtomatik Delovišče

Avtomatik Delovišče je bil prvi primer formalne atipične začasne rabe prostora na Obali in je nastal kot skupnostni ustvarjalni eksperiment (Cotič, 2023). Deloval je od novembra 2019 do marca 2020 v pritličju Tomosove stolpnice na Nazorjevem trgu 5, v zgodovinskem mestnem jedru Kopra. Tomosova stolpnica je nastala v sklopu *Zazidalnega načrta soseske Belveder*, ki ga je med letoma 1956 in 1957 zasnoval arhitekt in urbanist Edo Mihevc. Zgrajena je bila leta 1958 kot samski dom za delavce iz republik nekdanje Jugoslavije, zaposlene v tovarni Tomos, in takoj postala »dominanta stanovanjske soseske Belveder in vodilni motiv vizualne identitete novega-starega mesta« (Čebron Lipovec, 2019: 256). Zaradi tega se opis in analiza območja ter evalvacija učinkov, ki jih je sprožilo Delovišče, ne osredotočajo le na Tomosove stolpnico, temveč vključujejo širše območje stanovanjske soseske Belveder, tj. območje Nazorjevega trga in Muzejskega trga (slika 1). Tomosova stolpnica in Muzejski trg sta bila več let tako funkcionalno kot fizično popolnoma degradirana. Leta 2015 so iz Tomosove stolpnice izselili še zadnje prebivalce. MOK jo je nato tri leta prodajal na javni dražbi, vse dokler je leta 2018 ni kupil zasebni investitor in jo prenovil. Večji del območja Muzejskega trga sta zajemala zapuščeno in zaraščeno arheološko najdišče in začasno parkirišče. Leta 2022 so Muzejski trg prenovili v nov mestni park, pod njim je nastala garažna hiša, ki naj bi okoliške javne površine razbremenila mirujočega prometa. Nazorjev trg, nekoč zasnovan kot stičišče druženja, je že desetletja neustrezno izkoriščen in se uporablja kot parkirišče. S tem je bil okoliškim prebivalcem odvzet odprt javni prostor in tako je bila zmanjšana tudi kvaliteta bivanja. Poleg tega je Tomosova stolpnica v bližini palače Totto ex Gavardo, ki od leta 2000 propada. Degradacija palače negativno vpliva na okolico Tomosove stolpnice, kar se kaže v socialni in vizualni degradaciji območja, zaradi česar je okolica Tomosove stolpnice razvrednotena in zanemarjena ter okoliškim prebivalcem ne daje občutek varnosti.



Slika 1: Lokacija Tomosove stolpnice (vir: satelitskega posnetka: GIS pregledovalnik – MOK Koper)

Slika 2: Pogled na prenovljeno Tomosovo stolpnico z dvorišča palače Totto ex Gavardo (foto: Tina Cotič)

Po končani prenovi Tomosove stolpnice (slika 2) je Kulturno umetniško društvo C3, ki je že od leta 2017 iskalo in evidentiralo območja, primerna za začasno rabo, dalo pobudo za vzpostavitev začasne rabe v njenem pritličju, ki jo je zasebni investitor sprejel. Cilj društva je bil ustvariti skupnostni avtonomni ustvarjalni prostor, ki bi omogočal povezovanje različnih akterjev (od neprofitnih organizacij in ustvarjalnih posameznikov do lokalnih prebivalcev) z različnimi usmeritvami in znanji (Cotič, 2023). Zasebni investitor je začasno rabo v Tomosovi stolpnici videl kot priložnost, ki bi spodbudila promocijo in oživitev dolgo let zapostavljenega in degradiranega stanovanjskega območja Belveder. Tako je vsaj za kratek čas predal prostor v javno rabo in s tem lokalni skupnosti in drugim akterjem omogočil soodločanje v procesih prostorskega načrtovanja. Poleg tega je s to odločitvijo spodbudil prožno produkcijo prostora ter omogočil urbano eksperimentiranje s

Slika 3: Avtomatik Delovišče je bil prvi delovni prostor skupne rabe v MOK, v katerem so se prepletali druženje, ustvarjanje, izobraževanje in razvoj (foto: Tina Cotič)

Slika 4: Razstava *Koper: Imaginarno* (foto: Tina Cotič)

podporo alternativnih in inovativnih prostorskih praks. Društvo je z zasebnim investitorjem sklenilo šestmesečno najemno pogodbo o začasni rabi prostora, ki pa je zaradi epidemije COVID-19 prenehala dva meseca pred dogovorjenim iztekom.

Društvo je zasnovalo koncept in pravila za začasno rabo ter k soustvarjanju začasnih vsebin povabilo somišljenike, ki svoje vizije širijo pod okriljem Neodvisnega obalnega radia. Investitor je prostore brezplačno ponudil v začasno rabo, finančna sredstva za izvajanje programa pa so bila pridobljena na raznih razpisih. Začasni uporabniki so prostore opremili, jih vzdrževali in plačevali stroške.

Delovišče je tako postalo prvi prostor skupne rabe v MOK, v katerem so se prepletali druženje, ustvarjanje, razvoj in izobraževanje (glej sliko 3) (Pavlović, 2020). Z usmerjenimi dogodki je uspešno povezoval domače in tuje akterje z različnih področij ustvarjalnega sektorja, kar je omogočilo snovanje skupnih projektov, razvoj novih veščin in prenos znanja. Vsebine so bile usmerjene v razvoj posameznikov, inovacij, idej, produktov in novih praks bivanja. Delovanje, ki je bilo osredotočeno na oblikovanje novih lokalnih politik z namenom integracije v mesto in širšo regijo, je slonelo na zaupanju, participaciji, samoupravljanju, eksperimentiranju in samoiniciativi. Delovišče je v manj kot pol leta delovanja organiziralo številne javne dogodke, ki so obravnavali aktualna vprašanja, ter razprave o izzivih sodobnega urbanizma, arhitekture, krajinske arhitekture, oblikovanja ter ustvarjalne in medijske produkcije v mestu (glej sliko 4) (Bratož Gornik, 2021).

Slika 5: Kiosk K67: koprski vsebinski urbani generator (foto: Tina Cotič)

Marca 2020 je Delovišče zaradi epidemije COVID-19 prenehalo izvajati program v živo. Junija istega leta se je iztekla pogodba o začasni rabi v Tomosovi stolpnici. Čeprav se je investitor zavedal doprinosa, ki ga je Delovišče omogočilo na lokaciji, in si je želel, da bi pritličje objekta še naprej delovalo kot javni prostor, je prevladal ekonomski vidik njegovega upravljanja. Prostor je res najprej ponudil v najem z možnostjo odkupa kolektivu Delovišče, vendar temu ni uspelo zbrati potrebnih finančnih sredstev, zato so morali prostor zapustiti. Kolektiv se je tako obrnil na MOK in podal prošnjo za pridobitev evidence praznih občinskih prostorov v upanju, da bi lahko v enem izmed njih nadaljeval svoje aktivnosti. Izkazalo se je, da MOK te evidence ne vodi in da začasne rabe kot prostorske prakse še ni uporabil, čeprav je bila ta od leta 2018 že opredeljena v Zakonu o urejanju prostora (ZUreP-3, Ur. l. RS, št. 199/2021). Zato je kolektiv Delovišče sam pripravil popis praznih občinskih prostorov, primernih za vnos začasne rabe, ter zanje pripravil možne scenarije reaktivacije in jih predstavil Oddelku za nepremičnine MOK, ki pa je dal jasno vedeti, da jih brezplačna ali začasna raba ne zanima, saj prednost dajejo oddajanju nepremičnin po tržni ceni.

Čeprav kolektivu Delovišče ni uspelo pridobiti prostora, v katerem bi lahko izvajal svoje aktivnosti, kot je to počel v Tomosovi stolpnici, ostaja aktiven in še naprej uresničuje svoje cilje. Program, ki ga je zasnoval, zdaj deluje kot neodvisen, samooskrben model, ki ni več vezan na samo eno lokacijo. Namesto tega se kot začasna raba seli in deluje na različnih lokacijah po mestu, kot so npr. Mala loža, skladišče Libertas in do nedavnega kiosk K67 (slika 5) na Ukmarjevem trgu (Avtomatik Delovišče, 2021).

4.2 Evalvacija učinkov začasne rabe prostora Avtomatik Delovišče

Pri evalvaciji učinkov začasne rabe Delovišča v Tomosovi stolpnici se je izkazalo, da lahko tudi tako majhen, eksperimentalni začasni prostorski projekt pripomore k regeneraciji DUO. Na podlagi terenskega opazovanja je bilo namreč ugotovljeno, da je obravnavana prostorska praksa spodbudila participacijo v urejanju prostora in pripomogla k urbani raznolikosti mesta Koper, njegovi lokalni identiteti, ustvarjalnosti in inovativnosti. Pri tem velja poudariti, da ta začasni projekt ni povzročil fizičnih sprememb v prostoru in bližnji okolici stanovanjske četrti Belveder (Cotič, 2023). Za čas svojega delovanja je nekoliko oživil to zapostavljeno območje, vendar je bil čas njegovega delovanja prekratek, da bi v okolico prinesel trajne fizične spremembe. Ko se je Delovišču iztekla pogodba za začasno rabo, je v tem prostoru nastal hostel. Nazorjev trg še naprej ostaja parkirišče, Muzejski trg je bil slabo leto po končani začasni rabi prenovljen, palača Totto ex Gavardo pa se prenavlja. Del območja stanovanjske četrti Belveder tako ostaja razvrednoten ali degradiran.

Čeprav Delovišče v prostoru ni sprožilo nobenega konkretnega fizičnega preobrata, je s svojimi aktivnostmi v prostor vneslo predvsem številne pozitivne družbeno-kulturne in trajnostne učinke, ki so v MOK še vedno opazni. Pri tem se je izkazalo, da začasno rabo dejansko lahko razumemo kot družbeni

Preglednica 2: Analiza primera začasne rabe prostora Onkraj gradbišča

Primer	Onkraj gradbišča, Ljubljana
Opis začasne rabe	Prvi javno opredeljeni skupnostni urbani vrt, ki ga je leta 2010 zagnal KUD Obrat na mirujočem gradbišču sredi soseske Tabor v središču Ljubljane. Vsako leto znova je KUD Obrat z Mestno občino Ljubljana podpisal pogodbo o brezplačni začasni rabi. Projekt se je samofinanciral s prispevki uporabnikov. Temeljil je na osebnem angažmaju, participaciji, samoiniciativi, samoorganizaciji in kolektivnem odločanju. Vzpostavljeni so bili koordinacijski odbor in osnovna pravila o souporabi prostora.
Motiv za pobudo	Projekt je KUD Obrat zagnal kot del festivala Mladi levi pod organizacijo Zavoda Bunker. Cilj projekta je bil opozoriti na pomen vrtnarjenja in ozelenjevanja mesta ter hkrati podpirati revitalizacijo urbanih praznin s poudarkom na ustvarjanju socialnih urbanih prostorov, ki niso podrejeni komercialni rabi.
Uporabniki	Sprva KUD Obrat in Zavod Bunker, nato le KUD Obrat, prebivalci iz soseske in drugi zainteresirani posamezniki.
Proces regeneracije DUO	Reaktivacija, reorganizacija območja, sprememba njegove funkcije in prostorske strukture, vrnitev območja v vsakdanjo rabo z jasno opredeljenima vsebino in novo identiteto, vzpostavljeno skupaj z lokalno skupnostjo. Izboljšanje prehranske samooskrbe, kvaliteta bivanja v soseski ter krepitev socialne in okoljske trajnosti v mestu.
Rezultati	Projekt se je končal leta 2022. Mestna občina Ljubljana je zavrnila predlog, ki so ga zasnovali začasni uporabniki skupaj s KUD Obrat in Mrežo za prostor, in sicer da bi območje ohranili kot javni park. Vendar je mestna uprava sprejela njihov rezervni predlog; da naj zaradi zagotavljanja dostopnejših stanovanj v mestu na tej lokaciji gradi Javni stanovanjski sklad. Model delovanja, ki so ga vzpostavili pri projektu, se delno ohranja in je viden v drugih začasnih projektih v Ljubljani (npr. Krater).

fenomen, kot pravi eden izmed predstavnikov strokovne javnosti (intervjuvanec IN5) v polstrukturiranem intervjuju:

> »Začasna raba je vedno pogojena z vsebino, ne glede na prostor, v katerem se nahaja. Vsebine so tiste, ki gradijo prostor in skupnost. Skupnost je tista, ki ne degradira in prostor drži pri življenju.«

Podobnega mnenja je tudi intervjuvanec IN7, ki začasno rabo dojema kot prostorsko prakso, ki skupnosti omogoča aktivno participacijo v procesih prostorskega načrtovanja ter omogoča avtonomijo in ustvarjalnost pri ustvarjanju vsebin. Dejansko vsi intervjuvanci razumejo začasno rabo kot uspešno orodje, ki lahko pripomore tako k fizični kot vsebinski revitalizaciji območja.

Začasni uporabniki Delovišča so s svojimi aktivnostmi opozorili na pomen tega urbanega območja in predstavili njegove potencialne razvojne možnosti. Za kratek čas jim je uspelo območje odpreti in približati javnosti ter raznim skupinam, s čimer je postalo bolj heterogeno. Vplivali so na »dvig kulturnega dialoga o urejanju prostora« ter na »njegovo sposobnost posredovanja med mestno upravo, stroko in lokalno skupnostjo« in izpostavili potencial kreativnih industrij v mestu (Bugarič, 2020: 73).

Kolektiv Delovišče svoje aktivnosti nadaljuje tudi po koncu začasne rabe v Tomosovi stolpnici. Zdaj deluje in se pojavlja v različnih oblikah, vzpostavil je Urbano kavarno, pod okriljem katere prireja neformalne urbanistične posvete o razvoju in oblikovanju prostorskih politik MOK, zasnoval je Zbirnik, spletno platformo, ki obravnava prostorske tematike obalnega prostora, ustvaril je mesečno rubriko Prostorska frka, ki vsebinsko obravnava najrazličnejše tematike o prostoru in arhitekturi, ter organizira raznovrstne dogodke na različnih lokacijah v MOK. Tako še naprej sledi svojemu dolgoročno zastavljenemu cilju, tj. doseči prepoznavnost svojega delovanja kot modela povezovanja in združevanja tako lokalnega prebivalstva kot kreativcev, lokalnih podjetnikov, mlajših in starejših, izkušenih in novincev, ter sodelovati z občino in drugimi zasebnimi in javnimi institucijami, ne glede na lokacijo, kjer deluje (Cotič, 2023).

4.3 Analiza in opredelitev skupnih elementov začasne rabe prostora v okviru Slovenije

Pluralna študija primerov zajema tri primere začasne rabe prostora v Sloveniji, in sicer projekt Onkraj gradbišča in Kreativno cono Šiška v Ljubljani ter GT22 v Mariboru. Za vsakega izmed omenjenih primerov je bila izdelana pregledna analiza, ki vključuje opis začasne rabe prostora, motiv za pobudo, začasne uporabnike, opis procesa regeneracije DUO in aktualne rezultate. Namen tega poglavja je analizirati in opredeliti skupne elemente, ki se pojavljajo pri teh prostorskih praksah in tako predstaviti njihovo kompleksno vlogo pri regeneraciji DUO.

Izsledki pregledne primerjalne analize primerov kažejo, da je za vse predstavljene primere začasne rabe, vključno z Deloviščem, značilen podoben mehanizem delovanja (glej sliko 6), ki posledično v DUO in njegovi bližnji okolici ustvari podobne učinke. Vsi predstavljeni primeri začasne rabe so nastali na po-

Preglednica 3: Analiza primera začasne rabe prostora Kreativna cona Šiška

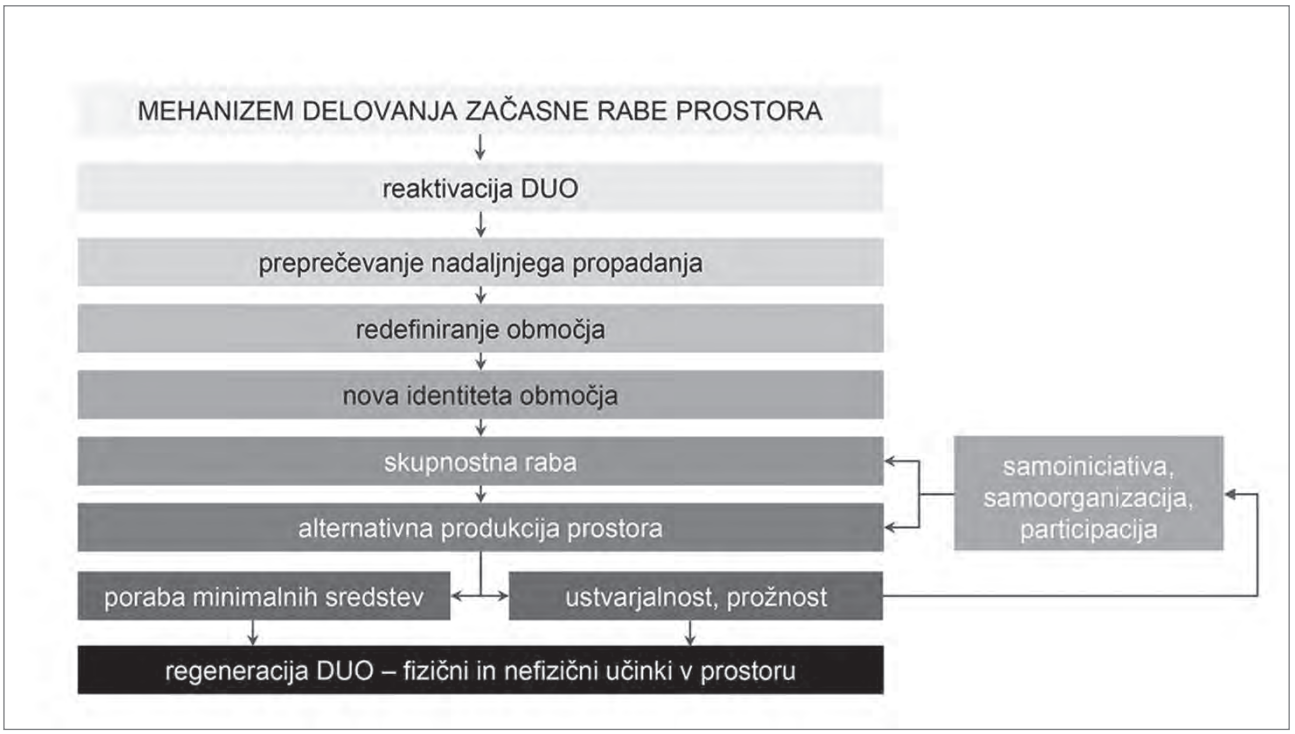
Primer	Kreativna cona Šiška, Ljubljana
Opis začasne rabe	Kreativna cona Šiška je bila kot kreativni center in sodelovalni prostor vzpostavljena leta 2011 v stari stanovanjski hiši v Spodnji Šiški, predvideni za rušenje. Kolektiv Rompom je z lastnikom nepremičnine podpisal najemno pogodbo (z ugodno najemnino) in sproti podaljševal njeno veljavnost. Uporabniki so plačevali najemnino, obratovalne stroške ter opremili in vzdrževali stavbo. Program, ki ga je soustvarjala skupnost, je bil usmerjeni predvsem na opolnomočenje članov skupnosti, da so lahko na podlagi novih znanj bolje izvajali svoje projekte ter pridobili možnost promocije in trženja lastnih izdelkov in idej.
Motiv za pobudo	Kolektiv Rompom je iskal prostor, kjer bi lahko ustvarjali, se povezovali ter ustvarili nove poslovne in delovne priložnosti.
Uporabniki	Nevladne organizacije (kolektiv Rompom, kolesarsko društvo Muslauf, Teater Ponoreli itd.) in posamezniki (mladi ustvarjalci z več področij).
Proces regeneracije DUO	Reaktivacija, sanacija, reorganizacija objekta ter vzpostavitev osnovne infrastrukture z minimalnimi sredstvi, po načelu naredi si sam, glede na potrebe uporabnikov. Z vzpostavitvijo sodela je Kreativna cona Šiška spodbujala razvoj sodelovne kulture v Sloveniji ter nove ekonomije, kot so ekonomije souporabe, solidarnostne ekonomije in darilne ekonomije, s katerimi je krepila socialni in kulturni kapital mesta.
Rezultati	Kreativna cona Šiška je v Sloveniji uvedla pop-up koncept (Pop-up dom) in prispevala k nastanku kreativnega centra Poligon, v katerega se je – ko je leta 2017 lastnica objekta postala družba NLB Leasing in so ga morali začasni uporabniki zapustiti – del skupnosti Kreativne cone Šiška tudi preselil. Leta 2019 so objekt v Spodnji Šiški porušili, sočasno je tudi Poligon prenehal delovati v Tobačni.

Preglednica 4: Analiza primera začasne rabe prostora GT22

Primer	GT22, Maribor
Opis začasne rabe	GT22 je »inter(trans)disciplinarni laboratorij« za umetnost, kulturo, urbane športe in življenje. Nastal je leta 2013 v zapuščenem skladiščno-tovarniškem prostoru in nočnem klubu v središču mesta na pobudo lastnika nepremičnine in Ustanove Fundacija Sonda. Sprva je bila sklenjena pogodba o petletni brezplačni začasni rabi med lastnikom prostora in Fundacijo Sonda, nato pogodba o neprofitni najemnini. Fundacija Sonda, kot upravljalec in uporabnik prostora, krije zavarovalnino, stroške in davek na nepremičnino, obenem pa vlaga v vzdrževanje prostorov. Uporabniki GT22, ki tvorijo samoorganizirano skupnost, ustvarjajo program, sodelujejo pri vzdrževanju prostorov in prispevajo pri plačevanju stroškov.
Motiv za pobudo	Lastnik nepremičnine je svoj objekt mecensko ponudil v začasno rabo v zameno za pestro kulturno in umetniško dogajanje. Ekonomski motiv: Začasno rabo so lastniki videli tudi kot priložnost, ki bi pripomogla k revitalizaciji in posledično tudi vzdrževanju njihove nepremičnine.
Uporabniki	Nevladne organizacije (Ustanova Fundacija Sonda, fotografska platforma Mišnica GT22 itd.), glasbene skupine, gostujoči rezidenčni umetniki, ustvarjalni posamezniki.
Proces regeneracije DUO	S skupnimi močmi, prostovoljnim delom, recikliranimi materiali, lastnimi vložki, podporo mesta in države so začasni uporabniki preuredili, reaktivirali objekt in bližnjo okolico, mu podali novo funkcijo in identiteto ter vrnili objekt v vsakdanjo rabo. Projekt je s svojim delovanjem spodbudil urbane, ustvarjalne in družbeno solidarnostne prakse ter tako dal Mariboru poseben pečat in utrip in ga hkrati povezal z mednarodnim okoljem.
Rezultati	Projekt je prešel iz začasne v trajno rabo prostora. Vzpostavitev formalnega kreativnega prizorišča v mestu ter novih modelov izobraževanja, raziskovanja in produkcije na kulturno-umetniškem področju.

budo ali v sodelovanju z nevladnimi organizacijami. Ključni motiv za vzpostavitev te prakse je bil pomanjkanje prostorov, ki bi bili finančno sprejemljivi za izvajanje teh dejavnosti, kar je kot problem v polstrukturiranih intervjujih izpostavila tudi večina intervjuvancev. Intervjuvanec IN6 na primer trdi, da se nobena občinska oblast doslej ni lotila tega problema. Težavo vidi predvsem v nerazumevanju nevladnih organizacij s strani občinskega urada za nepremičnine.

Pri vseh primerih je bil opazen podoben proces regeneracije DUO. Z recikliranjem, minimalnim readaptiranjem ter inovativno rabo prostora so začasni uporabniki reaktivirali DUO in tako vzpostavili razmere za izvajanje svojih vsebin. S tem so dali območju višjo uporabno vrednost in izboljšali kakovost lokalnega okolja. Kraju so vtisnili novo identiteto, zvišali simbolično vrednost prostora in se z alternativnimi prostorskimi praksami zoperstavili obstoječim vzorcem prostorskega



Slika 6: Skupne značilnosti delovanja začasne rabe prostora (ilustracija: Tina Cotič)

načrtovanja. Poleg tega so v prostor vnesli številne družbeno-kulturne in trajnostne učinke, ki so se ali se še vedno (GT22) kažejo z izvajanjem kulturnih, umetniških, družbenih in izobraževalnih dogodkov in projektov ter razvojem samoniklih programov in storitev. S svojim delovanjem so spodbudili družbeno interakcijo, pripomogli k heterogenosti (v smislu zgoščevanja družbeno-kulturnih vlog, ljudi, srečevanj, informacij in dogodkov), omogočili aktivno participacijo in organizacijo v skupnosti ter spodbujali ustvarjalno delovanje in eksperimentiranje. Z vsem naštetim so prispevali tudi k socialnemu in kulturnemu kapitalu lokalne skupnosti. Dva primera začasne rabe (Kreativna cona Šiška, GT22) sta imela tudi ekonomske učinke. Ustvarjalnim posameznikom in neprofitnim organizacijam sta omogočila nove poslovne in delovne priložnosti ter izvedbo novih idej, ki so jih lahko predstavili na trgu.

Ključni rezultati obravnavanih začasnih projektov so tako danes vidni predvsem v nastanku kompleksnih družbenih omrežij, razvoju družbenih inovacij in novih modelov upravljanja. Iz primerov je razvidno, da začasna raba pripomore predvsem k ustvarjalni regeneraciji DUO, njen vpliv na sourejanje prostora pa je pogosto zelo omejen, predvsem časovno, kar se je izkazalo tudi pri Delovišču. Izjema je v danem primeru GT22, ki je iz začasne rabe prešel v trajno rabo. V primeru Onkraj gradbišča in Kreativna cona Šiška, ki sta svoje delovanje končala, se je izkazalo, da so se prostorski učinki razblinili, ko je vzpostavljena začasna raba prenehala. Za njima v okolici niso ostale nobene trajne spremembe na površinah in strukturah. Čeprav je projekt Onkraj gradbišča postal del lokalnega okolja, s katerim sta se izboljšali prehranska samooskrba in kvaliteta bivanja v soseski, se je njegovo delovanje konec leta 2022 po dvanajstih letih izteklo. Na območju bo Javni stanovanjski sklad začel graditi stanovanja. Drevesa in rastline so začasni uporabniki presadili na druge lokacije v mestu. V tem primeru je Mestna občina Ljubljana izpustila priložnost, da podpre delovanje uspešnega primera skupnostnega vrta, sodelovanje formalizira, razširi na obstoječe in nove urbane vrtove in skupnostne prakse v mestu ter s tem prispeva k opolnomočenju lokalnih skupnosti onkraj neformalnosti (Križnik in Cerar, 2021).

Poudariti je treba še, da nobeden izmed obravnavanih primerov začasne rabe, vključno z Deloviščem, ni sprožil negativnih učinkov v prostoru, v katerem je deloval (kot so npr. turistifikacija, komodifikacija ali gentrifikacija). Res je, da so lastniki prostorov izkoristil prostorsko prakso zato, da bi preprečili propadanje svojega premoženja ter s tem povečali vrednost in zanimanje zanj, vendar je bila to vseeno v vseh obravnavanih primerih ‚win-win' rešitev za obe strani, saj so tudi začasni uporabniki v veliki meri dosegli svoje cilje.

5 Sklep

Raziskava je pokazala, da začasna raba prostora ne pomeni zgolj vmesne rešitve za DUO, temveč je lahko tudi orodje za dinamično in prilagodljivo preoblikovanje urbanih okolij, ki ustreza potrebam skupnosti in trajnostnim ciljem. Ta praksa

omogoča spontano prilagajanje urbanega prostora njegovim uporabnikom ter odpira možnosti za inovativne in participativne rešitve, ki jih tradicionalni pristopi k urbanističnemu načrtovanju pogosto ne omogočajo. Analiza učinkov začasne rabe v več slovenskih mestih, vključno z Deloviščem, je pokazala, da so ključni učinki teh praks bolj družbeno-kulturni in trajnostni kot pa fizične spremembe v prostoru. Iz analiziranih podatkov lahko glavne učinke primerov začasne rabe strnemo kot:

- spreminjanje vloge prebivalcev iz pasivnih prejemnikov storitev v aktivne udeležence in pobudnike kolektivnega delovanja, ki uveljavljajo pravico do mesta (primer opazovanja z udeležbo, nestrukturirani in polstrukturirani intervjuji);
- spodbujanje razvoja novih modelov urbanega upravljanja, ki so prilagodljivi, strateški, sodelovalni in temeljijo na usklajevanju institucionalnih in prostorskih specifik (primer pluralne primerjalne študije);
- odpiranje drugačnega pogleda na vlogo urbanističnega načrtovanja kot orodja za spodbujanje trajnostnih procesov preobrazbe, ki ne temeljijo zgolj na materialnih virih, temveč tudi na spodbujanju enakosti, socialne pravičnosti in boljše kakovosti življenja (analiza primera Delovišče).

Poleg tega analiza kaže, da začasna raba omogoča, da DUO pridobijo novo funkcijo in postanejo prepoznavni kot pomemben kohezivni dejavnik skupnosti. Ta proces ne vključuje le prenove prostora, temveč tudi njegovo ponovno vključevanje v družbeno in urbano okolje. Spremembe, ki nastanejo z začasnimi prostorskimi projekti, lahko postanejo del širših strategij urbane regeneracije.

Kljub tem številnim pozitivnim učinkom je v Sloveniji začasna raba še vedno redka prostorska praksa. Izkazalo se je, da zakonska opredelitev začasne rabe prostora v praksi ni prinesla napredka. Čeprav je zdaj možno z lokacijsko preveritvijo spremeniti namensko rabo prostora za namene začasne rabe prostora, se je ta pretvorba izkazala za problematično in predrago. Postopek bi bilo treba olajšati, s čimer bi se najverjetneje povečalo tudi zaupanje lastnikov prostorov do te prostorske prakse.

MOK je za zdaj pokazal predvsem precejšnjo komercialno naravnanost, glede uvajanja začasne rabe ali inovativnih prostorskih praks pa premalo zanimanja in nezadostno prožnost. V tem pogledu bi bilo treba izvesiti naknadno študijo, s katero bi opredelili podporne mehanizme, ki bi omogočili lažje izvajanje te prakse, kar bi dolgoročno koristilo mestu in njegovemu urbanističnemu načrtovanju. Rezultatov raziskave ne moremo posplošiti zlasti z vidika reprezentativnosti vzorca, saj je ta omejen na Koper. Začasna raba odpira pomembna raziskovalna področja, ki segajo onkraj prostorskega načrtovanja. Ponuja priložnosti za poglobitev razumevanja družbenih in kulturnih učinkov, oblikovanje novih modelov upravljanja in integracijo teh praks v širše strategije trajnostnega urbanega razvoja. V prihodnje bi bilo smiselno raziskati, kako bi lahko izboljšali zakonodajni okvir, povečali podporo lokalnih oblasti in razvili celovite politike, ki bi začasno rabo prepoznale kot pomemben element urbane regeneracije v Sloveniji in širše.

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Urban spatial policy after the COVID-19 pandemic: Selected aspects

The literature on urban planning and spatial planning increasingly emphasizes the need for a more thorough analysis of the impact of pandemics on urban spatial policymaking. This article identifies critical proposals for change regarding urban spatial policies that emerged after the COVID-19 pandemic and relates these to literature on spatial planning. The focus was on two issues directly relevant to this topic: urban spatial planning and environmental protection. The use of the analytical-comparative method, preceded by a literature review, allowed a preliminary characterization of the selected works. The following research questions were posed: 1) What critical spatial planning topics have been addressed in discussion of the pandemic? and 2) Have publications on both the pandemic and urban planning made a vital contribution to the broader discussion on institutional aspects of urban planning? An important conclusion is that the COVID-19 pandemic has revealed the consequences of ignoring theoretical findings in public policymaking, which can lead to social and environmental inequalities on a global scale, and differences in pandemic restrictions across political and social systems.

Keywords: spatial policy, urban planning, COVID-19 pandemic, adaptation to changes

1 Introduction

The COVID-19 pandemic contributed to a shift in the focus of scholarly discussion on many fronts. One such change relates to urban policy issues. The shock of the pandemic and the need to adapt cities to lockdowns have contributed to diverse scholarly reflections. Some of these reflections concern the current short-term response to new events (Amdaoud et al., 2020; OECD, 2020). Moreover, observing the social, environmental, spatial, legal, or transport problems associated with the pandemic has led some authors to develop broader concepts describing change (Florida & Pedigo, 2020; Batty et al., 2022). Such reflections were also made by authorities in individual cities, who decided to make various changes.

This article was intentionally prepared with a time lag (i.e., after the initial waves of the pandemic had subsided). The authors believe that this approach offers a more comprehensive analysis of developments in scholarly discussions. A discussion on the legal and institutional conditions for spatial planning was also held before the COVID-19 pandemic. Among the key issues identified were 1) determining how to best compare the spatial planning systems of different countries, 2) integrating climate challenges into spatial planning, 3) expanding strategic spatial planning, and 4) integrating rights to the city, social justice, and spatial justice into spatial planning.

The relevant guidelines for theoretical concepts that became concrete legislation should be transferred into spatial policy. Very soon after the outbreak of the COVID-19 pandemic, opinions emerged on the need to redefine urban policies. In the first stage, these had a more preliminary dimension and were often mixed up with characterizations of the emergency response (Florida & Pedigo, 2020). As the pandemic persisted, the ad hoc response to the crisis was replaced by research-based analyses.

In the first stage, four thematic areas were identified when analysing publications describing the impact of the COVID-19 pandemic on cities: environmental quality, socioeconomic impacts, governance, and transport and urban planning (Sharifi & Khavarian-Garmsir, 2020). Even at this stage, there was no doubt that the pandemic presented a challenge and an opportunity for planners and policymakers to take transformative action toward creating more equitable, resilient, and sustainable cities (Grum & Kobal Grum, 2023). Responses to a pandemic involved seeking to safeguard against future pandemics. Second, they included proposals and demands that took advantage of the situation and aimed to achieve other goals, such as climate resilience or social sustainability (Champlin et al., 2023). Diverse approaches and concepts were thus linked to the response to the pandemic, including environmental justice (Cole et al., 2021), the development of smart cities (Kunzmann, 2020), or the 15-minute city (Noworól et al., 2022). The thematic areas identified above were significantly expanded in the literature through subsequent publications and over time. For example, urban health policy (Śleszyński et al., 2022) may require separate coverage, and the transport and urban planning already merit separate coverage. However, it can be assumed that the redefinition of urban policies, although it will concern diverse thematic spheres, will be most extensively linked to spatial planning. This is also confirmed by the results of the preliminary analysis of the publications (presented in Methods).

The conditions for spatial policy differ by country. In particular, legal solutions, planning culture, and social conditions are differentiating factors (OECD, 2017; Nowak & Śleszyński, 2023). However, common challenges can also be found in the spatial planning of most world cities. These challenges include: climate change mitigation and adaptation (Norman, 2022; Stoeglehner & Abart-Heriszt, 2022), coordinating spatial planning with other spheres of urban policies (Hołuj & Zawilińska, 2013; Rozas-Vásquez et al., 2018), and adapting spatial planning legislation to emerging challenges (Moroni et al., 2020; Ondrejička et al., 2020; Nowak et al., 2022).

Of particular relevance is identifying how urban planning can contribute to urban resilience (Banai, 2020). To a certain extent, an optimal approach to urban environmental protection is linked to these issues (Legutko-Kobus et al., 2023). Spatial planning instruments should also guarantee this protection to the fullest extent (which is related to the response to the climate challenge, integrating development policies, and redefining the role of spatial planning instruments).

Effective urban spatial and environmental policies are based on legislation and administrative measures. These vary considerably between the countries analysed. However, the basic scope of legal and administrative procedures tends to be actions of various forms (e.g., regulations, restrictions, and prescriptions). Among other things, these regulatory instruments serve to establish a legal and organizational framework that influences the local spatial economy, in particular the variety of processes related to human functioning, which are very much embedded in the local socioeconomic structure, and the diversified perception of values identified in space (Nowak et al., 2023).

As indicated above, many publications can be found on the impact of the pandemic on cities, including various aspects of urban policies. However, a lack of reflection is directed at institutional aspects concerning spatial planning instruments (e.g., urban spatial plans). It is worth reflecting on how new

concepts (created or developed during the pandemic) translate into the possibilities and functions of spatial policy instruments. The literature primarily addresses this topic from the perspective of country-specific case studies. However, there is a lack of attempts to provide more universal recommendations that can be considered in diverse spatial planning systems. The discussion on the impact of pandemics on cities, which is now ending, provides a basis for this.

This article identifies vital institutional concepts and proposals for change regarding urban spatial policies that emerged after the pandemic, and it relates these to the literature on spatial planning (we considered March 2020 to March 2023, three full years, from the start of the COVID-19 pandemic in Europe until mainstream discussion of the impact of the pandemic faded out). After analysing the relevant articles, the following critical guidelines for urban planning were identified: making public spaces more accessible, protecting natural assets within public spaces, ensuring the safety of public spaces, shaping the technical infrastructure of public spaces, protecting all natural assets of cities, developing green areas in cities, using green technologies in building construction, and treating the concept of a 15-minute city as a basis for restrictions on developing individual sites and extending the flexibility of spatial planning.

The following research questions were formulated: 1) What critical spatial planning topics have been addressed in discussion of the pandemic? 2) Have publications on both the pandemic and urban planning made a vital contribution to the broader discussion on institutional aspects of urban planning?

This article is structured as follows. After explaining the purpose of the article and the rationale behind the topic, the methods section details how publications were analysed. Three relevant thematic groups were then identified based on the main theses of the publications. The critical contributions of the publications to the discussion are discussed in the next section. The article indicates how this theoretical contribution can be further developed. It points out that the discussion of spatial planning during a pandemic should be used to inform discussions about spatial conflicts, the role of legislation in planning, and the relationship between climate challenges and spatial planning.

2 Methods

Peer-reviewed publications (published from the beginning of March 2020 to the end of March 2023) were identified in the Web of Science and Scopus databases. The search took place in April 2023. Other publications (e.g., books, chapters in books, conference proceedings, etc.) were not included. In both databases, the focus was on keyword searches for publications, using a combination of words from three groups with terms related to 1) changes and transformation (revolution, revisit, rethink, reconfiguration, shift, redefine, rethink, reinvent, change, transition, transformation), 2) the pandemic (COVID, corona, pandemic), and 3) cities (urban, city, neighbourhood, town, planning).The methods used in this article are based on those used in earlier review studies on the impact of pandemics on urban policies. The earlier studies looked at other stages of the COVID-19 pandemic and more broadly defined themes (Śleszyński et al., 2022, 2023). This type of analysis is geared toward identifying publications based on keywords. The method applied allows for a comprehensive analysis of available publications, thus preventing the marginalization of certain studies (Obeng-Odoom, 2019).

The search was in the following order. For each term in the first group, a term from the second group was adjusted, and then, in turn, terms from the third group were adjusted. For example, the words *revolution* (from the first group) and *COVID* (from the second group) were linked first, and all words from the third group were matched to them in turn. Then, the words *revolution* and *corona* (the second word from the second group) were linked, and all words from the third group were matched to this link. In this way, all combinations of the three groups' terms were verified.

The abstracts of all the publications identified were analysed. The analysis was carried out by the authors without using software. This ensured not only its accuracy but also its contextualization. Based on this analysis, all articles were classified into five thematic groups (a publication could belong to more than one group). The groups covered the following topics: urban planning, environmental protection, social policy, urban transport, and urban health policy. A publication was included in a specific group when the topic addressed in the publication (expressed in the research objective/research question or hypothesis) was directly linked to the thematic area of the group. The first stage analysed publications from all five groups. The key group is the group of publications directly (nominally) related to spatial planning. However, it was not excluded that publications relevant to the indicated thematic perspective would appear in the other groups. It is noteworthy that a publication was included in a specific thematic group only if it 1) was directly addressed the topic in question (i.e., it does not apply to cases in which the topic in the publication was taken up in the margins of other issues), and 2) concerned a longer-term perspective (rather than, e.g., an ad hoc response to the challenges of pandemic lockdown management). Even though the basis for the classification was primarily the content of the individual abstracts, in case of doubt, the authors reviewed

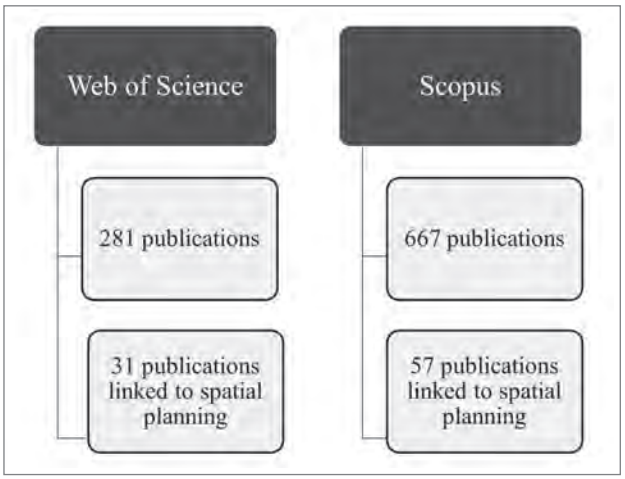

Figure 1: Database search results (illustration: authors).

the entire publication. Nevertheless, it was usually immediately clear from the article if a broader concept describing changes in urban policies was included. Therefore, a minor mention or a vague suggestion of urban policy changes in an article was insufficient to fulfil the criteria.

In the Web of Science database, 281 publications were identified. For thirty-one publications a link to spatial planning was recognized, and for thirty-six publications a link to environmental protection was recognized (Figure 1). In the other thematic groups, the number of publications identified was significantly lower (ten, twelve, and twenty-two publications, respectively). In the Scopus database using the same combination of keywords, 667 publications were identified. Some (173) of the publications were also found in the Web of Science database. The remaining publications were classified into the categories analysed, with links to spatial planning (fifty-seven publications), environmental protection (forty-six), social policy (thirty-nine), urban transport (twenty-six), and health policy (fifteen).

To conclude, two groups of publications relevant to this study were identified: publications directly related to urban planning and publications directly related to urban nature conservation. The two groups with the most publications were further analysed. The analysis showed that spatial planning and environmental protection issues appeared most frequently in the publications analysed. Other issues were also included in the literature, but to a lesser extent. This means that these topics received less research attention. However, they could be separately analysed in future publications. The analysis conducted is presented in detail in Figure 2.

Publications that directly addressed pandemics and (at the same time) discussed urban planning were reviewed first. Publications that did not cover these issues in depth and publications that did not contain any recommendations for urban policies were removed. Nonetheless, the degree of detail in the conclusions and recommendations in the publications varies.

The following three main thematic areas were identified in the publications analysed (from the group on the link between the COVID-19 pandemic and spatial planning): 1) development of public spaces (management of public spaces including shaping cities as friendly for cyclists and pedestrians, 2) nature and health protection, and 3) linking spatial planning with the concept of the 15-minute city. Each of the issues identified was distinguished, taking into account 1) the content of the publications analysed, 2) the possibility of relating each issue to the purpose of the work, in particular to the institutional dimension of urban spatial policies (Lityński & Hołuj, 2021), and 3) previous publications addressing these issues, presenting them as particularly relevant to discussing spatial planning instruments (Petrişor & Petrişor, 2013; Jopek, 2016; Lantitsou, 2017; Gustaffson et al., 2019; Nowak & Simon, 2022; Noworól et al., 2022). These issues are specifically addressed in the following section.

3 Results

3.1 Development of public spaces

As Gallitano et al. (2021) point out, the COVID-19 pandemic partly changed the relationship between urban residents and urban space. The general direction of change in urban spatial policy should be to make urban public spaces increasingly available to urban communities. Expanding the availability of green spaces (within public spaces) plays a special role. The use of public spaces has led to the establishment of certain habits, as well as a legal framework, firmly rooted in social structures. Consequently, there is considerable social and sometimes political resistance to attempts to change them, including increasing accessibility at the expense of some users. Furthermore, all dimensions of public space face different barriers. The most frequently observed constraints in the various spatial structures are social and economic, followed by natural. It is also noticeable that the form of relations between people in the context of the value of space and real estate changes with possible modification of the value system, often linked to the prosperity of the society operating in each spatial structure.

Bao and Hu (2021) also draw attention to the need for flexible use of public spaces, which implies planning them in such a way that they can be used for different purposes (depending on needs). This can happen as a result of decisions that initiate the spatial processes desired by both decisionmakers and users.

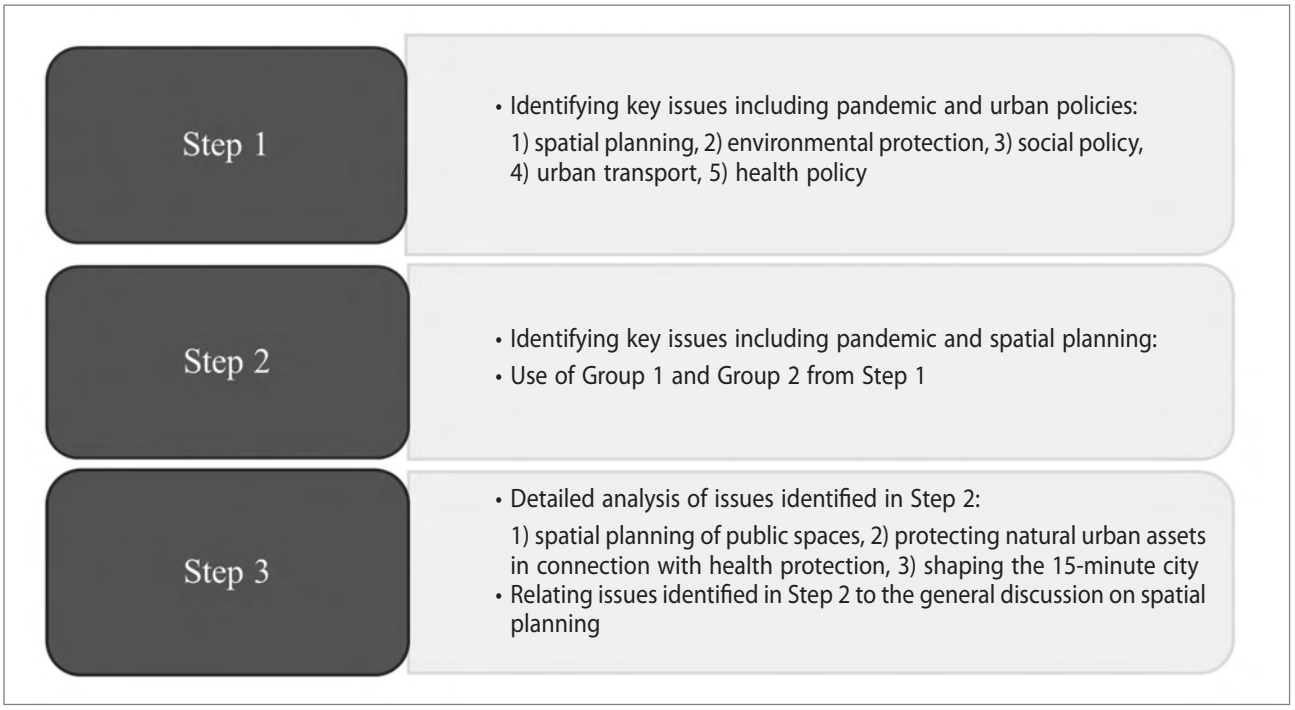

Figure 2: Sequence of analysis of publications and identification of themes (illustration: authors).

These processes are the basis for adapting existing public spaces or creating new ones. These decisions can be motivated by a variety of factors and can therefore have a variety of impacts on public space, both at the micro level and at the broader local level. The defining elements of a particular public space may also differ significantly from areas with similar characteristics, which is likely to affect the sensitivity and flexibility of public spaces. A key role in urban planning is played by the disparities resulting from the activities of different groups of actors in public spaces. A study by Buffoli et al. (2022) shows that, from the perspective of the urban communities they studied, the key features of public spaces are adequate structural features (e.g., by providing seating areas) and guaranteeing safe operating conditions (e.g., through appropriate lighting).

The dimension related to the security of public spaces is also recognized by other authors (e.g., Pinto et al., 2020; Talocci et al., 2022). It can be added that this problem is particularly recognized from the perspective of cities in the Global South. Implementing present demands requires numerous investments in public spaces. Spatial planning instruments should create the possibility (and sometimes even the obligation) to make these investments. Equally strongly emphasized in the literature is the need to care for naturally valuable areas in urban public spaces, a priority if only from the perspective of residents' wellbeing (Samuelsson et al., 2021).

This highlights the need for special protection (also from urban pressures) of naturally valuable areas in urban public spaces. A separate issue is providing conditions for the movement of pedestrians and cyclists in public spaces (this topic also developed during the COVID-19 pandemic). The pandemic highlighted shortcomings in crisis management. In some cases, radical measures were taken in response to procedural and instrumental weaknesses in the organization of functional and spatial structures. This usually led to restrictions in the operation of public transport.

Referring to a case study of Sarajevo, Mehanović et al. (2022) indicate that, in spatial planning for public spaces, monitoring the traffic volume in particular places can play an important role. Traffic monitoring is a practice that has been widely used for many years in diverse public spaces around the world. Monitoring urbanized structures plays a key role in ensuring the safety of users and the operation of various services in cities. It is an important element for both the public administration and the operators of these spaces. However, its use can be more universal. On the one hand, it involves an optimized public transport planning process that includes the registration of vehicle and passenger movements, and, on the other hand, it is a useful tool for ensuring the quality of urban services. People have been analysing traffic in cities for a long time, adjusting timetables, and determining optimal public transport routes. Monitoring the user behaviour in public spaces can also help in improving the spatial structure, planning the development of public spaces and services, and analysing markets.

Table 1: Key demands on planning and managing public spaces identified in the literature analysis.

1. Use of public space	2. Natural assets in public space	3. Ensuring the safety of public space	4. Reorganizing technical infrastructure in public space
• Increasing the accessibility of public spaces, including green spaces • Increasing the importance of equity in access to public spaces • Reducing socioeconomic and natural barriers • Redefining the value of space as real estate, resulting in expanding its accessibility • Economic and flexible use of public spaces through effective spatial and urban planning	• Protecting natural resources associated with the need to care for them • Using natural resources for public purposes	• Improving the safety of public spaces by equipping them with appropriate technical infrastructure (active and passive) • Creating safe conditions for working and living in open spaces • Effectiveness of crisis management and resilience to unexpected events • Ensuring user safety and functioning of urban services • Good practice in improving the quality of public spaces in congested cities • A need to adapt spatial planning regulations to endogenous and exogenous conditions	• Applying safe design solutions for all users • Urban mobility and public transport constraints • Modalities and rules of the road in public spaces (for pedestrians and cyclists) • Cycling infrastructure and urban bicycles • Optimizing public transport planning • Procedural and instrumental weaknesses in organizing functional and spatial structures • Monitoring traffic flows in particular locations and user behaviour in public spaces

Source: authors.

Pucher and Buehler (2010) emphasize the important link between planning public spaces and ensuring good conditions for pedestrians and cyclists in cities. Unfortunately, despite existing organizational solutions for this linear and point-to-point infrastructure, the use of bicycles was restricted by administrative measures in many cities around the world during the COVID-19 pandemic. These restrictions on access to urban infrastructure for pedestrians and cyclists were mainly dictated by fear of potential danger, resulting in measurable and preventive restrictions. In addition, there was a general suspension of urban cycle hire schemes. It should be stressed that the approach to this issue differed between cities in Europe, the United States, and Asia. There is no doubt that temporary measures to facilitate the movement of pedestrians and cyclists will be a new experience in spatial planning. Moreover, creating good conditions for the functioning of transport infrastructure (pedestrian and cycling) in a city, considering the need to maintain appropriate distances between users to ensure safety, can contribute to the good practices needed (systemic solutions) to improve the quality of public spaces in congested cities. Based on a study of Calgary, Fast and Guo (2021) highlight the need to make pavements wider. Wang (2021), on the other hand, advocate the optimization of street layout.

Publications linking urban spatial planning and pandemics share the theme of managing public spaces. The key demands are summarized in Table 1.

The issues identified are not new to urban planning. However, since the COVID-19 pandemic, the role of public spaces in cities has been much more widely and intensively discussed.

3.2 Nature conservation and health protection

In the publications analysed, the authors recognize diverse links between nature conservation (and health conservation) and spatial planning. In general, the basis for spatial planning decisions should be a desire to protect natural resources (Castro et al., 2021). This involves 1) specific building design, considering green technologies (Kakderi et al., 2021); 2) specific protection of urban greenery (Rossi et al., 2022); urban greenery must contribute to the provision of functions that are relevant from a social and spatial justice perspective (Reinwald et al., 2021); and 3) adapting the design of new residential neighbourhoods to the natural environment (Chen et al., 2023; Legutko-Kobus et al., 2023) and linking housing and urban development policies to the ability to reduce emissions and create conditions for better quality of life in cities (Wakely, 2022). Spennemann (2021) highlights the need to avoid overly detailed designed spaces in favour of more natural (nature-based) solutions. However, these must take into account the need for social distance and incorporate it into planning green spaces that can function as spaces for mental and physical recreation during health crises. Landman (2021), on the other hand, suggests viewing the city as a socio-ecological system.

Table 2: Key areas of interest and links between spatial planning, health, and environmental protection, identified in the literature analysis.

1. Protecting the natural environment	2. Modern urban planning	3. Natural resource protection and public health	4. Post-pandemic requirements for spatial planning
• Increasing the role of and relationship between conservation measures and spatial policy implementation (planning and strategic studies) • Protecting urban greenery from excessive development and exploitation • Fair use of green public spaces • Pro-ecological thinking in spatial planning	• Using green technologies in housing design (reducing of material and energy consumption) • Implementing green infrastructure in urban planning as a means of improving human health and social wellbeing • Modern design of housing estates and public spaces taking crises into account (pandemics, climate change) • Increasing the role of social participation, bottom-up activities in spatial planning taking into account protection of the natural environment	• The importance of human habitat quality (improving resilience to crises) • Integrating health security requirements into urban landscape design • The city as a social-ecological system, taking into account the need for change to facilitate the coexistence of people and nature • The link between housing and urban planning policy, reducing emissions, and improving the quality of life in cities	• Protecting the natural resources of cities to prevent intensive development • Developing green urban areas required for creating public open spaces • Recognizing the relationship between nature conservation and living, health, and safety standards in areas of intensive urbanization • Internalizing nature conservation (biologically active areas) in local legislation for urban areas • Optimizing the management and use of space for accessibility and universality of healthcare

Source: authors.

In this approach, urban planners must plan for change and uncertainty to facilitate the coexistence and co-evolution of people and nature.

Another dimension also needs to be highlighted: the direct relationship between the spatial protection of urban natural assets and the level of public health (Syal, 2021). The level of public health significantly depends on the extent to which natural assets are present and protected in a city. Based on the example of Italian cities, Pinto et al. (2020) recognize the need to integrate health security requirements into discussions on urban landscape design. Talocci et al. (2022) emphasize that it was the COVID-19 pandemic that showed that guidelines resulting from urban planning (e.g., distances for siting buildings, as well as those affecting the density of buildings) translate into specific health consequences, even creating differential disease risks, for different city dwellers (this regularity does not only extend to the recent pandemic). Marregi and Lazzarini (2022) also recognize the link between health and urban planning. An undercurrent of these considerations is taken up by, among others, Bar et al. (2021) and Ferrini and Gori (2021), who stress that the implementation of green infrastructure in urban planning would improve human health and social wellbeing in the long term.

Based on all the highlighted links between spatial planning, health, and environmental protection, several key areas of interest can be identified. They are summarized in Table 2.

In the case at hand, too, there was a clear paradigm shift in planning. The circumstances surrounding the COVID-19 pandemic definitely reinforced the direction of the discussion about nature conservation in cities (and also about linking this issue to healthcare needs). Today, it is not enough to focus only on identifying drawbacks, limitations, and problems in nature and health protection. To preserve and protect usable space, it is necessary to influence the entire economic system of a country. When implementing policies, it is necessary to consider not only economic and political aspects and the protection of individual natural components themselves, but also negative externalities, including those of an ecological nature.

3.3 Linking spatial planning with the concept of the 15-minute city

The last of the themes identified concerns the connection between spatial planning and the concept of 15-minute cities. This issue has been extensively analysed (Noworól et al., 2022; Pozoukidou & Angelidou, 2022; Sharifi et al., 2023). This review focuses on publications that directly link the concept of the 15-minute city with urban planning. Logan et al. (2022), justifying the validity of the concept, provide arguments that are relevant from the perspective of spatial planning, making it possible to introduce certain restrictions on development. These primarily concern the reduction of inequalities between individual residents. Among other things, Khavarian-Garmsir et al. (2023) see social and environmental benefits in the

Table 3: Key messages related to implementation of the 15-minute city concept in urban planning, identified in the literature review.

1. Benefits and barriers to implementing the 15-minute city concept	2. Urban development dynamics	3. Public space: a place of conflict	4. Impact of the pandemic on the 15-minute city
• Strengthening the flexibility of spatial planning • Reducing functional costs (including maintenance of technical infrastructure and lost time) • Adopting overly universal approaches, which are difficult to apply in economic practice (the diversity of functional and spatial structures requires the universality of the proposed assumptions) • Accompanying external effects (especially costs) not always identified	• Spatial users' understanding of the importance the quality (accessibility and internal mobility) of the living environment has for them • City development in line with actual current needs (taking into account broadly understood security, including military) • Intensifying discussion of the concept of 15-minute cities in the context of a pandemic and its impact on integrated urban planning (updating the concept to new challenges) • Strengthening urban planning to implement the 15-minute city concept	• Spatial planning as a tool to address inequalities in access to open spaces • Spatial management is associated with the risk of negative effects of this process; e.g., overcrowding and pollution of spaces and traffic congestion • Conflicts resulting from the different needs and objectives of users of public spaces (disparities in perception of needs) • Influence of social, economic, environmental, and cultural processes on shaping public space	• The 15-minute city as a basis for introducing restrictions on development, redefining existing functions in cities, and increasing the flexibility of spatial planning • Arguments in favour of introducing restrictions on spatial development (overuse of land can increase inequalities between residents; e.g., in accessibility of public goods)

Source: authors.

implementation of the concept, as well as a basis for strengthening planning flexibility. At the same time, significant barriers are noted, among which physical determinism and the adoption of an overly universal approach must be particularly emphasized (Sharifi, 2019; Barbarossa, 2020; Moreno et al., 2021; Sharifi et al., 2021).

The problems of social disparities are also recognized by Guzman et al. (2021), who see spatial planning as an instrument to redress possible inequalities. Ineffective spatial planning can have several negative effects, such as increased density, pollution, and mobility and transport bottlenecks. At the same time, space provides the basis for the existence of a dynamic functional system in an area. We therefore see a need to intensify planning efforts for 15-minute structure in the areas presented in Table 3.

Analysing the concept of the 15-minute city, Pinto et al. (2020) refer to the case of Milan and suggest a redefinition of certain existing functions of areas. Public space in the 15-minute city can also be a major source of conflict and appropriation by different user groups or communities. This is because public space is not only the result of human urban planning activities, but also a place where various externalities and external benefits and costs related to social, economic, environmental, and cultural processes are generated (Hołuj, 2021; Hołuj et al., 2022).

The concept of 15-minute cities received a great deal of scrutiny during the COVID-19 pandemic. The premises that can be translated into spatial planning concern the following: treating the concept of a 15-minute city as the basis for restrictions on developing individual sites, the need to redefine existing functions in some cities, and a basis for extending the flexibility of spatial planning.

4 Discussion: How has the pandemic changed the approach to urban planning?

The discussion streams identified can be related to previously diagnosed vital issues concerning the general discussion on spatial planning. Publications comprehensively covering the COVID-19 pandemic and spatial planning issues have not created a single, strong current in the discussion (especially from a long-term perspective). However, they have complemented and reinforced some directions previously present in the literature on the subject but considered less relevant before the COVID-19 pandemic.

First, this concerns the link between spatial planning and climate change (Norman, 2022; Nowak et al., 2023). Among the topics identified, nature conservation in urban spatial planning (Bar et al., 2021; Rossi et al., 2022) stands out in particular.

Publications during the pandemic reinforced the demand for protecting green areas in cities and using green technologies (Kakderi et al., 2021). Publications addressing nature conservation in urban planning from a pandemic perspective primarily focused on health; that is, nature conservation for better health conditions (Castro et al., 2021; Chen et al., 2023; Khavarian-Garmsir et al., 2023; Legutko-Kobus et al., 2023). However, this makes it possible to treat the justification for the need to protect natural assets in cities in a multifaceted manner. Moreover, in some publications dealing with the issues identified, the authors also signalled their thematic link with the need to respond to climate challenges (Khavarian et al., 2023).

Another relevant issue from the perspective of the general discussion of spatial planning is the coordination of spatial planning (its instruments) with diverse spheres of development (Guzman et al., 2021). The COVID-19 pandemic clarified the need to maintain the link between spatial planning and health protection objectives. Health protection was a reference point for changes related to broader nature conservation in the publications analysed. However, the issue identified is wider in scope, as evidenced by publications isolating the relationship between the application of specific urban planning parameters (e.g., density) and the health of residents (Talocci et al., 2022).

However, most publications analysed contribute to the discussion on adapting specific spatial planning instruments to current challenges. The contribution indicated is specific. In the publications analysed, the authors do not so much refer to particular instruments but rather suggest (from the perspective of the topics addressed) that specific changes should be made (Pucher & Buehler, 2010; Gallitano et al., 2021; Bao & Hu, 2021). Spatial planning instruments can be classified in various ways. It is crucial to distinguish between strategic and regulatory spatial planning instruments (Oliveira et al., 2018). In most countries, the most common group of instruments indicated consists of local spatial plans (which are legally binding acts).

As a general rule (while being aware of the detailed differences from country to country), such spatial plans define zones and guidelines for land use (building height, building intensity, etc.). In particular, more stringent land-use restrictions must have specific justification (Nowak et al., 2021). Relating the above to the themes identified in the publications reviewed, two possible approaches can be identified: justifications for land-use restrictions in specific plans and bases for broadening the scope of solutions in regulatory spatial plans.

The first approach can include indicating the need for special protection of public spaces, with the related rationale for introducing wider development restrictions for the areas identified, justifying in-depth protection of natural assets in cities, and justifying restrictions on land use due to the need to implement (in part or in full) the 15-minute city concept. The second approach distinguishes approaches by justifying non-standard solutions for the content of regulatory instruments. These include extensive guidelines for developing public spaces (much broader than simple land zoning or standard guidelines), and guidelines for using green technologies in building construction that redefine selected urban functions in connection with the formation of 15-minute cities.

Discussions about urban planning during the pandemic can be divided into those addressing 1) spatial conflicts, 2) the role of legislation in spatial planning and comparisons of national spatial planning systems, and 3) the relationship between spatial planning and climate challenges.

Strengthening the justifications for spatial planning restrictions (concerning the protection of public spaces and consideration of health guidelines in planning) is essential from the perspective of the discussion on spatial conflicts (Bromley, 2010; Bergstrom et al., 2013; Hersperger et al., 2015; Papamichail, 2019). To date, health protection (and the consequences of this protection) has relatively rarely been considered in the literature. Ideas arising from discussing the pandemic also influence the perception of spatial planning legislation (Buitelaar & Sorel, 2010; Gielen & Tasan-Kok, 2010; Moroni et al., 2020). The example of the COVID-19 pandemic shows that it is necessary to extend flexibility in planning and adapt legal solutions to new challenges (as well as technological ones). Attention should also be paid to discussing comparisons of national spatial planning systems. Healthcare, protection of public spaces, and the design of 15-minute cities (and institutional responses to these challenges in various countries) should also be considered. The conclusions of the discussion on spatial planning during the pandemic are strongly linked to the discussion about the relationship between spatial planning and climate protection.

5 Conclusion

The experience of the COVID-19 pandemic has not introduced revolutionary solutions to spatial policy. Discussions have used the same concepts and demands for several years or more. The pandemic also revealed the significance of social and environmental inequalities, and differences in the pandemic restrictions across political and social systems. An analysis of the publications leads to several conclusions. To a far greater extent than before the pandemic, importance is attached to the management of public spaces in the literature. The public realm is a unique domain that provides access to many public services essential for a city's urban and economic development.

Protecting nature in cities (especially green areas) is viewed similarly. In most countries, spatial planning solutions must be adequately justified, especially those containing restrictions and limitations. Thus, after the pandemic, the justification of such limits by health considerations is much more extensive. This allows broader integration of development policies (including health and spatial policies). Considering the 15-minute city requires developing a discussion on redefining urban functions and applying flexibility in planning (Khavarian-Garmsir et al., 2023).

The critical contribution of this article is relating the discussion of the pandemic to selected aspects of urban planning. An important research limitation was that spatial planning demands related to the pandemic rarely directly addressed the institutional and legal aspects of urban spatial planning. The detailed differentiation of individual national spatial planning systems is also a barrier (Nowak et al., 2023). Nevertheless, the article identifies vital premises that should also be part of discussions on institutional aspects of urban planning. The guidelines developed should be adapted to the specifics of national systems. Referring to the first of the research questions, the key themes in the literature concern the in-depth protection of urban space. This is manifested in the detailed treatment of the three interdependent areas: protecting public spaces, protecting nature in the city, and developing the 15-minute city concept. They should be translated into values protected by legal and institutional spatial instruments and reflected in detailed regulations (e.g., urban spatial plans). Concerning the second research question, the contribution of pandemic-related publications to the discussion reinforces and complements earlier trends.

In subsequent studies, the COVID-19 pandemic will be far less relevant. However, the issues identified above remain essential. The following issues require further in-depth analysis: 1) integrating health objectives into urban spatial policy, and 2) adapting urban spatial plans to new challenges, including flexibility in planning, redefining functions, and including specific technological and environmental guidelines in the plans.

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Developing a concept to define green spaces suitable for spatially concentrated forms of physical activity

Green spaces play an important role in promoting physical activity and public health, and so it is vital they be equally accessible to all residents. Nonetheless, Slovenia has insufficient high-quality spatial data to assess the provision of urban green spaces for physical activity. This article develops the concept of green space provision in Slovenian towns and other settlements. It defines the concept of provision and presents a new method for identifying green spaces suitable for concentrated forms of physical activity. The method is based on a combination of spatial data on the occurrence and function of green spaces, allowing a sufficiently reliable identification of green spaces suitable for concentrated forms of physical activity that can also form the basis for assessing the provision of such spaces to develop relevant indicators. The discussion section highlights the lack of comprehensive and high-quality spatial data to make such assessments in Slovenia, and the need for cross-sector collaboration to improve the management and planning of urban areas. The article concludes by emphasizing the need for a harmonized expert approach to collecting these data and establishing long-term stakeholder collaboration to improve the accessibility and quality of green spaces to promote physical activity in Slovenia.

Keywords: green spaces, physical activity, indicator, GIS, spatial aspects, spatial data

1 Introduction

As in many developed countries across the globe, people in Slovenia do not engage in sufficient physical activity (Pustivšek et al., 2018; Remec & Pustivšek, 2023). Physical activity is defined as any body movement produced by skeletal muscles that requires more energy than resting. This includes walking, cycling, dancing, various games and other forms of entertainment, gardening, work around the house, lifting and carrying things, sports, and targeted exercises (Šuklje Erjavec et al., 2019). Green spaces are an important factor in encouraging physical activity and, hence, promoting public health. In addition, they have a significant impact on reducing stress and improving people's psychological wellbeing. At the same time, many people find them more attractive than other venues, and they motivate them to engage in physical activity, which has been proven in various studies (e.g., Lee & Maheswaran, 2011; Roe et al., 2013). In addition to parks, playgrounds, and recreational areas, an important role in providing environments suitable for physical activity is played by green and other spaces in residential areas and around preschools, schools, and retirement homes, by those provided as part of other tertiary and quaternary activities and jobs, as well as by forests, waterfronts, bodies of water, and agricultural landscapes near towns and villages that provide important ecosystem services (Žlender, 2024). These green areas must be equally accessible to all and suitably distributed across settlements, so that their residents can engage in physical activity and are in contact with the natural environment without the need to travel long distances to reach them.

In Slovenia, urbanization and urban sprawl challenge the preservation of green spaces and their accessibility for all residents. Slovenia's Spatial Development Strategy 2050 (Sln. *Resolucija o Strategiji prostorskega razvoja Slovenije 2050* or *ReSPR50*, Ur. L. RS, no. 72/2023; Resolucija, 2023) specifies the country's spatial development goals and emphasizes the importance of green infrastructure and systems at the local level, with a vision of achieving a high share of green urban areas for socializing and recreation. A uniform distribution of publicly accessible urban green spaces that promote physical activity is vital. This is a key element in planning a high-quality living environment that takes into account people's needs and current issues, such as climate change mitigation and active mobility. The proposals presented by the European Commission within this context include a just and inclusive transition to carbon neutrality and prioritizing public health and wellbeing (Resolucija, 2021).

The term *preskrbljenost z zelenimi površinami* 'green space provision' is relatively new in Slovenian and is adopted from English (e.g., Kabisch & Haase, 2014; Wüstemann et al., 2016; Grunewald et al., 2017). The Spatial Planning Act (Sln. *Zakon o urejanju prostora*, Ur. l. RS, no. 199/21) introduced the principle of equal green space provision and accessibility, which, on the one hand, includes diverse users and, on the other, available activities suited to their needs. However, research shows that spatial conditions vary greatly across Slovenian municipalities and they do not provide equal opportunities to Slovenians, which became especially clear during the COVID-19 pandemic (Martinko et al., 2023).

To appropriately determine, assess, and monitor the state of green space provision, it is vital that high-quality spatial data be available on all the relevant publicly accessible green spaces and their quality-specific spatial characteristics (Šuklje Erjavec et al., 2020b). However, as established by Vertelj Nared and Simoneti (2011) for Ljubljana, in reality there are no universal data on green spaces available, and there are great differences between individual databases arising from the purpose and method of collecting data and the interpretation of concepts and features, which prevents comprehensive insight into the state of public green spaces in terms of their size, location, type, and equipment. Šifkovič Vrbica and Simoneti (2021) argue that the legal framework for regulating public green spaces is deficient. The municipalities do not maintain all the spaces that are accessible to the public, and they do not have suitable tools to monitor their state. The data on spaces that are in public use but not owned by the local community are especially problematic because they are usually not included in the records or databases of maintained urban green space (Vertelj Nared & Simoneti, 2011).

Slovenia is thus dealing with a lack of familiarity with the provision of green spaces suitable for physical activity at all levels, which makes it difficult to adopt appropriate measures to improve the situation. The hypothesis presented in this article is that Slovenia has suitable bases for defining and monitoring urban green space provision and several public registers with sufficiently useful data for developing the method and aggregating data for identifying relevant green spaces to assess green space provision and develop an indicator of green space provision for physical activity at the local level.

This article presents a new method for collecting data that makes it possible to determine the provision of green spaces in Slovenian settlements suitable for spatially concentrated forms of physical activity – that is, activity performed in a specific, complete spatial unit or green space, whose spatial characteristics facilitate and encourage physical activity such as various types of games, skills, workouts, dance, gardening, and so on (Šuklje Erjavec et al., 2019).

This method focuses on Slovenia, but it can also be adapted for and applied to other countries. This article presents a special approach to selecting data to identify green spaces suitable for spatially concentrated forms of physical activity. Its main goals are the following: to define the provision of green spaces suitable for all types of physical activity and an active lifestyle; to analyse current data collection options to identify green spaces suitable for concentrated forms of physical activity; to assess options for updating and aggregating data to identify such green spaces; to define the type and level of spatial data to be used in identifying such spaces; and to prepare a protocol for selecting and assessing data for identifying these spaces.

The following research questions were formulated to achieve these goals: How is green space provision defined in Slovenian and international official documents and research literature? Are there data that can be directly used to identify greens spaces suitable for physical activity? Can current data be combined to identify such spaces in a town?

The work presented in this article is part of broader research conducted as part of the targeted research project Development of indicators for the assessment of the provision of settlements with green spaces for outdoor physical activity (referred to in Slovenian with the acronym PREZENCA), whose aim is to define an indicator of the provision of green spaces suitable for physical activity or an active lifestyle, which will complement the green space accessibility indicators at the local level. For several years now, these indicators have been in preparation by the Ministry of Natural Resources and Spatial Planning to monitor the situation and make reports within the framework of the 2030 Agenda for Sustainable Development (UN, 2015).

2 The concept of green space provision in literature and legislation

Urban green space provision is becoming an increasingly important topic in urban planning and development. Nonetheless, there is a great deal of variability in understanding and defining this concept, which makes it difficult to effectively plan and manage urban spaces. To improve the understanding and later provide their own definition of this concept (Section 3), the authors analysed the Slovenian legislative framework and specific sectoral acts and documents (Section 2.1) and reviewed the current approaches to defining green space provision (Section 2.2). The main findings are presented below.

2.1 Understanding green space provision within various sectors

In Slovenia, various terms connected with green space provision are used in practice and in various studies, including *zagotavljanje zadostnih količin zelenih površin* 'provision of sufficient green spaces', *zagotavljanje ustreznega ali uravnoteženega razmerja med grajenimi in zelenimi površinami* 'providing a suitable or balanced ratio between built-up and green spaces', *enakovredna oskrba* 'equal supply', *uravnotežena oskrba* 'balanced supply', *delež zelenih površin* 'share of green spaces', *delež javnih površin* 'share of public areas', *delež javnega prostora* 'share of public space', and so on (Žlender et al., 2023b). These expressions appear in various contexts, not only in connection with publicly accessible spaces. In conducting a content review of various documents, the authors took into account all aspects of provision that refer to green spaces as well as other related terms and synonyms.

A review of relevant spatial planning legislation showed that issues related to green space provision are addressed in various ways and often not comprehensively. The concept is only mentioned in the Spatial Planning Act (ZUreP-3) and Slovenia's Spatial Development Strategy 2050 (Resolucija, 2023). According to this strategy, suitable accessibility of public green spaces is an important goal for all residents. Based on the accessibility indicators, public green spaces must be within a five-minute walk or 300 m if they are larger than 0.5 hectares, and within a fifteen-minute walk or 900 m if they are larger than one hectare.

Documents related to public health highlight the importance of green spaces for people's health and, within this context, the importance of improving and including spatial factors, especially green spaces, to promote physical activity. They emphasize cross-sector collaboration to support forming links and connections with spatial planning (e.g., European Commission, 2008; WHO, 2020), which is an important step to a more comprehensive approach to this issue.

The reviewed documents related to sports tend to use the terms *telesna dejavnost* and *gibalna aktivnost* 'physical activity' less often than, for example, *športna rekreacija* 'sports recreation' or *telesna vadba* 'workout'. Public health specialists define sports and workouts as targeted exercises structured and aimed to improve one's fitness. Sports usually also include a type of competition, whereas workouts are primarily aimed at improving one's health. Health-promoting physical activities are defined as any type of physical activity that is beneficial for one's health and functional ability without causing unnecessary harm or risk (Šuklje Erjavec et al., 2020b). Hence, Article 3 of the Slo-

venian Sports Act (Sln. *Zakon o športu* or *ZŠpo-1,* Ur. l. RS, št. 29/17; ZŠpo-1, 2017) specify the principles of providing opportunities for every Slovenian citizen to engage in sports. This also refers to the physical environment, which should be safe and healthy. The act highlights the importance of outdoor sports facilities and areas for people's health, but the options for cross-sector collaboration are limited and insufficiently articulated, especially in relation to spatial planning.

2.2 Review of current approaches to defining green space provision at the international level

Urban green space provision is a complex approach, which is defined in research based on diverse aspects. Individual aspects are studied with various methods. Proximity to green spaces is an especially important aspect connected with people's physical activity (Kaczynski & Henderson, 2007). GIS tools are usually used to calculate the distance between one's home and the nearest green space (Talen, 1997; Sister et al., 2010); for example, by employing distance radiuses, with a 300 m walking distance being the one most frequently used (Coles & Bussey, 2000; Giles-Corti & Donovan, 2002; Nielsen &Hansen, 2007). Accessibility of green spaces can also be measured based on networks of existing routes, such as with the Network Analyst tool (Oh & Jeong, 2007). The accessibility aspect also includes the temporal component and quality of access (Šuklje Erjavec et al., 2019). In addition to measurements, methods of collecting data with surveys are also common, such as for assessing perceived access to parks (Koohsari idr., 2015). For example, Lundh (2017) reports that the aesthetic experience of open space is the most important factor in selecting places for recreation and visiting green spaces to engage in physical activity. Despite the complex aspect of achieving spatial attractiveness, the quantity of natural resources is the parameter most frequently used in research in this regard. Based on satellite data, the presence of vegetation has previously been measured in selected areas using aerial colour infrared photography (Sripada et al., 2006), and methods incorporating measurements from the user perspective have been used, such as the Green View Index (Ki & Lee, 2021). Other aspects include the ecological characteristics of the environment, such as air, water, and soil quality, as well as soundscape quality and the absence of negative factors, such as stench, dust, overheating, and glare (Koohsari et al., 2015). In addition, the quality of open spaces, their utility, and experiential appeal are also very important (Francis et al., 2012; Pazhouhanfar, 2018).

The WHO recommends a minimum 9 to 11 m^2 of green space per capita, without specifying the exact distance from one's place of residence used for calculating this indicator (WHO, 2020). Already in 2012, Gupta et al. (2012) questioned the suitability of information on the required size of green space per capita in cities because it is inaccurate and insufficient to determine the distribution, accessibility, and quality of green space. An epidemiological medical study (Mitchell et al., 2011) showed that larger green spaces may be more important for people's health than smaller spaces, depending on the type of users. In terms of impact on health, it is not only the quantity, but also the diversity of green space that is important. For example, a comparison of urban green space and forest showed that forest was associated with fewer days of mental health complaints (Akpinar et al., 2016). The use of open public space is also affected by its equipment, safety, and maintenance. Different spaces require different levels of equipment and maintenance, depending on their purpose and natural processes. These aspects are usually studied by qualitative methods reflecting user satisfaction and by using objective data, such as public utility records. Based on a review of relevant studies, especially the review of indicators for the provision of green spaces to promote physical activity (Kozamernik et al., 2023), the following are the most important aspects for this study, along with some indicators for assessing the provision of green spaces suitable for concentrated forms of physical activity:

- Public accessibility, with the basic criterion that a universally accessible public green space larger than 500 m^2 should be within a 300 m or five-minute walking distance, and an urban park should be within a 900 m or fifteen-minute walking distance;
- Urban parks should cover at least one hectare and be within a 900 m walking distance from residential areas;
- Green spaces should be evenly distributed and connected into networks combining various types of green space or activity that can be practiced there;
- Attractiveness and quality of green space.

3 Provision of urban green spaces suitable for physical activities: concept definition

The literature review showed that the concept of green space provision is often used in various contexts and hence it is necessary to provide an expert rationale for its use. Green space provision requires a systemic approach that includes collaboration between spatial planning, public health, and sports. Green space provision is evaluated from the ecological and social perspectives, whereby green spaces that do not meet the conditions for being publicly accessible are excluded from assessments of suitability for daily use by residents (Šuklje Erjavec et al., 2020a).

A variety of terms related to green space provision appear in Slovenian documents. The expression *načelo enakovredne preskrbljenosti z zelenimi prostori* 'principle of equal green space provision' encompasses the aspects of public accessibility and balanced distribution, capacity, and quality of green spaces. Sufficient provision facilitates equal access to green spaces for all residents (Kozamernik & Šuklje Erjavec, 2021) and strengthens public health equality and urban justice (Sister et al., 2010; Ward Thompson et al., 2012; Kabisch & Haase, 2014). Pursuing this principle is key to ensuring a good quality of life and choice for all residents, which is also the central goal of green system planning, an approach established in Slovenia and similar to the approach of green infrastructure planning established at the international level (European Commission, 2013, 2023; EEA, 2014).

Based on a review by Žlender et al. (2023b), the key aspects referring to the adequate provision of green spaces suitable for physical activity and an active lifestyle are presented below. The key aspects to defining green spaces suitable for concentrated forms of physical activity include the following:

- According to the definition provided by ZUreP-3 (Ur. l RS, no. 199/21, p. 6), a green space is "a space in a settlement area with a certain degree of naturalness (e.g., parks, urban forests, greenery next to bodies of water, lawns, tree-lined avenues, greenery along streets and roads, recreational areas, playgrounds, cemeteries, gardens, and so on) and specific natural physical structures in this area (e.g., trees and other vegetation), regardless of its ownership, function or location";
- Capacity, size, and scope of all suitable green spaces in a town or settlement, as well as individual green spaces: This means sufficiently large and complete green spaces that residents can use daily to achieve the recommended levels of physical activity to maintain their good health. This is directly related to the accessibility of green spaces and the population or user density in a specific area;
- (Universal) public accessibility: This means that a green space is accessible to everyone, including functionally impaired people, regardless of its ownership and without a required financial investment, in which the quality of access should also not be neglected (this is further defined through specific evaluation attributes).

Aspects to be taken into account in evaluating the suitability of green spaces for concentrated forms of physical activity (not the subject of this study) are the following: suitable distribution, connectivity and continuity of green spaces, equipment, diversity (typology), attractiveness, and safety. Proximity to green spaces is key to their accessibility because it affects the time that pedestrians and cyclists need to travel to reach a green space, taking into account their varied ability to travel the distance. In addition, the quality of connections between the green spaces suitable for physical activity is also important. Green spaces can be multipurpose (for various uses and groups), single-purpose (for single use), or without a designated purpose (without a special design but making it possible to engage in physical activity).

4 Method for defining the criteria for identifying green spaces suitable for spatially concentrated forms of physical activity

In developing this method, the focus is on the following questions: What green spaces are relevant for assessing green space provision? Which data are available for identifying green spaces suitable for concentrated forms of physical activity? What is their quality in relevance in terms of content? Are they publicly accessible and sufficiently detailed in spatial terms?

The bases for collecting suitable data for identifying green spaces suitable for concentrated forms of physical activity included the following:

1. Aspects used to identify these spaces, including their capacity, size, scope, and public accessibility. Based on conceptual aspects, the selection of data to identify suitable green spaces can be expanded from databases of public green spaces to databases that define the characteristics of green spaces. This includes land uses outside settled areas (e.g., farmland, forests, and waters) and the register of current land use, where green spaces are included in the building land register (MNVP, 2021). This expansion makes sense when the data on public green spaces are too inaccurate or deficient in spatial terms to identify green spaces in settlements or small municipalities;
2. Information on the databases that municipalities or the ministry of spatial planning will be required to provide in the near future. This issue is addressed by Part 6 of ZUreP-3 (Ur. l. RS, no. 199/21, p. 140), titled "Spatial information system, monitoring the spatial development status, and spatial planning information". Specific provisions in the sections "Spatial information system" (Section 1, Articles 263, 267, 270, and 275), "Spatial development status monitoring system" (Section 2, Article 277), and "Information on public infrastructure networks" (Section 4, Article 281) are especially relevant for this study. Green spaces relevant for this study are part of both natural public goods as defined in the Environmental Protection Act (Sln. *Zakon o varstvu okolja* or *ZVO-2*, Ur. l. RS, nos. 44/22, 18/23 – ZDU-1O, and 78/23 – ZUNPEOVE, 2022) and built public goods as defined in ZUreP-3; data and records are required to be

kept for both;
3. Spatially accurate data, which make it possible to identify green spaces, both small and large. Based on the recommended sizes of green spaces (Šuklje Erjavec et al., 2020), a contiguous green space with a minimum size of 200 m² was selected for the purposes of this study. The data should make it possible to determine the typology of green spaces and assess the realistic public accessibility of these areas (a 300 m distance to smaller multipurpose green spaces and 900 m to larger ones).

4.1 Review of databases

Taking into account that there are no data on green spaces suitable for physical activity purposefully collected at the national level, databases set up for other purposes, which might help identify such spaces, were reviewed. The review took into account the usefulness of the data sources, their accessibility, spatial resolution, and currency, and whether they incorporate official records to allow comparison between municipalities. International, Slovenian, and municipal databases were reviewed, focusing on areas classified as green spaces in terms of their current use, and areas that could potentially be considered green spaces (forests, waterfronts, and farmland). In addition, data on the pedestrian and cycling accessibility of green spaces were examined, along with their potential users (i.e., population, population density, house numbers, and building type classification). The selected data layers were then professionally evaluated.

4.2 Testing various options of identifying green spaces suitable for spatially concentrated forms of physical activity

To identify green spaces suitable for spatially concentrated forms of physical activity, several variants of combining data layers were examined. The data sets applied included Copernicus remote sensing data (EEA, MNVP, 2022a), data from the building land register (MNVP, 2021) and the agricultural and forestry land-use database (MKGP, 2023), ground plans from the real estate cadastre (GURS, 2023), and selected OpenStreetMap data (OpenStreetMap, 2023). Analyses were conducted in PostgreSQL and its extension PostGIS, where the data were stored, and in QGIS Desktop, which was used to visualize and review the data and edit them manually.

Based on the conceptual definition of the provision of green spaces suitable for spatially concentrated forms of physical activity, the following operational criteria were specified:

- Defining the wider area of analysis. The area studied included an urban area with a 900 m distance from all housing. To be able to manipulate the data, a 10 × 10 m vector grid was created (across the study area), which was estimated as sufficiently detailed to collect minimal green spaces suitable for spatially concentrated forms of physical activity;
- Identifying green spaces within the area analysed. To make a green space suitable for physical activity, its minimum size was set at 200 m², in which the area had to include at least two adjacent 10 × 10 m cells;
- Defining the proximity of green spaces. The following distances were defined quantitatively for accessing green spaces suitable for spatially concentrated forms of physical activity: a walking distance of up to 300 m (a five-minute walk) and 900 m (accessible by bicycle or within a fifteen-minute walk).

A part of Kočevje was selected to test these variants. To identify green spaces suitable for physical activity, an area 900 m from the ground plans of the houses and apartment buildings in Kočevje was specified (900 m is the maximum distance suitable for the daily use of green spaces). A 10 × 10 m vector grid was created, and several data merging models were run to identify green spaces with precision. The results of modelling are described in Section 5.2.

As a preventive method to ensure the suitability of the approach applied, various public green spaces across a small area were also manually entered into QGIS. This was made based on an expert evaluation, along with the use of a satellite orthophoto and verification by a spatial planner from the municipal office. Public spaces were identified by type: parks, public playgrounds, school and preschool playgrounds, community gardens, public sports fields, other sports fields, sports and recreational areas, specialized parks, setups in forests, green spaces in residential neighbourhoods, and green spaces next to public buildings.

4.3 Creating a merged layer of green spaces suitable for spatially concentrated forms of physical activity

Using remote sensing data and a 10 × 10 m vector grid for larger areas resulted in a large number of cells, which made data processing difficult. In the following stage, a different method was tested, in which the basic data were not gridded. A layer of data from the building land register (MNVP, 2021) was used, with a graphic part and a relational table with current land uses and areas (layers 3171, 3181-3184, 3243, 3111, 3112, 3131-3136, 3141, 3142, and 3151). After merging all the data, the predominant use was identified for every polygon. Forest

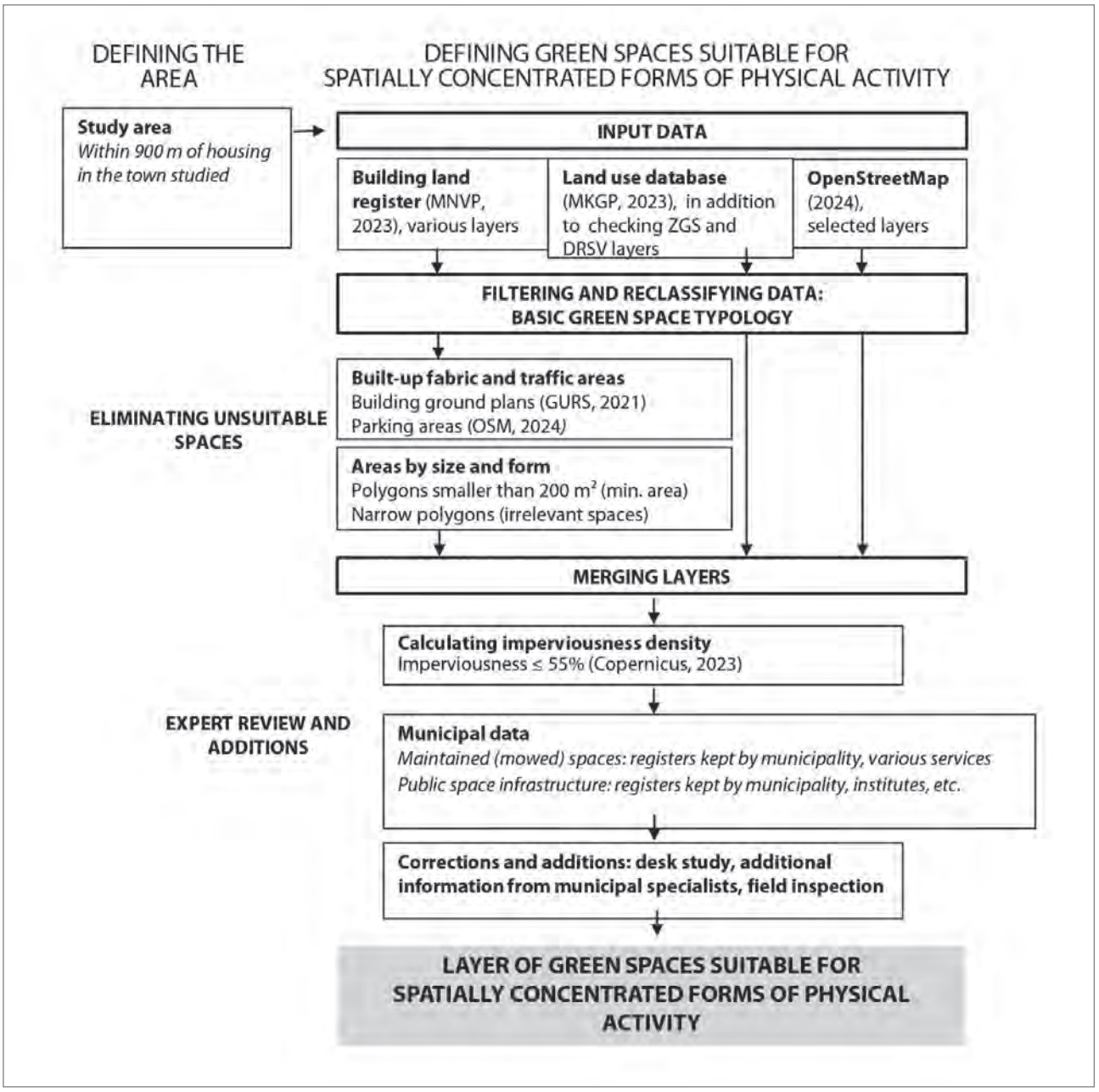

Figure 1: Steps used in merging data or creating the final layer of green spaces suitable for spatially concentrated forms of physical activity (illustration: Jana Kozamernik).

areas were identified from the agricultural and forestry land-use database (MKGP, 2023; layers 1800 and 2000) because this layer was more consistent with the building land register. Additional data sources included Open Street Map (OSM) data for Slovenia, which were downloaded from the Geofabrik website (Geofabrik, 2024) in PBF format. Various categories related to recreational and leisure activities and the outdoor space studied were used, especially "leisure", "land use", and "access". Raw OSM data were first imported into a PostgreSQL database, including all the attribute values saved in hstore format. This made it possible to use the entire range of attribute values in filtering data.

Based on the criteria specified for the provision of green spaces suitable for spatially concentrated forms of physical activity, data were merged to create a layer for the pilot area covering the ten districts of Celje. Green spaces were reclassified into eleven basic types, such as parks, playgrounds, sports and recreation, specialized parks, water recreation areas, green areas around public buildings, common green areas around apartment buildings, lawns, cemeteries, community gardens, forest areas informally used for physical activity, and so on. Public

accessibility of green spaces was specified by type of access: universal, public, unlimited public, time-limited, and entrance- or fee-based access. The typology and access filters were used to create a layer of green spaces suitable for spatially concentrated forms of physical activity. Automated classification accelerated the manual review and made it possible to enter the attribute values correctly.

The recategorized layer of building land register data was additionally processed by eliminating built-up areas and parking areas obtained from the OSM layer. After inappropriate areas from the building land register were eliminated, adjacent polygons of the same type were merged. After the layers were graphically overlayed, narrow parts of polygons were left in some places, and so the narrowest parts were removed by creating a 20 cm negative buffer distance and then a positive buffer distance of the same size. This eliminated the narrowest parts of the polygons with a width of no more than 40 cm. A longer buffer distance was not selected because that would have somewhat distorted the geometry on the vertices and increased the error.

In addition, the share of impervious surfaces was calculated by overlaying the merged layer of the three data registers with the Copernicus raster data (EEA, 2022a). In the next step, data were reviewed and complemented. Major errors were rectified by examining the digital orthophotos and through detailed reviews carried out in collaboration with specialists from the municipal office and in the form of field inspections.

5 Results

5.1 Comparing and selecting data at various spatial levels

In reviewing international databases, Corine Land Cover (EEA, 2022b, 2022c), Urban Atlas (change) (EEA, 2022d, 2022e), and the Global Human Settlement Layer (Copernicus Services, no date) proved to be inappropriate due to their insufficient spatial resolution or incomplete coverage of Slovenia. The European Settlement Map data (EEA, 2019) are useful to present built-up areas with sufficiently high spatial resolution, but they are not up to date (the most recent data are from 2019). Green spaces can be identified relatively accurately based on imperviousness density data. Due to potential errors (e.g., inaccurate identification of green spaces with a high share of paved surfaces), however, these need to be combined with other data. In this regard, two data layers are vital: tree cover density (EEA, 2022f) and grassland (EEA, 2022g). They are especially useful to identify green spaces that are not officially designated as green spaces in terms of their actual or intended use. The European Digital Elevation Model (EEA, 2016) can be used to assess the terrain and, for example, to define slopes that affect various types of physical activity, the courses of recreational trails, and so on. To determine the equipment and facilities provided in green spaces, OpenStreetMap (OSM) data (OpenStreetMap, 2023) may prove useful. These data also contain information on road networks, including pedestrian and cycling infrastructure. A disadvantage of the OSM database, which prevents its broader application, is that the data are gathered and updated through open collaboration, which means that it may contain errors. The review of international data on open-access portals showed that these data were not sufficiently precise to analyse local areas. The imperviousness density provides useful information, but a more up-to-date system is required. An advantage of international data is their comparability.

The review of national data included all urban planning databases kept at the national level. Green spaces in built-up areas are recorded in the building land register (MNVP, 2021). The data in this register are linked to parcels, and so an individual parcel may include several land uses, which are recorded in a relational table based on which the share of each use can be calculated. These data are thus only partially useful because small green spaces are not captured and shown separately. Information on planned land use refers to the planned use of spaces and does not convey the current situation. Even though this information is relatively detailed, it only includes large green spaces (designated as such in terms of planned use), but it does not take into account green spaces within areas with a designated planned use other than green space. Moreover, the real estate cadastre (GURS, 2023) may prove useful for a detailed identification of undeveloped open space. This layer includes all occupied land, building ground plans, and unfertile land next to buildings, such as outdoor spaces, parking areas, squares, small parks, and other small and fragmented undeveloped areas without a specific function. In identifying green spaces, it makes sense to combine these data with satellite images, but a challenge that may arise in this regard is the size of the error in combining raster (10 × 10 m) data with vector data. Based on the highlighted aspects of identifying the quality of green spaces, the information on tree canopies is also important. A detailed vegetation layer is provided through laser scanning (ARSO, 2014). Because these are high-resolution data, they are very difficult to process. In identifying green spaces that are not part of populated areas or building land, the data provided by the Slovenian Forestry Institute are vital (Zavod za gozdove Slovenije, 2023); among other things, these specify wooded areas with a recreational and cultural function, as well as other social functions that may potentially (based on their location and accessibility) constitute important green spaces for physical activity. The agricultural and forestry land-

use database (MKGP, 2023) is useful for identifying non-cultivated farmland that is required to be publicly accessible by law. Also useful for identifying the attractiveness of areas, and partly green spaces, may be the information on cultural heritage protection, such as the cultural heritage protection regimes (Ministrstvo za kulturo, 2021), and information related to nature protection regimes, such as the Natura 2000 sites (ARSO, 2018), valuable natural features (ARSO, 2015), and protected areas (ARSO, 2010). To identify the use of water and waterfront areas suitable for physical activity, data from the water cadastre (DRSV, 2020) may be useful; for example, information on surface water, including various types of surface streams. The information on bathing waters and their spheres of influence is less useful because it is not kept up to date.

Demographic data is important for defining the locations of users of green spaces suitable for concentrated forms of physical activity. Information on the population provided by the Slovenian Statistical Office (Statistični urad RS, 2022) includes data on the number of population by age group, and the number of households and their size, with a spatial resolution of 100 m. Information from the central population register (Ministrstvo za notranje zadeve, 2024) is linked to house numbers, and, due to personal data protection requirements, it is difficult to obtain. Also important is the information on the persons that use a specific area during the day (e.g., students, shoppers, etc.), which can be obtained from various sources, but their accessibility is limited. The review of national data on open access portals showed that these data do not meet the needs of green space identification in this study and that, hence, it is necessary to combine various data. An advantage of national data is that they are regularly updated, which makes it possible to compare them across several years.

The review of municipal data focused on open-access data on web portals, such as iObčina, PISO, Prostor Celje, q3MAP (Koper), Prostor Kranj, UrbInfo (Ljubljana), and Prostor Maribor, as well as bike rental websites. The data were very diverse, ranging from information on street furniture, playgrounds, sports fields, sites and monuments, public green spaces, trees, and hedges to data on various uses (overlapping uses, public domain, etc.). In terms of type, mobility data predominate (nineteen data layers), followed by data on public utilities and services (eleven), and land use (eight; green, sports, recreational, and tourist areas). The review of municipal data on open access portals showed that these data are inconsistent and that they are often too incomplete to be used directly, and they cannot be compared to one another. Nonetheless, in certain cases they can complement other data layers to identify green spaces suitable for concentrated forms of physical activity. Based on the database review conducted, it can be established that, to identify the green spaces in question or their sizes, it makes sense and is currently also vital to combine various data sources and layers.

5.2 Testing various options of combining data sources and layers

Data merging models were used to test various combinations of data layers. Model A was based on various data from the Copernicus database (EEA, 2018), Model B was based on national data, and Model C combined the Copernicus and national data. These were further divided into:

- Model A1, which used three data layers from the Copernicus programme (EEA, 2018): small woody features, tree cover density, and grassland;
- Model A2, which used four Copernicus data layers (EEA, 2018): small woody features, tree cover density, grassland, and imperviousness density;
- Model B1, which used four official data layers: data from the agricultural and forestry land-use database (selected uses: wooded farmland – code 1800, trees and shrubs – code 1500; MKGP, 2023), land-use data from the building land register (selected uses: sports and recreation areas – code 3171, parks – code 3181, community gardens – code 3182, public green areas – code 3183, other public open spaces – code 3184; MNVP, 2021), data on surface bodies of water from the water cadastre (DRSV, 2020), and data on forest functions from the online forest data viewer (selected functions: recreational and cultural forest functions; ZGS, 2023);
- Model B2: in this model, areas that do not constitute green spaces suitable for concentrated forms of physical activity according to the definition used in this study were subtracted from the areas identified in Model B1; the subtracted areas included residential building ground plans from the real estate cadastre (GURS, 2023), selected uses from the agricultural and forestry land-use database (i.e., fields and gardens – code 1100, hop yards – code 1160, perennial crops – code 1180, permanent pastures – code 1300, greenhouses – code 1190, vineyards – code 1211, nurseries – code 1212, intensive orchards – code 1221, extensive or meadow orchards – code 1222, olive groves – code 1230, and other perennial crops – code 1240; MKGP, 2023), and traffic areas or the road and rail network from the public infrastructure cadastre (GURS, 2022), taking into account a 6 m distance from the railroad and road axes within the first five categories (i.e., motorway, expressways, first- and second-category regional roads, and main roads) and a 2.5 m distance from other roads, except mountain trails and cycle paths;
- Model C1, which combined all areas obtained in Models A2 and B2;

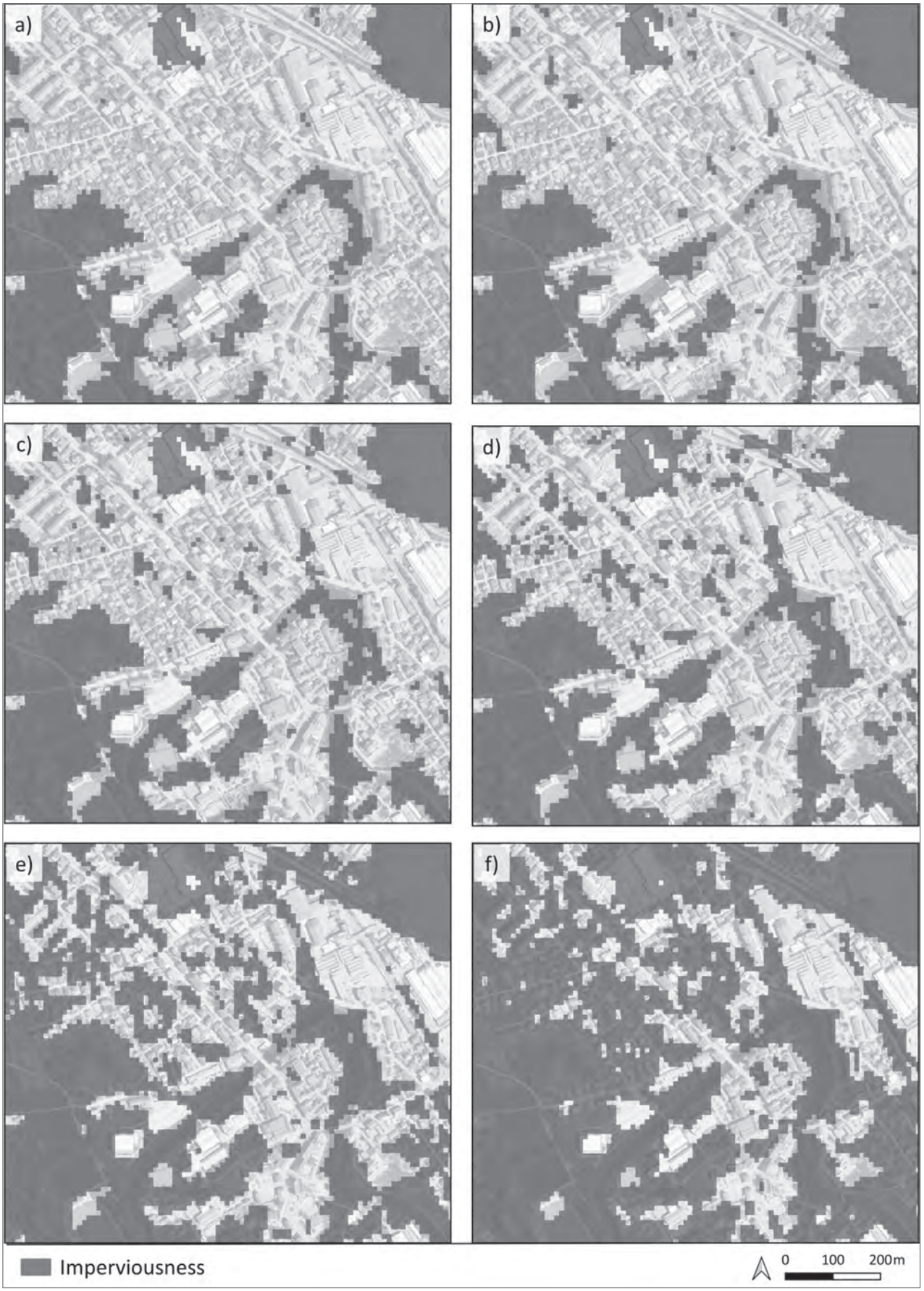

Figure 2: Identifying the degree of imperviousness using a test case from the Copernicus database (100% refers to complete imperviousness and 0% to complete perviousness): a) imperviousness ≤ 5%; b) ≤ 15%; c) ≤ 25%; d) ≤ 35%; e) ≤ 55%; f) ≤ 75% (illustration: Rok Brišnik).

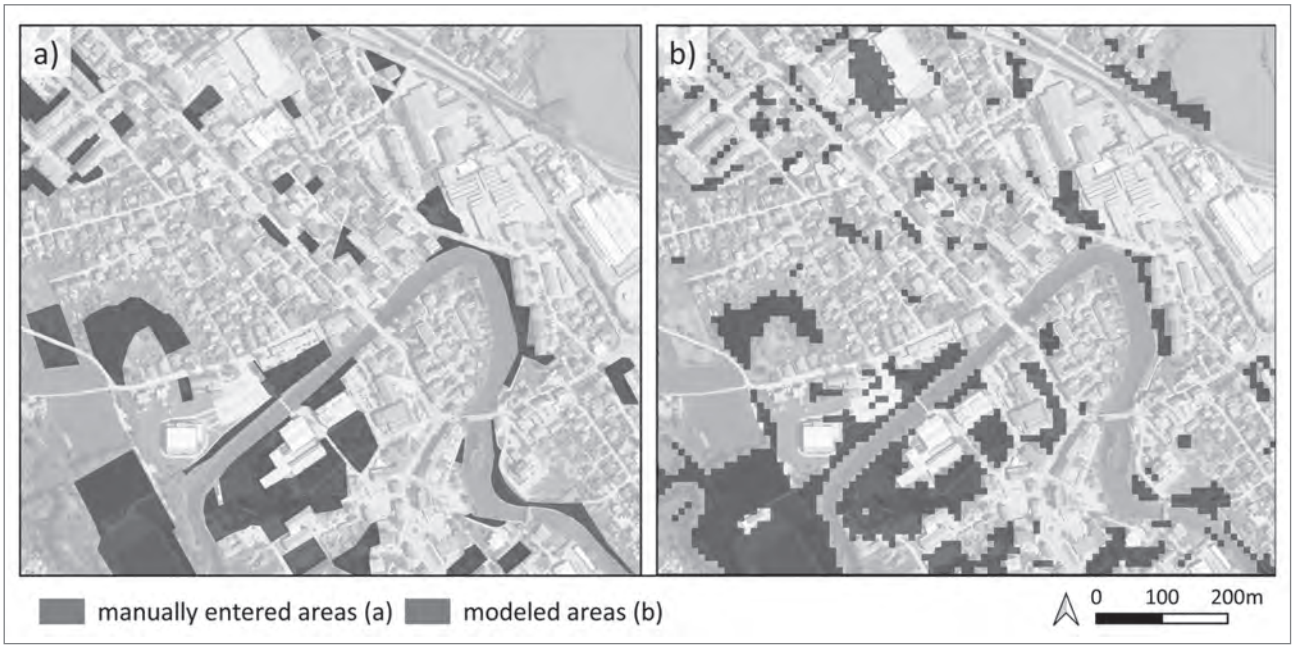

Figure 3: a) Comparing areas identified manually and b) areas identified through modelling (illustration: Rok Brišnik).

- Model C2, which combined areas obtained in Models A2 and B1, and then removed the areas subtracted in Model B2.

In each model, after merging the input data with the 10 × 10 m grid, four different filters were used to calculate the data layer share in each cell: ≥ 5%, ≥ 1%, ≥ 0.5%, and no filter. Filters help reduce anomalies that form when converting the input layers into a grid. The authors also tested the most suitable imperviousness percentage for identifying green spaces (Figure 2). The threshold imperviousness values tested were set at ≤ 5%, ≤ 15%, ≤ 25%, ≤ 35%, ≤ 45%, and ≤ 75%. The variants were tested to obtain the best possible approximation of the status quo.

The suitability of the modelling approach was tested through manual identification of green spaces in a small area of Kočevje. By comparing both methods of identifying green spaces suitable for physical activity in GIS (Figure 3), it was established that areas identified through modelling largely agreed with those identified manually. Certain discrepancies were determined; for example, in marking community gardens and urban grasslands (e.g., the computer model eliminated all meadows, whereas some were entered manually). The best approximation to the manually entered data was achieved with the final variant, Model C2, with a 5% filter (for all data) and an imperviousness degree ≤ 55%. This type of modelling proved effective because the authors were able to eliminate a large portion of areas that do not constitute green spaces suitable for concentrated forms of physical activity.

Based on the results, it can be concluded that the model proved to be a sufficiently good basis for processing data in pilot cases to improve the model. To achieve this, in parallel to using the model in pilot areas, it also makes sense to manually test the results in a smaller area. In doing this, various data sources can be combined, such as a digital orthophoto and final verification by an expert at the municipal office. Despite the suitability of the result, the method proved too complex to make calculations for entire towns and municipalities (too complex for the current software capacity).

5.3 The final merged layer of green spaces suitable for spatially concentrated forms of physical activity

The method that combines only vector data and uses remote sensing data as a verification step proved better suited for processing data for larger areas (towns and municipalities). Based on a review of available data and testing the data merging models, a layer of green spaces suitable for spatially concentrated forms of physical activity can be produced. The procedure is largely automated through SQL scripts, which allows reproducibility, but automation alone does not yield sufficiently reliable results, and so a final review and manual update of data are required.

A merged layer of green spaces suitable for spatially concentrated forms of physical activity was produced for the ten districts of Celje, which included all green spaces within 900 m of housing. This method identifies green spaces as a whole,

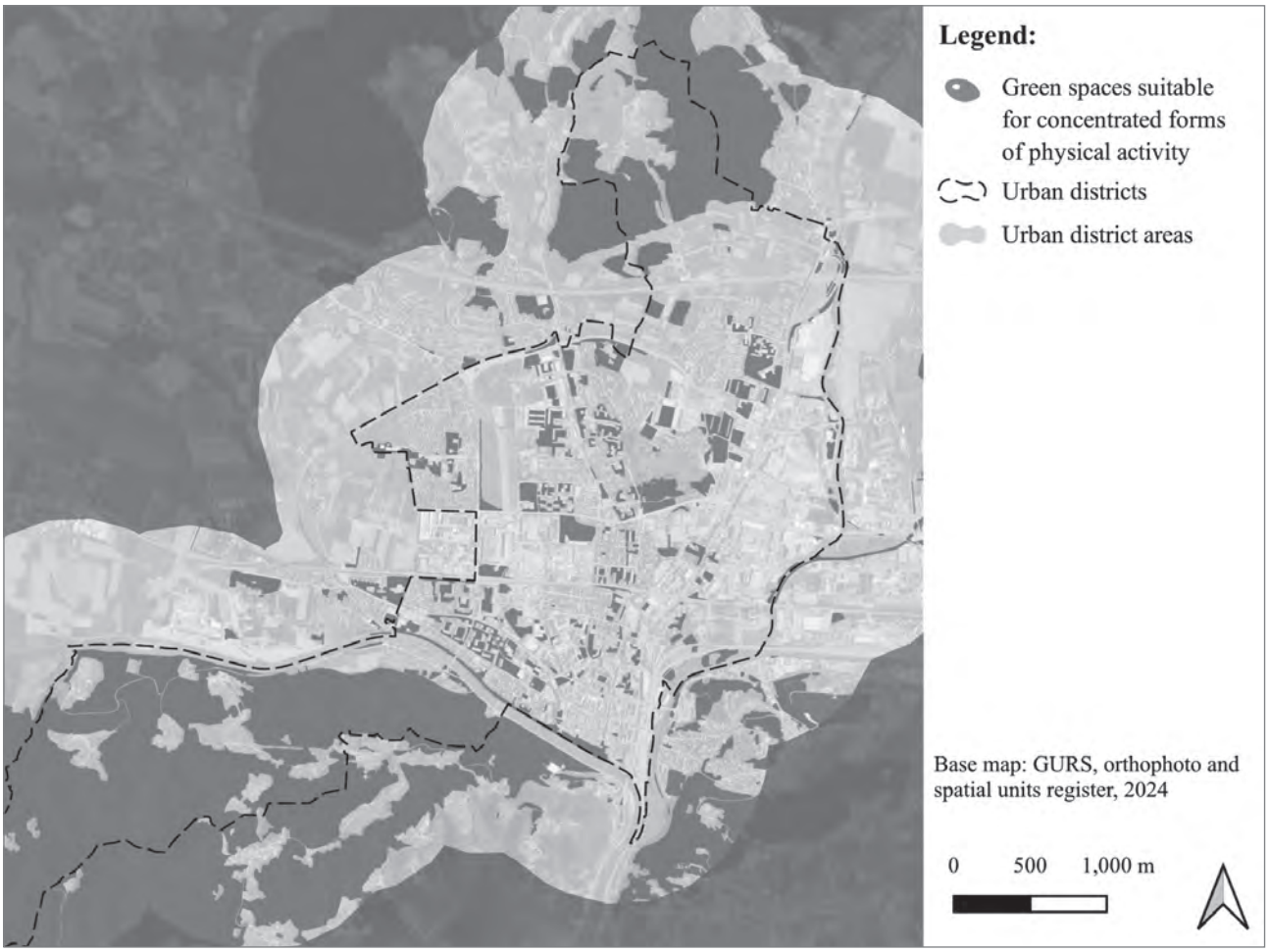

Figure 4: Green spaces suitable for concentrated forms of physical activity identified in the ten districts of Celje (illustration: Simon Koblar).

and so the results must be appropriately interpreted. One such example is the identification of the green space type "forest area used informally for physical activity", which comprises large contiguous areas, and so this must be further elaborated in terms of the various types of physical activities that people can engage in there.

6 Discussion

6.1 Evaluation of databases reviewed at various spatial levels

A review of available databases showed that there is currently no data layer in Slovenia that could be directly used for identifying green spaces suitable for spatially concentrated forms of physical activity. Relevant aspects are included in various data sets or are not defined at all. Hence, the initial hypothesis has been partly confirmed, and the reasons are presented in detail below.

The review of international databases showed that data from the Copernicus programme (EEA, 2018) are relatively imprecise and insufficiently updated. They are useful because they cover both urban and rural areas, and they define green spaces in the broadest sense of the word (i.e., in terms of their occurrence, not function). Data from Slovenia's official records at the national level are more accurate and thus more useful for the aim of this study, but they do not cover all the relevant green spaces and criteria for identifying those suitable for concentrated forms of physical activity. Especially problematic in this regard are green spaces within residential areas (built up with apartment buildings) and next to public buildings, which are key to estimating green space provision. Spatial data suitable for estimating the provision of relevant green spaces are collected and presented in databases and registers of various sectors, with various purposes and approaches. The relevant green spaces may also be included in the records of various sectors (e.g., they can be part of land-use registers, the agricultural and forestry land-use database, forestry management plans of the Slovenian Forestry Institute, the Slovenian Water Agency

registers, protected areas, and so on). Slovenia does not have a comprehensive overview of data in place at the national level suitable for identifying the green spaces in question. There is a lack of an expert-based and uniform data collecting approach, which is the result of the different and frequently insufficient understanding of public green spaces and the absence of a harmonized method for creating databases at the local level. A similar dispersion of data can also be observed at the municipal level, where certain public green spaces are included in several registers (of public utilities, sports infrastructure, playgrounds, street furniture, etc.). It should be noted that many of these data are not presented on maps and thus cannot be used directly to produce green space provision maps.

The finding that data registers and databases have been produced for other purposes but are nonetheless useful if processed appropriately confirms the authors' hypothesis to some extent. However, the study also showed that data usability is hindered by a lack of cross-sector connectivity and coordination, and often even a conflict of interests in designating the use and role of areas with green space characteristics. Consequently, the data also do not match spatially (e.g., the agricultural and forestry land-use database and the building land register). The study only covered spatial data presented on maps. Some other available data, such as registers of sports structures, were therefore not useful.

Based on the above, the authors' hypothesis cannot be fully confirmed. The available registers and databases were useful to develop the method, but they cannot be directly applied to identify green spaces suitable for physical activity at the local level. Therefore, additional manual corrections are required.

6.2 Evaluation of the approach and further research options

A review of Slovenian and international documents showed that the "green space provision" concept derives from the current premises of various sectors and spatial planning legislation, and it can form the basis for developing the indicator of green space provision at the local level in Slovenia. The proposed approach to identifying green spaces suitable for concentrated forms of physical activity to develop a provision indicator is conceived from the perspective of identifying current publicly accessible green spaces, the scope of which (i.e., their size and location) is calculated based on existing data. Due to insufficient data on public accessibility, this information must be specifically asked for, but other methods can also be used, such as an adaptation of the walkability index formula, depending on accessible data (Leslie et al., 2007; Frank et al., 2010; Lestan, 2017). Public accessibility of green spaces suitable for physical activity forms a link between aspects at the first level (green space identification) and those at the second level (green space evaluation) because defining publicly accessible green spaces is just as key as examining their accessibility ratios at various levels and from diverse aspects. In fact, it is difficult to distinguish green space accessibility from both the connectivity of green spaces and residential areas, and the interconnection of green spaces themselves.

The advantage of the approach presented is that it clearly identifies the area for calculating public green space provision because defining the borders of an area studied can have a strong impact on the results of calculating the amount of green space per capita. The suitability of using the required amount of green space per capita as an indicator was already questioned in a 2012 study (Gupta et al., 2012). Moreover, the selected size of 200 m^2 covers the green spaces that the authors estimated as relevant for physical activity, including small ones, such as pocket parks. This is relevant due to the small size of Slovenian towns and the importance of such spaces for spatially concentrated forms of physical activity. The limited use of this approach at the local level hence derives from the minimal size of 200 m^2 used, which is smaller than the ReSPR50 requirements. Because of this, the results cannot be directly used to examine the national strategic goals, but they can be used for regional comparisons (e.g., between settlements of the same size).

In principle, satellite data proved very useful for eliminating areas without green space characteristics, but errors caused by merging raster (10 × 10 m cells) and vector data may be a problem. Therefore, the results of testing the variants are only approximate, and it would make sense to examine other data merging options. In producing the final green space layer, a major error was related to the (un)reliability of OSM data on parking areas because that data layer is very deficient. The error would have been smaller if an official register of parking areas had been available or if all parking areas had been drawn in OSM. These deficiencies were partly removed through manual inventorying.

The approach used to identify green spaces suitable for spatially concentrated forms of physical activity constitutes the first level or identification of these spaces, which forms the basis for their further evaluation based on their quality and suitability for spatially concentrated forms of physical activity. The authors acknowledge that, to improve the approach, testing should be conducted on a larger and more diverse sample of settlements or towns (e.g., including in scattered settlements or entire urban areas), and that larger distances to green spaces should also be tested, especially due to differences in user fitness. In this context, accessibility with various means of transport, especially electric (e-bikes and e-scooters),

is not considered an important access criterion because the basic premise is that green spaces should be accessible for all under the same conditions.

A few recommendations for improvements in recording green spaces are presented below as a starting point for establishing an indicator of green space provision for physical activity. Improvements can be made from two aspects. First, spatial databases on green spaces should be refined, which includes providing high-quality and useful data on the state of green spaces. This is key for realistically assessing public green space provision in a specific area in Slovenia as defined by legislation. It is vital that the categorization of green spaces be examined and harmonized by experts, and that the spatial data collected match those included in the databases of other sectors (e.g., agriculture, forestry, and sports). It would make sense to set up a uniform portal for collecting and viewing data because the current situation in collecting spatial data referring to green spaces is still unclear and deficient. Second, long-term cross-sector collaboration and interconnection of measures should be established in collecting and using data at the national level to create synergies in implementing the planning, decision-making, and spatial development goals set in the public interest. Producing high-quality municipal registers of publicly accessible green spaces, other open spaces, and trees would also significantly help improve the situation because these data would effectively support the comprehensive planning of green spaces (green systems) and their systemic management and maintenance. Establishing green space registers is key to monitoring the state and maintenance of green spaces (Šuklje Erjavec et al., 2020a). This is also supported by the Environmental Protection Act (Ur. l. RS, nos. 44/22, 18/23 – ZDU-1O, and 78/23 – ZUNPEOVE, 2022) through the requirement of municipal public utility services to maintain and clean public areas. These types of municipal registers could provide the basic data source for using the indicator of green space provision for physical activity at the municipal level.

By further developing this approach, the results of identifying green spaces suitable for physical activity can be improved (depending, for instance, on higher-capacity software and higher-quality data), and the approach itself can be conceptually expanded to establish a green space provision indicator. It makes sense to analyse the distance of settlement areas from green spaces to define those parts of a human settlement that are provided with adequate green spaces and those that are not or in which residents have poorer opportunities for daily recreation. For the analysis, it is key that it include up-to-date information and any planned projects that may affect the calculation of the distance (e.g., spatial barriers), and that it also examine spatial issues and potentials. Such an analysis, which also shows deficiencies, provides key guidance for municipal plans.

7 Conclusion

Slovenia's public health policies and documents follow the latest *WHO Guidelines on Physical Activity and Sedentary Behaviour* (World Health Organization, 2020). In its recommendations for various population groups on the amount of physical activity required to offer significant health benefits and mitigate health risks, the WHO highlights the fact that physical activity can take place in various ways, depending on various opportunities to be physically active and various settings. In Slovenia, people's needs for physical activity are the same as in other countries, and green spaces are recognized as important settings for recreation (Žlender & Gemin, 2023). Their proper definition is key to plan high-quality and stimulating urban environments. Based on a review of literature, relevant legislation, and databases, this study defined the concept of green space provision for physical activity and developed a method for identifying green spaces suitable for spatially concentrated forms of physical activity.

Green space provision for physical activity is a complex concept that requires a holistic approach at the strategic, implementation, and management levels. It is vital to understand that the concept is directly related to the context of use, which includes various aspects, such as the ecological value of green spaces, public accessibility, social benefits, and the promotion of physical activity and an active lifestyle. To ensure adequate green space provision for physical activity, collaboration between various sectors, such as spatial planning, public health, and sports, is key. It is also vital to conduct further research in this area and develop approaches that will take local special features and the residents' needs appropriately into account. This will contribute to better planning and management of green spaces in Slovenia, and it will help improve the quality of life and promote healthy lifestyles.

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Learning, unlearning, and relearning from the past: Reassessing socialist modernist collective housing for sustainable urban regeneration in Sarajevo

This article addresses a sustainable approach to urban regeneration in post-communist residential neighbourhoods in Sarajevo. The area explored is located in the municipality of Novo Sarajevo (literally, New Sarajevo), featuring well-known but somewhat controversial apartment buildings built after the Second World War, from the 1950s to the 1970s. At the time, this area epitomized the social and economic progress and expansion of the city from east to west, and it expressed the ideals of socialist modernist urban planning and architecture. More than seventy years later, following social, economic, and cultural transition after the war in the 1990s and new urban developments, this area and the city face multiple challenges, from decay to social bias. One key challenge is to adapt the residential architecture from socialist modernism to meet contemporary requirements of functionality and sustainability. This research proposes the "new urban protocol" as a collaborative model combining tools and procedures for sustainable urban regeneration while focusing on reevaluating, retrofitting, and reprograming the architectural legacy of socialist modernism.

Keywords: new urban protocol, socialist modernism, collective housing, sustainability, Sarajevo

1 Introduction

Sarajevo's urban evolution can be recognized from its linear form as a straightforward timeline, which is probably unique in the world. The main urban development in the Miljacka Valley extends about 9.5 km along an east-west axis in chronological order, from the earliest Ottoman era in the east, followed by the Austro-Hungarian legacy overlapping with the interwar early Yugoslav period, continuing with the communist Yugoslav era, and mixing with the contemporary period in the west (Aganović, 2009). The iconic panoramic view of historical Sarajevo vividly reflects its diverse past and its unique heterogeneous cultural identity. In contrast, the recent developments that followed reconstruction after the war in the 1990s were mostly built in the western part and on the city's hillsides, and they are not integrated with the urban planning of previous periods, resulting in discontinuities in the urban fabric. Driven by the transition from communism to capitalism in Bosnia and Herzegovina, accompanied by sudden globalization and the uncritical adoption of liberal market economy after the war, the public domain has lost its primacy over the power of private investors. Consequently, recent large-scale collective housing developments, designed to merely reflect global tendencies, often lack a reference to the local context or the needs of the population, and can thus be described as "nameless settlements" (Čakarić & Idrizbegović Zgonić, 2020). In parallel, as a spontaneous response to the socioeconomic demands of population growth, informal housing continued to sprawl on the city's hillsides (Islambegović, 2020).

At the same time, in midst of the disparities of recent developments in Sarajevo, the modernist apartment buildings from the communist period have remained in a state of a transitional limbo. Today, these neighbourhoods face functional and sustainability challenges and are exposed to deterioration due to neglect and improvised transformations, including a negative bias associated with communist ideology. Therefore, this article focuses on modernist residential architecture from the communist period in Sarajevo by assessing three key topics: its legacy, energy efficiency, and adaptability. Nearly three decades after the war, it is now appropriate to reevaluate the status quo and consider sustainable strategies for urban regeneration. This is particularly important because the socialist modernist neighbourhoods in Sarajevo have never undergone substantial or systematic refurbishment since their construction. This has allowed uncoordinated, improvised, and do-it-yourself interventions as well as private appropriation and fragmentation of shared spaces (Samic & Zagora, 2021).

The formulation "learning, unlearning, and re-learning" refers to a comprehensive critical assessment of communist-era residential architecture as a prerequisite for sustainable urban regeneration. First, "learning" implies acknowledging the inherited values within the urban and architectural scope. Second, "unlearning" signifies critically assessing outdated doctrines and opening up to new perspectives. Finally, "relearning" refers to reinterpreting the universal values of modernism from a contemporary perspective. This approach includes addressing issues such as discontinuities and anomalies in the urban environment, the decline of the public, and the domination of the private domain, and how they have impacted rights and obligations concerning the common realm, particularly public spaces in post-communist society.

The hypothesis of this study is as follows: sustainable regeneration of residential neighbourhoods from the socialist modernist period in Sarajevo can be achieved by first identifying the key stakeholders and their roles, followed by recognizing the values pertaining to legacy (learning), while critically assessing their current state in physical, environmental, and sociocultural terms to detect weaknesses (unlearning) and to pinpoint specific opportunities for improvement (relearning). The article proposes a strategic roadmap, starting from critical assessment to reprogramming and retrofitting the socialist modernist architectural legacy, involving a collaborative effort by various stakeholders, from residents to authorities, to bridge the gap between the public and private realms.

This article stems from a multidisciplinary research project focusing on urban regeneration of the municipality of Novo Sarajevo with regard to urban planning and architecture. Following the formulation of the research problem and hypothesis, the next section defines the key theoretical concepts and refers to case studies on urban regeneration of modernist housing. Section three demonstrates the methodology developed for the study area, a representative modernist neighbourhood from the communist period, which includes urban mapping, creating a GIS database, and recording building typology IDs. The fourth part of the article connects two aspects: assessing the legacy of modernist architecture from the communist period on the one hand, and evaluating its current status, focusing on energy efficiency, on the other. Following the process of learning, unlearning, and relearning, the fifth section proposes and describes a collaborative strategic tool called the new urban protocol. The conclusions serve as applied guidelines for dealing with issues in a similar context and, at the same time, they are aligned with broader sustainability goals.

2 Theoretical background and key concepts

This study examines the challenges of sustainable urban regeneration using a case of socialist modernist architecture. Urban regeneration, as "a comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental conditions of an area that has been subject to change" (Roberts, 2000), aligns closely with the United Nations 2030 Agenda for Sustainable Development (United Nations, 2015) and the principles of the New European Bauhaus initiative (European Comission, 2021). Specifically, sustainable urban regeneration practices are associated with Goal 11: Sustainable Cities and Communities. Several case studies were consulted and examined; specifically, the renovation of modernist social housing in France, Denmark, and Lithuania. The most notable social housing transformation project is the Grand Parc housing complex in Bordeaux by Lacaton and Vassal, which involved the renovation of 530 housing units originally built in the 1960s. Although the sociocultural context of this case study differs from the focus of our research, it offers valuable lessons, including a renovation approach based on energy efficiency standards, and additions and extensions that improved living conditions and accessibility for the residents (BAUA et al., 2022). In Denmark, there have been several waves of basic renovations of modernist social housing built in the 1970s, from the 1990s to the most recent and comprehensive retrofit from 2008-2013, which focus on energy efficiency, sustainability, and social cohesion. This most recent retrofit was achieved as part of the National Building Fund program, which manages capital and public subsidies for social housing by employing diverse strategies, such as building recycling, rehabilitation, energy renovation, and social retrofitting (Peters, 2016). Taking in hand problems such as the low reputation of modernism housing, noncompliance with the energy efficiency and accessibility standards, and unused or open areas with crowded traffic, the Lithuanian studio Pupa transformed the Rumpiške and Kaunas districts in Klaipeda as cases of good practice in comprehensive urban regeneration (BAUA et al., 2022). The project was financially supported by the EU, and it consisted of public space transformation, as well as renovation and extension of buildings carried out in a participatory process.

A special feature of this research is the architectural and sociocultural aspects of the legacy of socialist modernism. A 2018 exhibition and publication by MoMA rekindled significant interest in the unique legacy of modernism in former Yugoslavia, often referred to as the "third way". This architectural and ideological position, positioned between Soviet communist and Western capitalist models, remains particularly relevant to the enduring urban condition in Sarajevo (Stierli, 2018). Even more so, the distinct path of the city of Sarajevo is related to the consequences of the war and urbicide, which differentiates it from other cities in the region and elsewhere in Europe, requiring a unique approach in the context of sustainable urban regeneration. Across Europe, housing developments display recurring urban and architectural patterns, but nuanced distinctions explain why certain developments face decline, whereas others remain attractive liveable environments (Monclus, 2018). The standardization of residential units, designed to maximize functional space, played a key role in the development of these, in which specific types were systemically applied and celebrated (Kolešnik, 2012). In Sarajevo, these forces have profoundly shaped the city's modernist housing developments, embedding them within the broader European discourse of urbanization and social housing. However, these developments are now at a critical juncture, requiring a comprehensive and systematic regeneration model. This model must be rooted in both architectural and socioeconomic research, and capable of addressing the emerging needs for retrofitting and sustainable renovation. Such interventions must go beyond mere aesthetic enhancements, embracing a holistic approach to upgrading buildings while incorporating principles of environmental sustainability (Peters, 2016). As evidenced across Europe, similar housing developments are undergoing transformative shifts in ownership patterns, modes of habitation, and urban renewal strategies, as articulated by Caramellino et al. (2023). A key theoretical approach can be found in Moudon's interdisciplinary urban morphological framework, which emphasizes that housing developments must be understood through three essential components: form, resolution, and time (Moudon, 1997).

3 Materials and methods

This article was written as part of the project NOVO! Novo Sarajevo (literally, 'NEW! New Sarajevo'), conducted from 2022 to 2024 at the University of Sarajevo's Faculty of Architecture, emerging as a critical examination of sustainability issues and the social and cultural challenges of socialist urban districts (Zagora et al., 2024). The project proposes reinventing residential neighbourhoods in the municipality of Novo Sarajevo typically associated with socialist modernist urban planning and architecture (Figure 1a). The municipality of Novo Sarajevo covers 9.19 km^2 with a population of 64,814 (Statistika.ba, 2024). According to the latest census from 2013, this municipality is the most densely populated municipality in the city of Sarajevo, with 7,524.5 inhabitants per square kilometre. The area selected for this study (Figure 1b) encompasses 44 hectares (the study area presented in this article is part

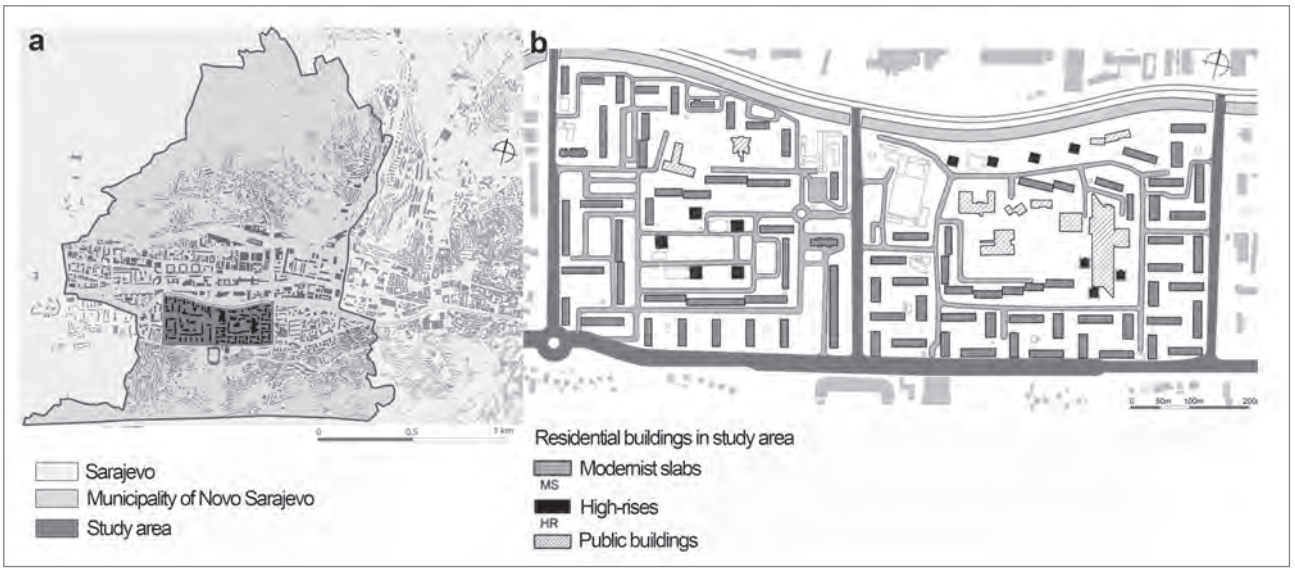

Figure 1: a) Municipality of Novo Sarajevo; b) study area showing residential building typology: modernist slabs and high-rises (illustration: authors).

of the total 127.16 hectares studied in the interdisciplinary project) of mainly residential neighbourhoods, with a small share of mixed-use and public functions, which were intensively urbanized from the 1960s to the 1970s (Drustvo arhitekata Sarajeva, 1965). The area consists of two blocks, delineated by the Miljacka River to the north and a parallel street to the south, and the two blocks are separated by a smaller north–south street (Figure 1b).

The urban concept of the first block features buildings distributed along the perimeter and accompanied by green areas, linked with an interior ring road with on-street parking encircling centrally located shopping areas, facilities, primary schools, and a cultural centre. The adjacent development is located to the west in the Hrasno district (Figure 1b). The main features of the area are a square in the middle of the development, a defined urban morphology of five-story modernist apartment buildings, and accentuation with four twenty-story residential towers. Unlike the Grbavica development, the ground floors of the residential buildings in the Hrasno development contain public facilities and are connected to the outdoor area (Aganović, 1977).

The project NOVO! Novo Sarajevo employs a methodology called the new urban protocol as a set of tools for urban transformation. It consists of four key steps: urban mapping and compiling a GIS database, co-design as an innovative collaborative approach, bringing together all the relevant actors in the placemaking process, and digitalization of analytical data and the use of innovative visualization tools in testing participative urban transformation scenarios. The research proceeded from the urban scale, creating a GIS database covering 127 hectares. It observed environmental data, structures, and user behaviour. Following the urban analysis, accompanied by citizen participation workshops, the research focused on the housing legacy of socialist modernism as a valuable but undervalued urban asset. The article discusses the results, focusing on reevaluation, reprogramming, retrofitting, and reinventing this architectural legacy within a sustainable urban regeneration framework. The research continued by recording the relevant data for the typical residential buildings at the site. Following the data collection (see Table 1), the buildings were categorized into types based on urban and architectural criteria, and interventions on the façades (mostly made by individual owners) were noted. The data on typical buildings were analysed from the perspective of protection of architectural legacy, as well as from the sustainability perspective, focusing on energy efficiency. In parallel, interviews and surveys were conducted with the residents, maintenance companies, and professionals to create a roadmap for interventions, which is presented in section five of this article.

4 Assessment of the socialist modernist residential building typology

4.1 Assessment of legacy

The assessment methodology is based on the Madrid Document, which specifically focuses on the preservation of twentieth-century heritage (ICOMOS General Assembly, 2017). This document collectively outlines the criteria necessary for assessing the value of architectural heritage from the twentieth century, forming the basis for a comprehensive methodology.

Table 1: Data collected for the two building types: modernist slab and high-rise.

	Type 1	Type 2
Location	Aleja Lipa, Kemala Kapetanovića	Hasana Brkića, Grbavica
Architect	—	Ivan Štraus
Architecture typology	Modernist slab	High-rise
Urban typology	Linear buildings in a cluster	High-rise buildings in a cluster
Floors	5	21
Construction	1959–1962	1976
Rebuilding	After 1998	1999
Valorization	Contextual value, urban layout, different social strata	Architectural value, aesthetic value, contextual value, vertical landmark
Form	The structures have a rectangular linear form, and ground-floor passages facilitate user communication. The façade has a continuous rhythm of openings accentuated by balconies.	The high-rise buildings are constructed with a reinforced concrete skeleton structure, with concrete foundations and brick walls. The roof is a walkable flat surface. The façade is yellow.
Authenticity and preservation	The buildings were badly damaged during the war. Reconstruction involved minimal and fast repairs with an attempt to apply colourful façades.	The construction elements, including foundations, walls, roof structures, and roofing material, show original features with partial preservation. Certain components such as the ground floor façade have undergone alterations, whereas the upper floors, primarily residential, retain their original appearance to a considerable extent.
Positive aspects	Good sunlight, ample vegetation, and a built-up coefficient in line with design standards	Good insulation in most apartments, convenient access to daily amenities, proximity to green spaces, access for disabled persons, and a large elevator
Negative aspects	Absence of distinctive landmarks for spatial orientation, mixed traffic near schools and preschools, poor accessibility, lack of elevators, small balconies, lack of parking space	Hallway layouts and building access detracting from overall functionality and user experience

Source: authors.

The Docomomo methodology is a key approach for modern architecture, offering clear definitions and evaluation criteria. It includes an overview of the property's identity and history, followed by a descriptive section that includes a typological classification. Evaluation is conducted using five key criteria: technical value, social value, cultural/aesthetic value, historical value, and an overall assessment. The final section details the documentational value as an asset for methodology (Docomomo International, 2024). One might not treat these buildings as individual monuments but rather as a valuable urban and architectural landscape legacy deeply ingrained into the identity of the city.

The profound political and socioeconomic changes in the recent history of Sarajevo and Bosnia and Herzegovina resulted in a cultural void. This was followed by transition, recovery, and re-learning. In the discourse on socialist modernism in collective housing, a nuanced dichotomy emerges between the universal progression of modernist architecture and its local evolution. This dichotomy is anchored in the synthesis of general socialist ideals and the region's unique traditional and architectural continuum. The urban and architectural concepts in Bosnia and Herzegovina evolved from these international and universal ideas of socialism and modernism, which simultaneously embraced a revolutionary contemporary paradigm and a locally nuanced process of evolution from traditional forms (Kulić et al., 2012). This movement in socialist modernism showcases distinct local characteristics while embodying principles of social progress and innovative thinking. It goes beyond structural form, emphasizing practical application of theoretical principles for modernization and national renewal. Although it was burdened by technical constraints and human nature, socialist modernism prioritized quality of life and community.

In discussing the urban and architectural value of socialist modernist collective housing in Sarajevo, *legacy* is a more apt term than *heritage*. This is supported by examining various components, including the specific material and functional value of urban and architectural layouts. Non-material aspects, such as the social cohesion inherent in the communist legacy and the quality of living spaces created by modest resources, are also crucial. The criteria category Essential Properties/Typology emphasizes the importance of recognizing twentieth-cen-

tury architecture as valuable and encompassing authenticity, representativeness, integrity, context, and physical condition. The category Function and Significance encompasses historical value, artistic value, technical and aesthetic value, and spatial organization. The category Documentary and Social Value focuses on documentary, scientific, and social values, and the category Specific Criteria includes economic values and similar (Table 2). This comprehensive methodology for assessing the twentieth-century architectural legacy of housing developments integrates both international and regional criteria (Komisija, 2024). This architecture goes against the modern tendency to categorize and separate, emphasizing a continuous dialogue between traditional and modern values. This resistance signifies a holistic approach to architecture, in which form and function are not distinct entities but part of a continuous socio-material network. The movement, characterized by its emphasis on scientific planning, social equity, and cultural relevance, is reflected in a living and vibrant urban tissue that can provide insight into the potential of architecture to shape communities and reflect their evolving aspirations and values (UNHABITAT, 2024).

Typology serves as a framework for understanding the diversity and commonalities among the residential structures in the area. The survey of the buildings has shown that housing was the dominant function and that buildings were of two characteristic types (Figure 2). The most common type is linear modernist slabs, with several variations. The second typical category is high-rises with more pronounced variations. In socialist modernist architecture, the high-rise type has a different monumental scale and reshapes the silhouette of the city. These structures were not isolated entities but rather components of a cohesive architectural composition. The towers were strategically positioned in diagonal alignments, where the repetition of forms not only reinforced the rhythmic aesthetic but also conveyed a sense of organized progression. Alternatively, the high-rise type could also appear in clusters of three and five towers to create a bold and visually commanding presence in the urban landscape.

Even though modernist development was standardized and the apartments were small, the skilled architects of the time produced some of the most useful and efficient floorplans in Sarajevo's housing developments. Architectural uniformity was not a stylistic choice but a reflection of the social values of equality and collective identity, and of very modest financial means. Even though they are modest and repetitive, the façades were characterized by proportion and harmony achieved without any unnecessary visual gestures (Piekarski et al., 2021).

In urban typology, modernism had a transformative impact on the cityscape, moving away from the traditional street grid in

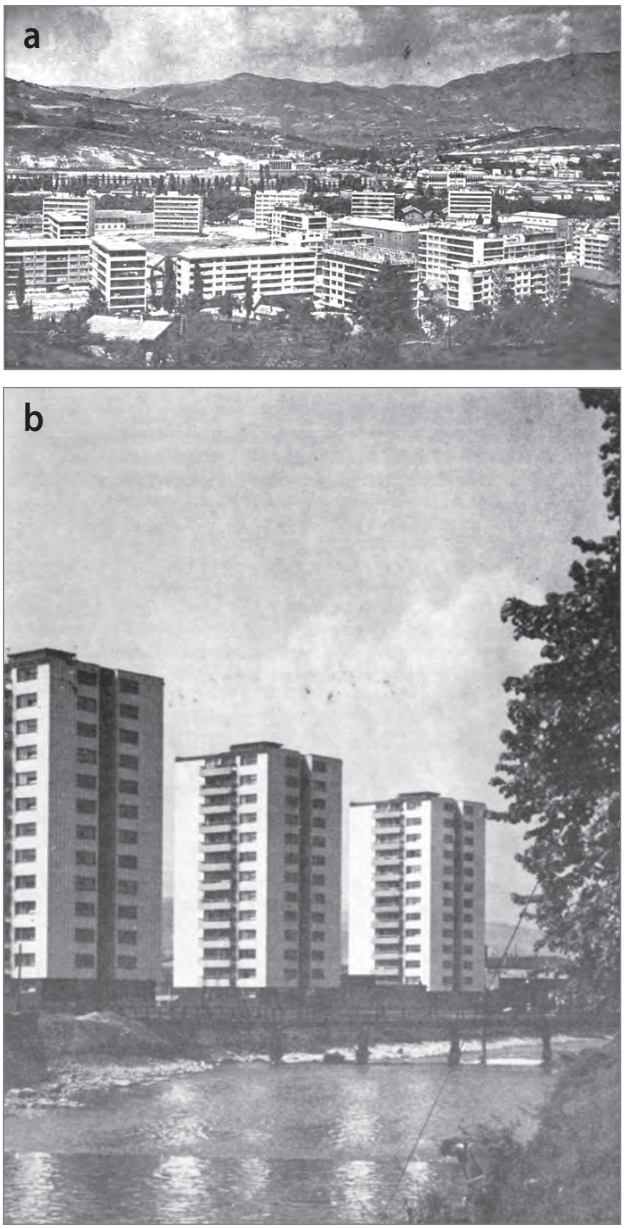

Figure 2: Archival photos of the study area from the 1950s and 1960s: a) modernist slabs; b) high-rises (source: DAS Društvo arhitekata Sarajeva, 1963).

favour of green open spaces and prioritizing the improvement of living conditions for urban residents. An example of this transformation can be observed here, where the urban composition is comprised of individual slabs arranged into semi-open developments or high-rises in vast green spaces. The socialist modernist semi-open developments pattern in Sarajevo is a unique blend of historical, architectural, and urban-planning elements that emerged during the communist era. These developments fostered community cohesion, aligning with the communist ideology that emphasized collective living and social interaction. The communal spaces within these developments were designed to promote social interactions (Andrusz et al., 1996). The urban pattern evolved from traditional develop-

Table 2: Assessment criteria for the two dominant types.

	Modernist slab	High-rise
Essential properties/typology	Authentic expression of its time, representative of its typology in urban and architectural schemes, ambient value, maintains urban integrity with partial architectural integrity	Authentic expression of its time, representative of typology, landmark, less ambient value
Function and significance	Aesthetic value in composition and functional integrity, following a neutral modernist horizontal geometry, abstract reduction, and scarcity, semi-open interplay between buildings and open space, testimony to typical way of life in certain period, low material value/quality	High structural quality, functional quality, energy efficiency, testimony to typical way of life in certain period, innovative, envelope made of low-quality material
Documentary and social value	Testimony to typical way of life in certain period, high social value, inclusion of all socioeconomic strata, documentation original not available in most cases	Testimony to typical way of life in certain period, high social value, inclusion of all socioeconomic strata, available documentation, known architects
Specific criteria	High economic value validated through high real estate prices and location of developments, alterations and interventions can even increase the architectural value	High-rise buildings built by the renowned architects Hamdija Salihović and Ivan Štraus

Source: authors.

ments to incorporate open views, cross ventilation, and better connections to green spaces, offering a universal form for city growth.

Individually, neither the modernist slabs nor the high-rises are structures of high architectural value. Only as an integral part of the urban landscape and as settlements can they be categorized as a defining urban tissue of high ambient value. Recognizing the key reasons for why the classical approach to designating heritage values cannot be applied here calls for a broader perspective (Cantacuzino, 2003).

The analysis of Sarajevo's modernist slabs and high-rises (Table 2) reveals a complex interplay of architectural innovation, urban planning, and socioeconomic integration, juxtaposed with challenges of preservation and individualistic alterations. Current threats to the architectural and historical value of the housing area lie in individual and non-systemic practices. The individual appropriation of common spaces, such as balconies and hallways, and unregulated modifications, from both top-down initiatives and individual actions, have led to inconsistent and often unsightly alterations. The degradation of the buildings' exteriors and the alteration of shared spaces undermines the original architectural intent and heritage value. As previously stated, the buildings themselves are not protected as architectural heritage; they can and must be a subject of thoughtful renovation, retrofitting, and upgrading to preserve their relevance and maintain the legacy of socialist modernism. The interventions can be subtle or more extensive, but they must begin with meticulous study and knowledge of the principles and processes that were essential in creating these developments. In addition, the interventions should be progressive, socially sensitive, functional, timeless, and harmonious (BAUA et al., 2022).

4.2 Assessment of energy efficiency

Energy consumption and efficiency are an important aspect of residential buildings, both new and old. Based on two European Parliament directives (2002/91/EC and 2006/32/EC), the European international research project Typology Approach for Building Stock Energy Assessment (TABULA) was launched in 2009. It was cofinanced by the EU program Intelligent Energy Europe (Institut Wohnen und Umwelt GmbH, 2012). The main objective of the project was to create a harmonized model of European housing typology and define unique indicators of the energy characteristics of buildings but with energy-efficiency measures in mind. The result is a set of comparable data "which enables a projection of the actual national building stock consumption and the energy saving potential" within the EU (Institut Wohnen und Umwelt GmbH, 2012). Even though Bosnia and Herzegovina is not part of the EU, there was a strong need to establish what the energy-saving potential was in residential buildings in Bosnia and Herzegovina and how it compares to other countries. Based on the TABULA methodology, the book *Typology of Residential Buildings in Bosnia and Herzegovina* was published in 2016; it provides an overview of different building types and times and their main characteristics (Arnautović-Aksić et al., 2016) (Arnautović-Aksić, Burazor, Zagora, & al., 2016). In the

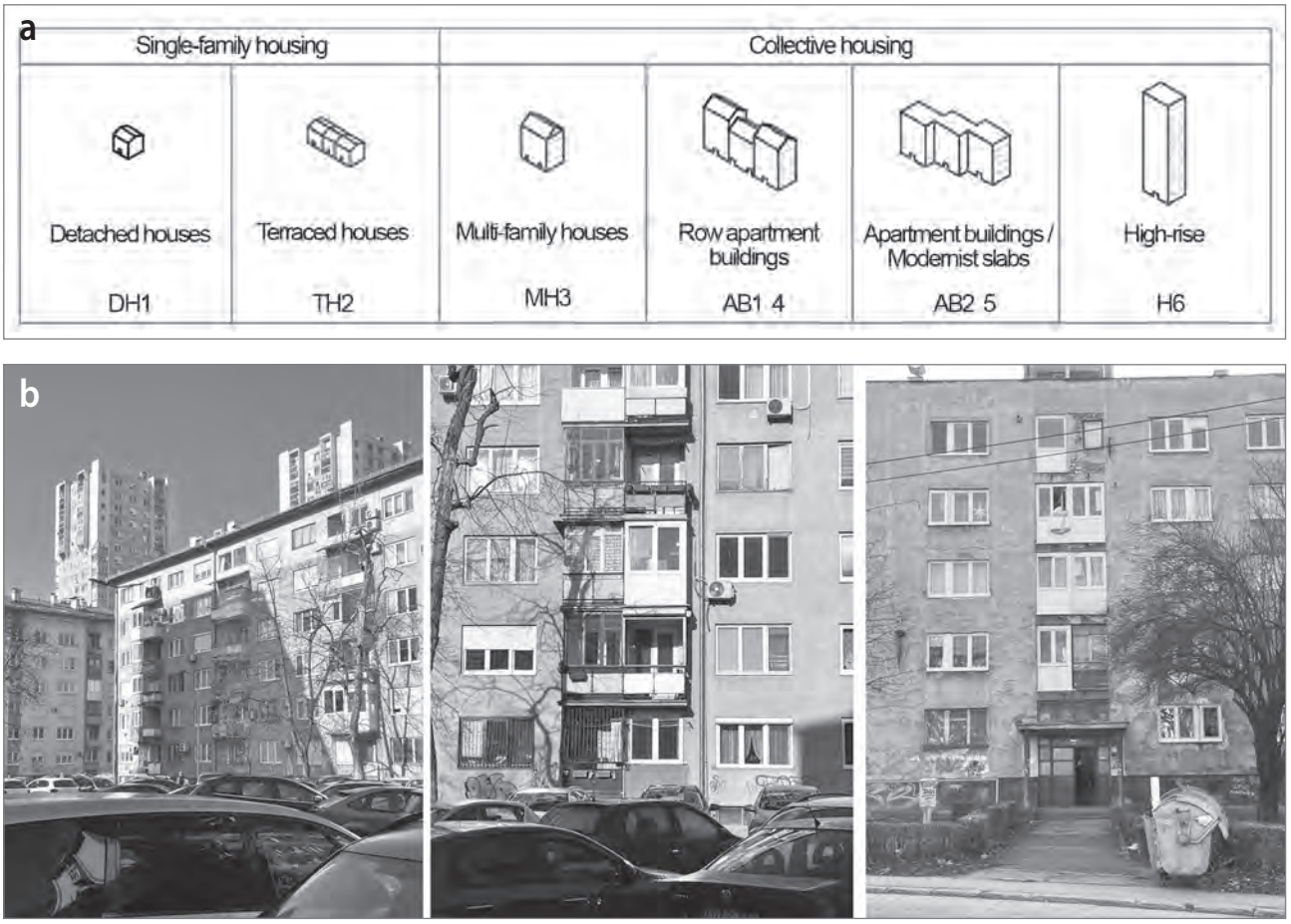

Figure 3: a) Residential building types in Bosnia and Herzegovina (source: adapted from Arnautović-Aksić et al., 2016); b) current status of the buildings in the study area (photos: authors).

case of the modernist legacy, the published data provide useful insight into collective housing from that period (Figure 3).

Overall, modernist slabs account for only 16.04% of the total number of dwelling units and 6.50% of energy needs for heating of residential buildings in Bosnia and Herzegovina (Arnautović-Aksić et al., 2016). However, this does not mean that these measures are a waste of resources. They may be difficult to implement based on ownership and legal procedures, but proposed energy-efficiency measures directly impact the quality of life in the city (Sendi et al., 2023). The reason why modernist slab building envelopes must be addressed is because, at the time they were built, no rules and standards for insulating buildings existed, and they were introduced only after they were built (Salihović et al., 2016).

The observation of the high-rises at the site, together with surveys and interviews with the apartment owners, show the extent of individual alterations to this type, indicating that earlier refurbishment did not meet all the energy-efficiency requirements. The main points of energy-efficiency improvement measures are exterior walls and windows and doors (the thermal envelope). Although windows were changed, their glazing characteristics ($U = 3.14$ W/(m^2·K)) were insufficient, and that is why residents changed them very soon after the refurbishment (instalment of double or even triple glazing with exterior blinds). The response from the residents of the high-rise buildings in the Grbavica development serves as a good example of the issues that must be immediately tackled. Only 57.69% of apartment owners actually lived in these apartments, whereas the rest were rented to others or not even used (Kreševljaković & Burazor, 2023). The four residential skyscrapers that were severely damaged during war were fully refurbished and the original façade was reinstalled. The visual examination and measurement at the site have shown a high percentage of interventions on the exterior appearance of the buildings. Out of 192 apartments, 40.63% had glazed balconies, 18.27% had external blinds, 43.27% had air conditioners, 12.02% had changed the colour of the windows, and 11.06% had a change in the geometry of the windows (Kreševljaković & Burazor, 2023). Furthermore, in 28.85% of the apartments, the internal organization was modified. These figures only show that the refurbishment to the original state did not correspond to the needs of the tenants, and they made those

Table 3: The two-level strategy of retrofitting and urban regeneration of socialist modernist residential neighbourhoods at the urban, architectural, and interior scales.

Scale	Issues	Level 1: basic retrofit	Level 2: advanced retrofit
Urban: public spaces	Maintenance	New recycling policies	Reorganization of garbage disposal
	Parking spaces, physical barriers	Improvements (wheelchair access)	Resident-only vehicle access, new pedestrian zones
	Fire escape routes	Adapting to new fire safety standards	Adding roof escape routes
	Lack of lighting and urban furniture	Including energy-efficient lighting and urban furniture	Placemaking of public space
	Inactive public and communal spaces	Reactivating public spaces	Converting undefined areas into public spaces
Architecture: building envelope (façade and roof)	Low energy efficiency	Minor energy-efficient retrofit: replacement of windows, repairing roof	Major energy-efficient retrofit: installation of ventilated façades
	Monotonous façades	Minor redesign of façades together with energy efficiency	Major redesign of façades with energy-efficient retrofit
	Disputable aesthetics	Consistent approach to cladding	New envelope additions for entire building to improve functionality
	Small non-functional balconies and loggias	Installation of uniform glass panels to enclose loggias	Prefab additions of new terraces and brise-soleils
	Unclear wayfinding and lack of urban identity	Enhancing access pathways and building entrances	Creating design accents and introducing new passages in buildings where necessary
	Inaccessible/privatized/deteriorated flat roofs	Reclaiming open-air common areas such as roofs and terraces	Full roof retrofit
Interior: building floorplan	Inactive ground floors	Interior remodelling of ground floor to accommodate public functions	Building additions on ground floor to connect it with outdoors
	Structural integrity	Inspecting structural stability	Reinforcing foundations and other structural elements
	Privatization of common spaces	Communal storage areas	Expanding basement to accommodate garages
	Accessibility issues	Adding ramps	Adding elevators
	Communal spaces	Holding community meetings and workshops	Reclaiming privatized communal spaces
	Small apartments	Combining small apartments into larger units	Building extension to enlarge functional apartment area

Source: authors.

changes without building permits and in a DIY manner. Therefore, those individual interventions, although necessary from the point of users, inevitably affected the overall aesthetics of the entire building and even entire developments. Now, the only way to make improvements is to adopt a holistic approach to the interior and exterior refurbishment of these buildings.

5 Private-public action schemes: the new urban protocol

Apartments that have become private property in the last thirty years in Sarajevo are generally renovated with little or no professional or administrative control. Notably, the prevalence of socialist modernist housing in Sarajevo is significant, encompassing a diverse demographic spectrum from low-income to moderately and well-off households. In the context of sustainable urban regeneration in Novo Sarajevo as part of the project

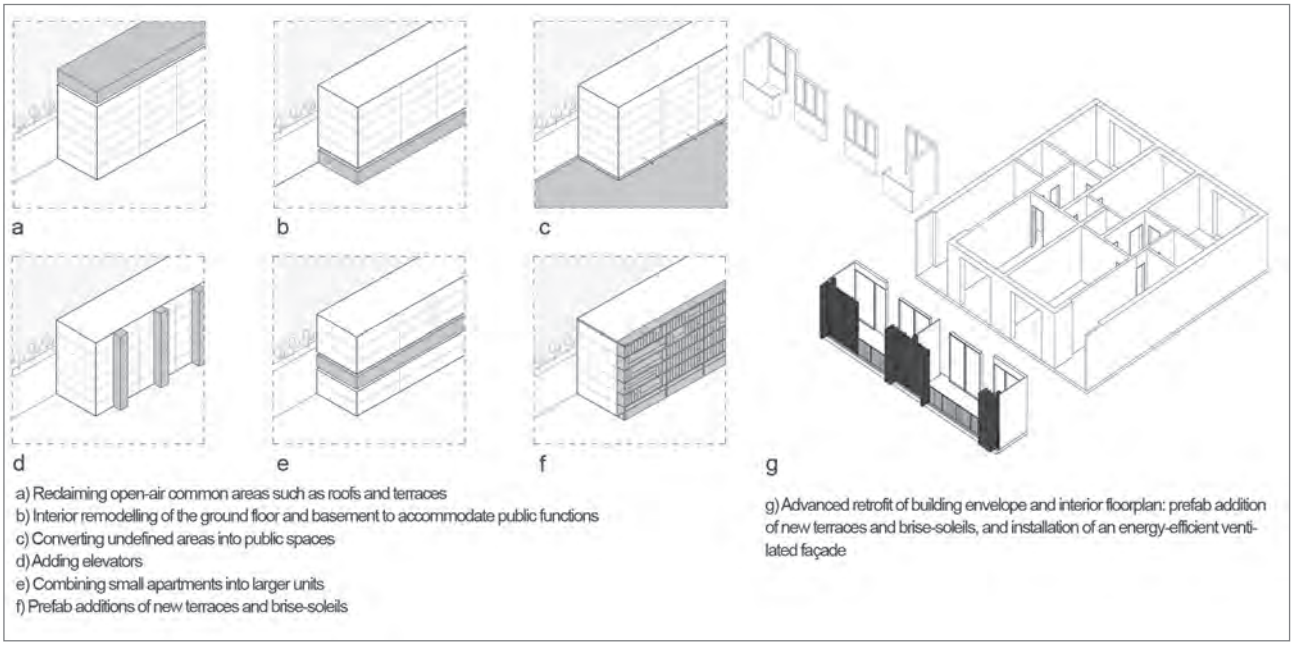

Figure 4: Potential interventions at the urban, architectural, and interior scales (illustration: authors).

NOVO! Novo Sarajevo, it was imperative to consider an integrated approach that aligned with global and regional sustainability frameworks. Following the assessment of both the architectural legacy of socialist modernism collective housing and its energy efficiency, a collaborative model for sustainable urban regeneration was created. Motivated and inspired by examples from Denmark and France, and acknowledging the lack of such strategies and guidelines for renovation in Sarajevo, this study proposes a strategic tool involving protocols for renovation, following the values of urban regeneration strategies and guidelines and at the same time reflecting global and regional sustainability and aesthetic principles. This involves creating inclusive, resilient, and aesthetically pleasing (urban) spaces that cater to the diverse needs of the community while adhering to environmental sustainability and digital transformation goals. There is a strong wish to include residents' perspectives in planning and developing common infrastructure to create liveable and safe (outdoor) spaces. The Law on Maintenance of Common Parts of Buildings and Building Management (SCr. *Zakon o održavanju zajedničkih dijelova zgrade i upravljanju zgradom*, Službene novine Kantona Sarajevo, no. 3/2012) allows structures to be upgraded following guidelines. Several stakeholders are described in this law: private owners, maintenance managers for the entire building, local communities, municipalities, and maintenance companies registered to carry out construction in common spaces. The new urban protocol combines top-down and bottom-up initiatives for retrofitting socialist modernism collective housing in line with the available budget for making needed changes while preserving the authentic character of the structure.

Refurbishment can occur at three different scales: the urban scale, which includes the wider neighbourhood area and public spaces; the architectural scale, which considers the building envelope (the façade and roof); and the interior scale, which focuses on improving the functionality and accessibility of communal areas and individual apartments. To valorize the heritage of these areas, a specific local strategy and guidelines need to be adopted. A comprehensive approach is recommended, targeting the entire area, building, or open space, rather than simply meeting energy-efficiency requirements. A catalogue of certified designs and companies for individual interventions should be created, and the process should be streamlined and not left for improvised alterations (Glendinning, 2008). The process from the initial idea to the actual implementation of these interventions should follow a structured protocol. One notable pathway for initiative origination is from academic institutions, as exemplified by the project NOVO! Novo Sarajevo. In this project, architecture students, under the expert guidance of their professors, developed tangible intervention proposals. These proposals are designed to benefit residents, administrators, and municipalities by offering innovative solutions to enhance the quality, sustainability, and preservation of the architectural potential of these buildings.

Interventions can be categorized into two levels for improvements: basic retrofit (level 1) and advanced retrofit (level 2), as shown in Table 3. Level 1 interventions are typically smaller in scale and scope, focusing on specific, localized improvements. In contrast, Level 2 interventions are more ambitious, encompassing larger-scale changes that may involve significant structural modifications and upgrades (Table 3, Figure 4).

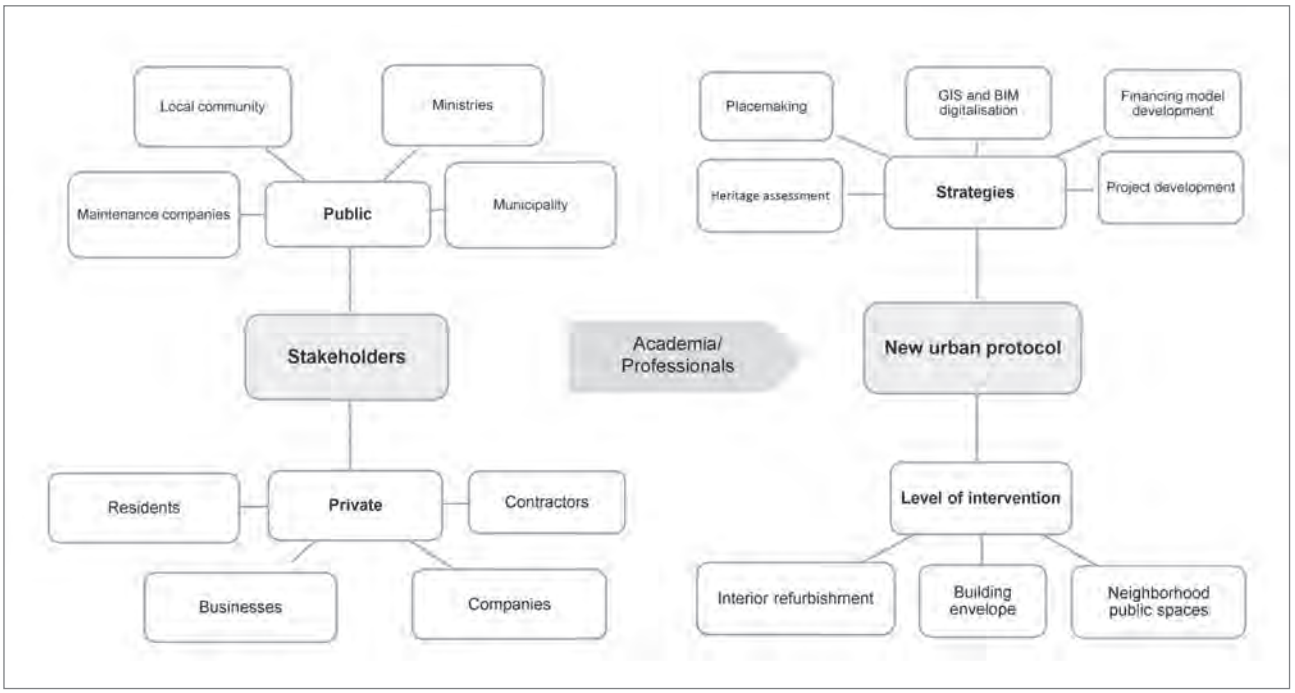

Figure 5: The new urban protocol for regeneration of socialist modernist residential neighbourhoods (illustration: authors).

Level 1 (basic interventions) implies that the community members are empowered to propose interventions that address their specific needs. An experienced team of professionals then refines and develops the idea into a feasible project, handling all aspects from design solutions to securing necessary approvals and financial investments. For these interventions, the funding is split between residents and maintenance companies. In urgent cases, municipalities may contribute up to half of the estimated costs. Level 2 (substantial interventions) deals with the building envelope and/or with public spaces, envisaged as a collaborative effort of the residents and municipalities. The municipality can provide approval, support, and financial backing for these projects. For larger-scale endeavours, higher government levels may offer cofinancing opportunities. In addition, initiatives such as UN Agenda 2030 and New Bauhaus can access EU funds specifically dedicated to creating meaningful impactful changes in communities.

6 Discussion

The new urban protocol is anticipated to bring together private and public stakeholders in a collaborative effort to create and implement strategies for urban regeneration of residential neighbourhoods, with diverse scopes and scenarios of interventions. In the context of this research, the array of participants involved in the proposed interventions included academics and professionals, the local community, the municipality, the Canton of Sarajevo, and the Federation of Bosnia and Herzegovina. In addition, this group included institutions that can provide subsidies and programmes for leveraging available EU funds. The essential first phase of the protocol encompassed data collection and digitalization (GIS database, BIM models) of the sites initiated by the municipalities and the authorities in charge of spatial planning and finance, conducted jointly with professionals and researchers in architecture, urban planning, and the social sciences. Following the digitalization and data collection, the sites were assessed according to the predefined criteria from the perspective of architectural heritage and sustainability. Simultaneously, the local community and the residents were invited to participate in place-making events and workshops held by the researchers. The collective requirements articulated in such events serve as inputs for professionals in project development in various scenarios and levels of intervention. This broad spectrum of stakeholders reflects the multifaceted nature of the interventions and the wide range of interests and resources that they draw upon. The proposed guidelines and structured strategy in the form of the new urban protocol suggested by this study should serve to better implement interventions and future maintenance. The methodological framework for interventions is proposed by the academic sector, whereas the initiative should be implemented top-down by the local communities while including all other stakeholders. This approach will ensure that the interventions contribute to sustainable urban regeneration of socialist modernist buildings in Sarajevo (Figure 5).

In addition, urban regeneration, a topic of ongoing discussion and policy consideration, warrants a critical examination of its intersection with gentrification and social exclusion. This process, often intertwined with political and ideological visions, is frequently cloaked in narratives of inclusion, community, and participation (Newth, 2019). However, these terms may mask deeper issues of gentrification, raising questions about the true nature and implications of urban regeneration (Libby Porter, 2013). The discussion centres on whether urban regeneration predominantly serves as a vehicle for gentrification. It necessitates exploring the nuances between market-led and government-led approaches to regeneration (Libby Porter, 2013). Crucially, while recognizing the positive outcomes of urban regeneration, it is equally important to acknowledge and address the challenges faced by marginalized groups or those adversely impacted by these initiatives. The discourse must balance the benefits of regeneration with the needs and concerns of all community members, ensuring equitable and inclusive development. The importance of meticulous attention to detail, especially in documenting residential buildings' characteristics and categorizing them into types, serves not just as an academic exercise but as a practical approach to identifying patterns, needs, and potential interventions. Furthermore, exploration of the dynamic interplay between traditional forms and modernist principles highlights the necessity of blending historical insights with contemporary demands, leading to more informed and adaptable architectural practices. By looking at the complexities of administrative procedures, the article acknowledges the real-world challenges of implementing theoretical concepts and designs. This approach is crucial for moving beyond theoretical discourse to the realm of practical application, ensuring that the proposed interventions and guidelines are not only visionary but also actionable and grounded in the context of current regulatory and procedural landscapes. The detailed analysis and proposed solutions thus aim to bridge the gap between innovative architectural thought and the pragmatic aspects of implementation, fostering a more coherent and effective pathway toward the revitalization and thoughtful development of urban spaces.

7 Conclusion

The reassessment of socialist modernist collective housing in Sarajevo as a model for sustainable urban regeneration is a strategic framework that integrates the key concepts of learning, unlearning, and relearning from previous architectural and urban models. The architectural legacy of this era, with its urban layouts formed as continuous green space in semi-open developments, has contributed to the environmental long-term sustainability of these areas. The proposed new urban protocol builds upon this legacy, focusing on holistic reevaluation, retrofitting, and reprogramming of these architectural and urban structures. This approach views buildings extended into the surrounding public spaces used by the communities they serve. It offers a balanced strategy to revitalize these areas while adapting them to contemporary needs and respecting their overall context.

This research demonstrates that collective modernist housing with its distinct building types is well-suited for inclusive and sustainable retrofitting strategies. These align with frameworks such as the United Nations Agenda 2030 and the New European Bauhaus initiative, particularly in addressing energy efficiency. Despite a plethora of legal and ownership challenges, implementing energy-efficiency measures alongside thoughtful redesign can significantly enhance residents' quality of life by improving comfort, reducing emissions, and supporting long-term sustainability goals. The strategies emphasize sustainability and aesthetics, as well as the importance of collaboration among the general public, experts, businesses, and institutions.

The absence of renovation guidelines in the municipalities of Sarajevo underscores the need for urban regeneration strategies that integrate residents' perspectives, prioritize environmental sustainability, and embrace systemic upgrades. The exploration of socialist modernist zones at the urban, architectural, and interior levels reveals the necessity of interventions that range from basic to advanced retrofitting. These interventions, whether proposed by academic initiatives or residents, should follow a structured framework that involves a wide range of stakeholders. The collaborative model - referred to as the new urban protocol - ensures that these interventions address the diverse needs of the community while contributing to broader high-quality goals, thus creating sustainable urban living.

The focus of this new urban protocol is learning from the architectural legacy of socialist modernism by recognizing its value and integrating its principles into contemporary practice in redesigning and creating new residential buildings or neighbourhoods. Equally important is unlearning outdated dogmas that no longer serve present or future needs, allowing a shift in perspective that permits adaptation and change. In Sarajevo, relearning is particularly critical due to the complex socioeconomic transitions and the impact of war. Relearning involves an objective stance toward the current state, avoiding both uncritical nostalgia and disregard for the past, while reconciling historical wisdom with modern demands for functionality and sustainability.

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Primož MEDVED

Exploring university third places: The Aškerc Street university campus in Ljubljana (Slovenia)

This article examines the potential of multifunctional university public spaces, or "third places", with a particular focus on their role as catalysts for social interaction and urban development in the academic environment. It studies the University of Ljubljana's Aškerc Street campus, which is undergoing complete urban regeneration. After identifying all the specific third places, the article shows why third places are important for various stakeholders (students and professors) and presents their suggestions on how to improve the third places on the campus. The findings show that, although university spaces are essential for academic and social activities, they have significant design and use limitations. It shows that students and faculty members frequently make use of third places on and off campus to study, work, relax, and socialize, and for other informal gatherings, and that there is a clear need to provide more flexible, accessible, and non-commercial spaces on the campus.

Keywords: university campus, public spaces, third places, multifunctional spaces, urban development, Ljubljana

1 Introduction

In urban planning, the long-standing model of zoning cities by specific functions is increasingly regarded as outdated. The concept of a mixed-use approach is gaining prominence (Mlinar, 2005: 32). Mixed-use planning involves creating multifunctional spaces that serve a variety of purposes simultaneously. These spaces facilitate local social interactions and act as urban habitats that support diverse forms of social organization (Brandt & Vejre, 2004). In the context of universities, these multifunctional spaces align closely with evolving educational paradigms that emphasize collaborative learning, interdisciplinary research, and community outreach (Harkavy & Puckett, 1994; Jang, 2020). Consequently, university campuses are intended to integrate a multitude of functions, including educational (Shepherd et al., 2017), social (Fernandez-Esquinas & Pinto, 2014), recreational (Green & Gonsoulin, 1997), sustainable (Tudorie et al., 2020), and even commercial (Smith, 2004). Today, there is growing recognition of the need for spaces that are adaptive and flexible, as well as capable of meeting the diverse needs of the urban and academic community (den Heijer & Magdaniel, 2018). At the core of the shift is the understanding that the physical and social infrastructure of cities and universities is inseparable (Zupančič-Strojan, 1998: 75). This requires multifunctional spaces that can seamlessly accommodate a mix of activities, interactions, and services. Such spaces act as an interface between the university and the city, where flows (human, material, and information) converge, and they must be designed to integrate the university environment seamlessly into the city's overall design (Dong et al., 2023).

In line with the concept of university multifunctional spaces, several researchers (e.g., Whitchurch, 2018; Smith et al., 2021; Veles, 2022) have adopted Soja's (1996) notion of "thirdspace" to describe the evolving work, roles, and interaction spaces in the university context. These third spaces facilitate transformative change in academic practices, supporting openness, critical exchange, and diverse perspectives (Soja, 1996; Veles, 2024). However, many researchers investigate the socio-spatial dynamics of universities through the lens of Oldenburg's concept of "third places". These are distinct from the private spaces of one's home and the professional environment of the workplace. They are public spaces for social interaction and engagement. Oldenburg (1997) posits that third places, such as coffee shops, enhance quality of life by offering rest, social interaction, and emotional relief. Similarly, university third places have been shown to benefit students and staff psychologically (Lee & Houston, 2024).

This article examines the transformative role of university third places in urban environments, investigating how these hybrid spaces facilitate community engagement. These spaces are critical connectors between academia and the city, serving to bridge social and spatial divides and thereby influencing both educational outcomes and urban vitality. This study focuses on the campus on Aškerc Street (Sln. *Aškerčeva cesta*) in Ljubljana and investigates the influence of strategic spatial design on social and academic interaction. It offers both empirical and theoretical insights to illustrate how well-integrated academic and community spaces contribute to the creation of a more cohesive and resilient urban landscape (Healey, 2008). Furthermore, this research offers actionable recommendations for university administrators, urban planners, and policymakers seeking to foster inclusive and adaptive campuses.

2 Theoretical background

In reimagining how spaces serve communities, Harvey (2001) argues that an alternative spatial paradigm must be rooted in a deep understanding of how social structures shape and are shaped by collective consciousness. Lefebvre's theory of the social production of space extends this by showing how different social systems, including academic communities, produce different spatial forms. He establishes the dialectical relationship between urban spaces and social relations (Lefebvre, 1996), framing urban spaces not as passive backdrops but as dynamic participants in social processes that both shape and are shaped by the interactions within them (Lefebvre, 1991). His concept of place is deeply tied to lived experience, encapsulated in the notion of "lived space", which encompasses the personal, emotional, and symbolic dimensions of space. This aligns with the broader understanding of place as space imbued with meaning through human experience.

Soja builds upon Lefebvre's concept of lived space with his notion of thirdspace, which integrates the tangible and experiential dimensions of social existence. Soja's concept of thirdspace transcends the traditional boundaries between public and private, and between work and leisure, creating hybrid spaces that facilitate dynamic interactions (Soja, 1996). This concept is particularly pertinent in the context of multifunctional spaces in contemporary urban environments, where universities are integrated into the fabric of the city to foster the growth of vibrant urban centres (Bugarič, 2009). Such integrated spaces, accessible to both the academic community and the public, foster a sense of belonging and collaboration by hosting a diverse range of activities. By blending university spaces with community spaces, these areas facilitate active exchange of ideas and community engagement, thereby enriching both academic and urban life (Healey, 2008).

Soja's (1996) conceptions of thirdspace and other notions of multifunctional spaces or hybrid spaces present dynamics of sharing and engagement between people from diverse professions, qualifications, and experiences that are similar to Oldenburg's (1989) concept of third places. Oldenburg describes third places as "a generic designation for a great variety of public places that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work" (1989: 16). He outlines the functions that third places serve: a place to bring a community together, to welcome newcomers, to find individuals similar to oneself, to assemble, where individuals become familiar, for community diversity, for fun and entertainment, for intellectual discussions (Oldenburg, 1997), and often to use as an office (Waxman et al., 2007).

Moreover, Oldenburg outlines the importance of third places on university campuses, which in his opinion should "find a way to increase learning around and outside the classrooms" (1997: 90). In his view, campus planners, deans, and faculty members should understand the critical importance of the specialness of "college places", which are or should be places to hang out, and good places to meet, talk, and linger. "Colleges should pay greater attention to places for talk: residence hall suites with a common room, student lounges, dining halls and snack bars, bookstores, local taverns and pizza parlors, outdoor cafes, conversation nooks, and gardens outdoors on the campus grounds and indoors too, student centers, generous lobbies in all classroom buildings, the faculty club, conversation pits in the library, benches in the classroom halls and along outdoor walkways, fraternity and sorority houses, television rooms, and games rooms for Ping-Pong, billiards, and card-playing" (Oldenburg, 1997: 93–94). For a successful third place on campus, Oldenburg sets three parameters: they should be easy to get to, provide food and drink, and have a design that invites students in and allows them to linger.

Several studies have focused on third places on university campuses and expanded Oldenburg's (1997) findings. For instance, Banning et al. (2010) examined students' perspectives on third places. They analysed the users of these places, their location and typology, and frequency of visits. Most student activities in third places were associated with social interaction (socializing, conversing, eating and drinking, reading, and studying). Interestingly, the study showed that the vast majority of the students found a third place off campus, especially at various nearby cafés. The study further revealed that third places are important for students because they stimulate social interaction and discourse, and at the same time they contribute to student satisfaction, student development, stress reduction, and institutional growth.

Similarly, a study by Waxman et al. (2007) showed that the great majority of students indicated that their favourite third place was off campus (especially coffee shops and restaurants). The main reasons for visiting their third places were socializing, hanging out, relaxation, eating and drinking, "getting away", and working or studying. The atmosphere, location, and opportunity for socialization were listed as important features when students chose a third place. Moreover, it was possible to create a list of third places with regard to students' preferences: number one was coffee shops (the most popular), second restaurants, and then bookstores, the student union building, recreational centres, and the student services centre.

In literature, the most frequently studied third places on campuses were libraries and coffee shops. The university library is the core of the campus and functions as a community foundation as well as a third place (Lawsen, 2004). Traditional university libraries are usually open long hours and are easily accessible to all university stakeholders. They are multi-functional facilities where every member of the community is welcome, and they have most features of Oldenburg's third place. The idea of students relaxing and socializing between classes challenges some views of the role of a more traditional library, which should be a quiet place with no food or drinks allowed. (Future) designers should aim to include "louder" library coffee shops or common spaces in their library plans but at the same time provide quiet library areas (Waxman et al., 2007).

In addition, coffee shops were indicated as a preferred place to rest and for leisure time. A study by Lee (2022) also identified places to eat and drink as the most preferred among the various university third places. Similarly, a study by Banning et al. (2006) indicated that coffee shops are students' most popular third place. Modern cafés do not primarily support interactions between strangers but offer space for relaxing, working, and conversation, including through digital interfaces. Conversation is still the main activity, but many customers use their electronic devices together with face-to-face discussions. People's connection to physical spaces has transformed because of the internet, online conversations, and social media. Therefore, Oldenburg's original characteristics of third places have changed because modern culture is interwoven with communication technology (Lukito & Xenia, 2017).

3 Research aims and methodology

Using Oldenburg's (1989) concept of third places as a theoretical framework, and the expanded categories of third places in the university campuses environment (Oldenburg, 1997), this study investigated and explored third places on the Aškerc Street campus. The research questions were: 1) Which are

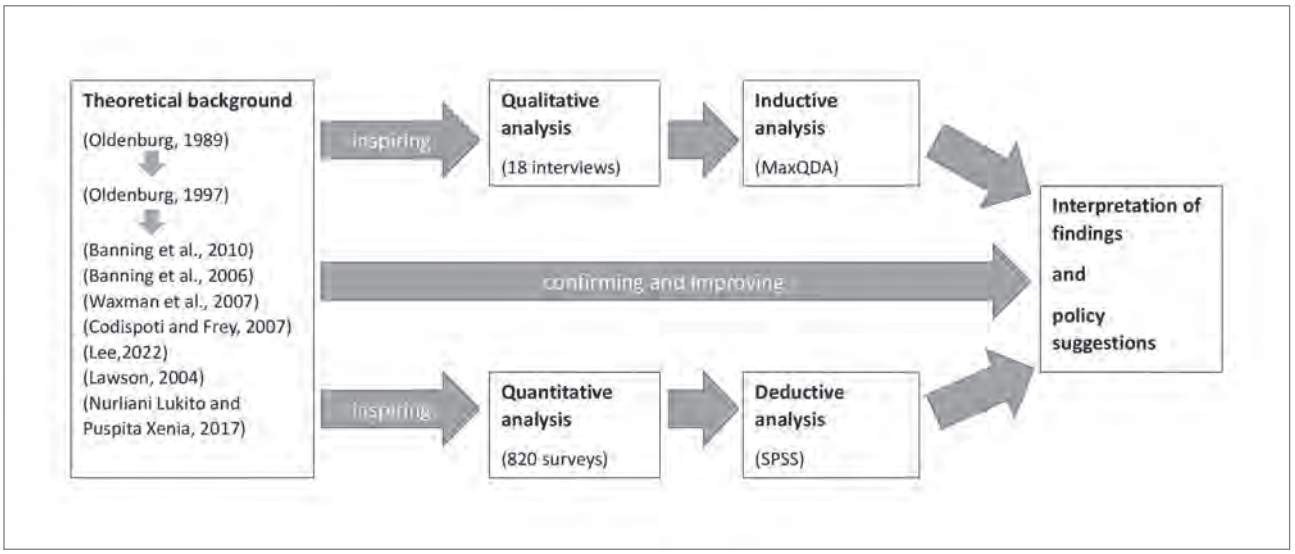

Figure 1: Methodological processes (illustration: authors).

the third places of stakeholders (students and professors) on the campus and where are they located (social mapping)? 2) Why are third places important for various stakeholders? 3) What are the stakeholders' suggestions for improving these third places?

The research aim was to verify whether Oldenburg's (1997) findings regarding third places at universities, which were further developed by Banning et al. (2010), Waxman et al. (2007), and other researchers (see Figure 1), have been manifested (and how) on the campus. An analysis of the results made it possible to provide an overview of third places on the campus, acknowledge their impact, and offer some policy suggestions for future (and current) university campuses.

This study's data were collected as part of the project Concept for Sustainable Spatial Development of the University of Ljubljana (ULTRA 2022–25). The study employs a mixed methods research approach, which combines qualitative and quantitative methods. The use of mixed methods is appropriate for this study because it allows the integration of diverse perspectives and data types, thereby enhancing the depth and breadth of the analysis (Creswell & Plano Clark, 2018).

For the qualitative part, data were obtained through eighteen interviews; eight with students and ten with professors at faculties on the campus. The analysis of the interviews incorporated additional raw data interpretations to identify and understand the nature of third places.

All the interviewees were asked the same semi-structured and open-ended questions. The interviews were analysed using MaxQDA 2020 software. Coding was performed using the code–category–theme analytical approach for qualitative data analysis. Data were assembled and organized with particular main themes and sub-themes in three procedural steps: 1) open coding, 2) axial coding, and 3) selective coding. The first step used open coding because a priori coding was not adequate due to the restrictiveness of predefined codes. The analysis was performed as an inductive open coding process, starting with identifying relevant conceptions and initiating the first step of code relation and structure categories. In the second step (axial coding), similar codes were further grouped into categories, and sets of categories were assigned to major themes. The themes referred to certain prototypes of categories of third places. In the third phase (selective coding), the analysis reshaped the acknowledged categories by examining coherent patterns. The categories were redefined, and the meaning and connection between them was reformulated. Subsequently it was possible to analyse and (eventually) confirm the typology of third places, and at the same time add new third places and create new categories (e.g., suggestions for improving third places).

The quantitative part was based on a survey of 820 students attending the three faculties on Aškerc Street: the Faculty of Arts, the Faculty of Natural Sciences and Engineering, and the Academy of Theatre, Radio, Film, and Television. The survey investigated the habits and needs of students in the area to facilitate future architectural and spatial planning. The survey mostly contained close-ended questions with some options for open-ended suggestions. SPSS software was used for the analysis and statistical processing. The data will be available in the Social Science Data Archive, ensuring transparency and supporting future research.

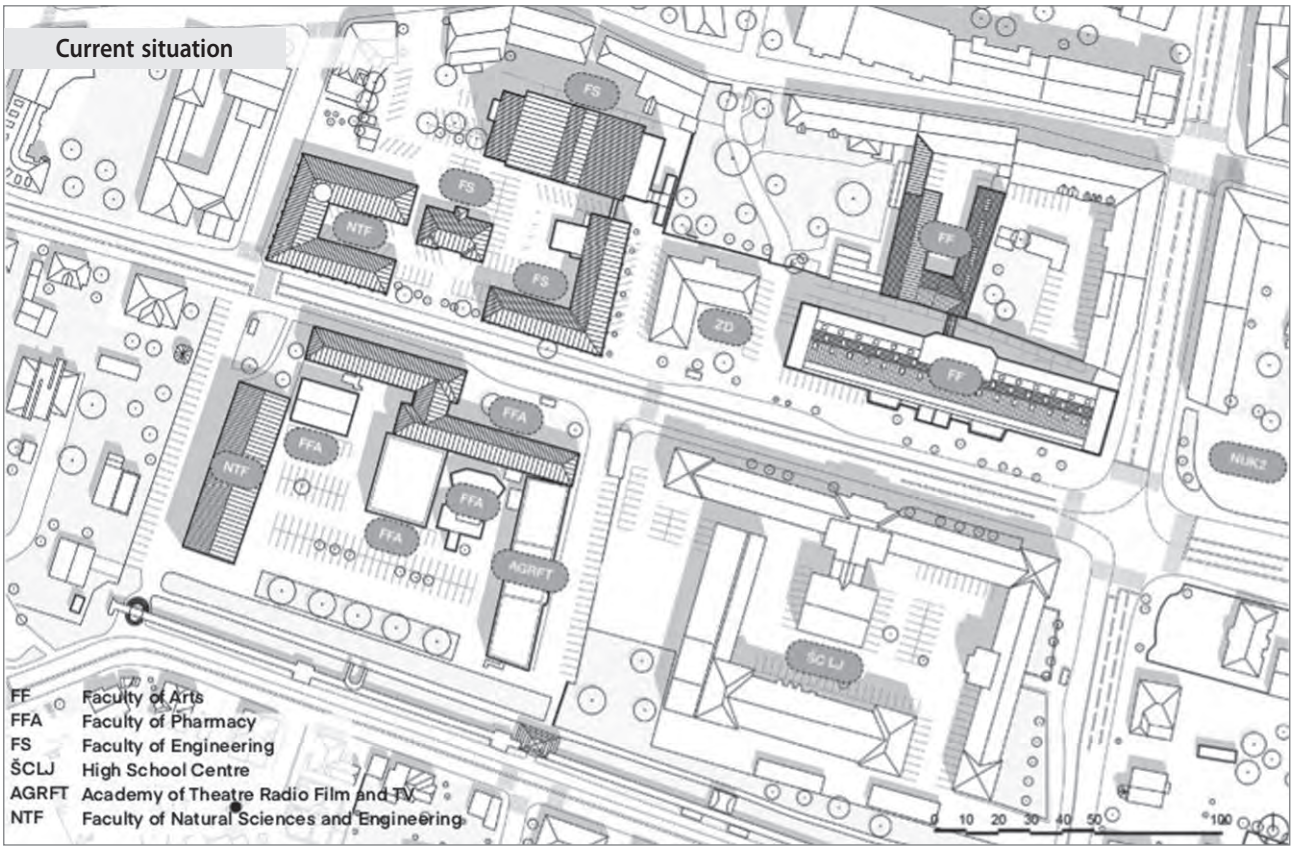

Figure 2: Current layout of the area (source: Sadar et al., 2024).

4 Case study

4.1 The campus

The University of Ljubljana is engaged in an ambitious project to redevelop the Aškerc Street area, designated as Campus Centre. This project is one of the university's largest, and it includes relocating the Faculty of Mechanical Engineering and the Faculty of Pharmacy to new modern facilities.

Relocations are expected to finish by 2027, allowing for the transformation and renovation of existing university buildings. Furthermore, the renovation will encompass the establishment of a central technical library, which will also include all the departmental libraries that are now part of the central humanities library at the Faculty of Arts (University of Ljubljana, 2024). This will result in the creation of a shared space that will facilitate enhanced study and research conditions, while also fostering interdisciplinary collaboration between the various faculties. The location, in an urban area between Foerster Park and the Roman Wall, has the potential to be enhanced. The outdoor spaces are currently neglected; the green pockets are untidy and the area is largely dominated by cars. The redevelopment plan includes creating green spaces and traffic-calming measures, which will enhance accessibility and quality of life in this area of the city.

The Campus Centre project has broader objectives than merely addressing the university's space issues. It is about creating a flexible and open academic space that will be connected to the city through public space and shared programmes. This includes sustainable construction with a zero-carbon footprint, renewable energy, and improved accessibility and mobility. In this way, the redevelopment will make a significant contribution to a better cityscape and quality of life in Ljubljana's city centre (University of Ljubljana, 2024).

4.2 Qualitative analysis

Through the qualitative analysis of interviews with students and professors, it was possible to identify and analyse various third places and explore their essence and significance. This section presents the most popular third places as identified by students and professors.

4.2.1 Cafés and restaurants

The interviews indicate that cafés and restaurants are the most important and most popular third places for university stu-

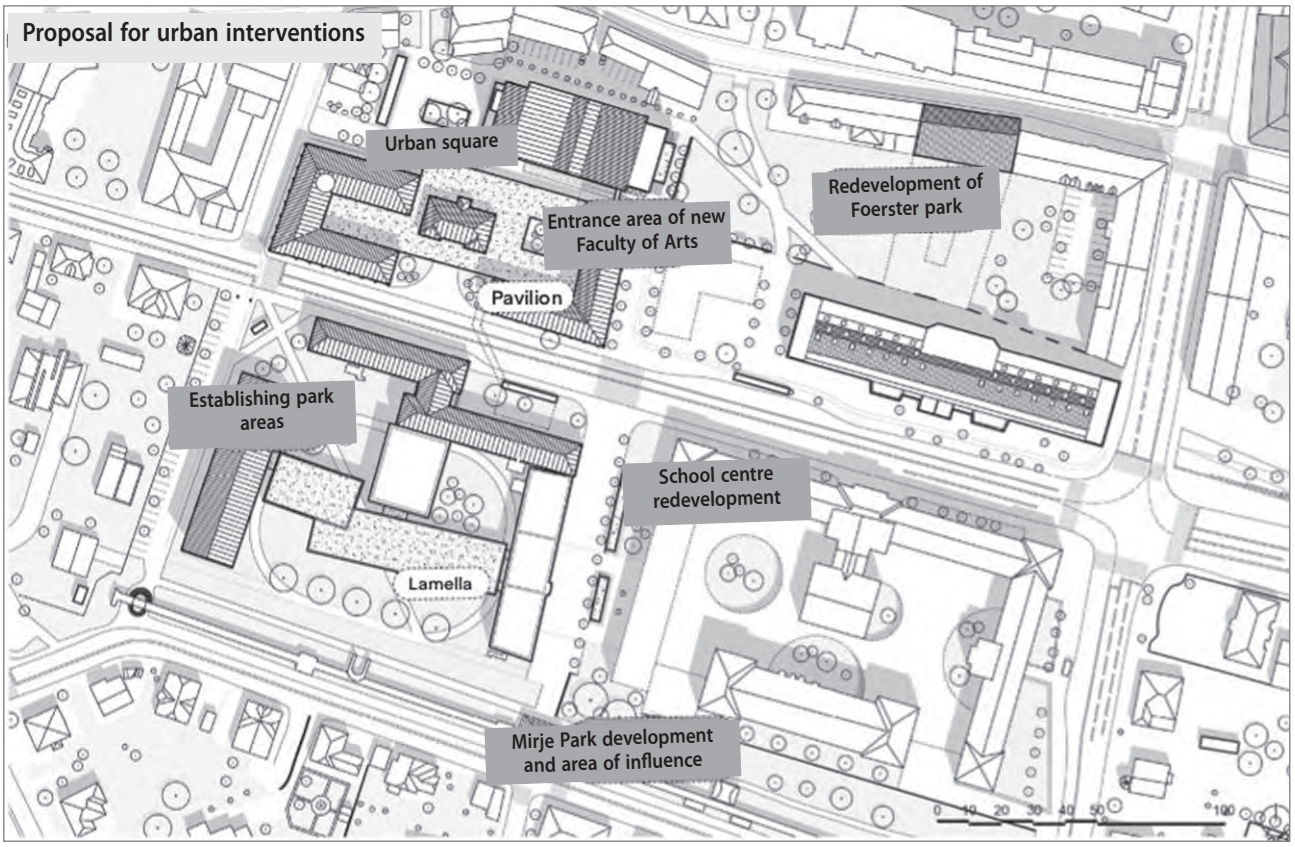

Figure 3: Desired state of buildings and grounds in the area (source: Sadar et al., 2024).

dents and professors. They see them as true social hubs of the campus, although they are mostly located off campus. Students and academic staff meet in cafés and restaurants for various reasons beyond eating and drinking; for example:

- Spending free-time between various lessons or appointments: "you have big gaps in between and then you either hang out in cafés or go eat" (Student 1).
- Working and studying: "sometimes . . . you go to a café to write your papers or somewhere similar" (Student 1); "If I'm doing some group work we use these cafés I mentioned; Semafor, Living Room, Foerster" (Student 2); "We usually go to some cafés for meetings and we don't stay in other faculties" (Professor 1).
- Meeting friends and colleagues, and socializing: "Employees and students also meet a lot in cafés where they offer coffee or lunch. I find that this is quite popular" (Professor 2); "As for socializing: the cafés behind the Faculty of Arts are very popular" (Professor 1).

Both students and professors noticed that the university cafeteria K16 is somewhat more frequented by professors: "I know some professors go to K16. I'm certain they do" (Student 3); "Then you can have some time in between to go for a coffee, and that's in our local café that we have inside the faculty. . . . So I personally don't go outside the faculty" (Professor 3); "We use our café K16 quite a lot for socializing or short meetings" (Professor 3); "I often go to K16 for a coffee" (Professor 4).

The interviewees noticed that during peak hours there is an acute problem of accessibility to all cafés and restaurants because they are very busy: "It's crowded then and you have to go to three different places to find a place to eat" (Student 3); "the surrounding cafés are so busy that you can't get a place" (Student 2).

4.2.2 Libraries

Libraries also proved to be important third places for university students. They use libraries for working or studying: "I prefer home . . . because there's no space at the faculty and, if not at home, at the library. Not at the faculty" (Student 4); "As far as I know, most people who go to study don't go to study at the faculty, they go to the Central Technical Library because there's no space at the faculty" (Student 3).

They strongly feel the lack of a "not silent" working/studying/meeting room at the library for group work: "at least there are these reading rooms and libraries, but you have to be quiet there" (Student 6); "and it's happened to me many times that I've been looking in vain for a place at Faculty of Arts, . . .

where I can sit down with my classmates, and we can study together, and we can talk because there's just no place where that can happen" (Student 6).

On the Aškerc Street campus, there are small department libraries and two main large libraries in the vicinity (within a ten-minute walk): the Central Technical Library and the National and University Library. The main problem, especially for department libraries, is the lack of space: "There is no space in the library at the faculty. There's only one chair in our [department] library" (Student 3); "the Central Technical Library library can be really busy. If our faculty had its own library, you could go there" (Student 3); "in the department libraries there's no space to study" (Student 4); "Libraries and reading rooms have not flourished – this is because of a shortage of space. Students . . . don't spend time there because the libraries are quite small" (Professor 1).

4.2.3 Specific university locations

Several students and professors think the campus has no spaces in the faculties where it would be possible to meet and work together: "There's a lack of public spaces – and spaces in and around the faculty – that would be a good place to meet, either informally or for meetings" (Professor 3); "There's no space for hanging out" (Professor 5). However, there are several limited university-owned indoor and outdoor spaces or locations on the campus that are somehow utilized and perceived as third places.

4.2.3.1 Indoor university locations

Apart from the aforementioned K16 faculty bar, the most popular indoor university third places are the various department corridors with benches, classrooms, coffee machine areas, and an autonomous student area called K17.

- Department corridors: "And the benches on each floor are nice too. You just sit down and eat"; "Then, when the gaps between classes are bigger, we just go and hang out in the hall" (Student 3); "At the faculty we have some tables or areas at the end of the corridor. And sometimes we hang out there with our classmates to work on a project or wait for lectures"; "Then we work at these tables at the faculty" (Student 2); "and we have one of these makeshift benches at the end of the corridors, where students and also some staff members usually gather and get together"; "And then we work at these tables at the faculty" (Professor 5).
- Classrooms and special "reading rooms": "For hanging out, we have two classrooms, which I feel are really rarely used. Theoretically we have a reading room, although I didn't even know that . . . . And I never went in there because it's in the basement and there's only one classroom" (Student 3); "there was a classroom down in the basement that was like a reading room and you could go in there" (Student 2).
- Coffee machine areas: "Or maybe downstairs at the coffee machine. . . . That's where you mostly meet other people because we don't really have any space for food" (Student 7); "I go for a coffee with my colleagues, and then maybe at the snack vending machine" (Professor 1).
- K17 autonomous student area: "Now the students have some small spaces, which have been arranged for them in recent years, so they can retreat" (Professor 3); "the K17 autonomous student area. . . can accommodate just two groups of friends. But if you see that a group is there, you don't want to bother them with your group or vice versa. If somebody is loud there, you won't go there to study. This place isn't advertised. There's just no chance of hearing about it from anywhere" (Student 3); "we go to K16 and K17 because anyway these are common spaces that are meant for socializing and talking, even though maybe we would like to have more peace" (Student 6).

4.2.3.2 Outdoor university locations

Outdoor areas in the immediate vicinity of the faculties are very important student hubs that serve as third places for students and staff. The interviewees especially highlight the importance of the courtyards, patios, stairs, and benches in front of the faculties: "the main stairs in front of the Faculty of Arts has benches nearby, it seems to me that there is such a gathering place . . . . I think, I would say, probably practical reasons, like the fact that there are benches . . . there is a place sheltered from the rain" (Student 6); "I think these benches in front of the faculty function very well – that's where the students gather, for example" (Professor 1); "as for outside the building, I would say that the most common gathering point is just the stairs of the faculty, which is somehow the most friendly" (Professor 5); "the stairs . . . are also a meeting point, from where paths then separate. I mean we go our own way. It's that last common meeting point, . . . where we can have a quick little chat or something" (Professor 4).

4.2.4 Parks

Parks and green areas near the faculties, even if they are small because of the highly urbanized location, are valuable and attractive third places:

- To meet and "hang out" (a social hub): "The Foerster Garden, where professors and students mostly gather, because there isn't much space inside our faculty" (Student 4); "Looking at this Foerster Garden next to the faculty, it's quite lively in nice weather" (Professor 3).

- For occasional events: "when we have the Liberak book fair in May and then there are lots of different events. So that's one such place the faculty takes advantage of" (Professor 3); "Foerster Park . . . is also a place for such events" (Professor 3).
- For outdoor lectures: "the professors hold some of their seminars outside. Let's say they go out back, where there is a quiet corner. I've had seminars in Špica Park, for example, or in the Botanical Garden . . . . We've had them, it's a little more pleasant environment" (Professor 3).

4.2.5 Proposals for current and future third places

Students and professors suggested several ideas for how to improve working and social life on campus that could eventually create new third places or improve existing ones. They recommend or would like to have places:

- To study, work, or just hang out, when they have "free hours": "When we have free hours, we tend to hang out in our hall, where there aren't many desks . . . . As far as I know, most of the people who go somewhere to study don't go to the faculty, they go to the Central Technical Library because there's no space at the faculty" (Student 3); "to have one big, nice place where you could actually study. It would be nice, yes" (Student 4); "Well, we go to [a café or restaurant], basically also to work on projects . . . . So it would be really good to have something like that closer, for example" (Student 5); "A social hub like that would be nice because then also outside the working spaces people can meet and talk in a more informal way" (Professor 6); "There's a lack of public spaces in and around the faculty, which would be a good place for socializing, or for informal meetings" (Professor 3).
- That should be free to use (not commercial): "I feel like there's a lack of spaces where you don't have to buy coffee or eat. I miss a space to just either hang out or basically to do group work" (Student 1); "Yeah, especially this, this kind of space where you can spend time for free or you can study because in any case you have to go somewhere for coffee, and you have to pay for coffee right away . . . . That's what's missing – in general, a warm space where young people can just stay for free and that you can either study or socialize" (Student 4).
- That are big enough or not crowded: "the surrounding cafés are so busy you can't get a seat. If these cafés are too busy, we mostly go elsewhere" (Student 2); "so there are no big spaces where we can hang out or study, for example, so we definitely don't have enough space" (Student 5).
- That offer a separate space, where it would be possible to talk and work in groups ("not just silent rooms"): "It would be better if the space were laid out without the obligation that you have to just study silently" (Student 1); "Another interesting question is where I can go if I have a Zoom meeting where I can talk out loud" (Student 3).

In addition, students suggest some specific improvements to enhance the campus third place experience. They recommend opening the classrooms when they are not in use: "The fact is that we should not be in the classrooms if we do not have lessons there . . . sometimes the security guards can bust you if you're in a classroom when you shouldn't be or when you don't have classes" (Student 3); "[It's a major limitation] that the classrooms are closed. That we can't access some things freely on the faculty, which are available. You have to make special arrangements" (Student 7).

They also recommend creating a bigger and more relevant student association club where it is possible to meet and to be creative as a student community because the current student hub, K17, is too small and overcrowded: "we don't have any clubs or anything at the Faculty of Arts . . . so yeah, that would be really good, . . . what we have at the faculty, for example, is this autonomous student space, which is basically for doing whatever, but it's so small that most of the time it's completely packed because people are studying there or doing group assignments" (Student 1).

4.3 Quantitative analysis

Table 1 illustrates the distinction between two groups of students: those that visit the faculty premises solely on days when they have obligations and those that visit the premises even when they are not obliged to do so. The results indicate that approximately one-quarter (26.6%) of students visit the faculty when they have no obligations there. This suggests that a relatively high proportion of students move around the faculty's premises out of their own interests and use these spaces as quasi-public spaces that are open to use to its members. Furthermore, the table classifies the responses according to the reasons for using the campus, differentiating between curriculum-based obligations and informal use. This aligns with the concept of third places.

This was followed by manual categorization of the open-ended responses to Question C: "Because you selected the answer 'Even on days when there are no commitments', please indicate the reason for your visit to the premises." This involved exporting the data, categorizing them in a spreadsheet, and re-importing them into SPSS for further analysis. This allowed for a structured analysis of qualitative data with conversion into quantitative categories. The participants were assigned to the following categories on multiple occasions due to the particular nuances of their responses. Most responses (66.67%)

Table 1: Crosstabulation of Questions A and B (%).

		Question A: Please choose the reason that is most important to you for going to your faculty:					
		Lectures	Recitation classes / seminars	Socializing with peers	Research / independent study	Other	Total
Question B: When do you visit the faculty and other facilities (libraries, laboratories, etc.)?	Only when classes are scheduled	25.6	43.3	2.0	1.0	1.4	73.4
	Even on days when there are no commitments	9.5	10.3	1.7	2.5	2.5	26.6
Total (n = 706)		35.1	53.7	3.7	3.5	4.0	100

Source: authors.

Table 2: Question D "How often do you use the common areas at the faculty and the areas near the faculty when you don't have commitments in your schedule?" (%).

Spaces	Frequency				
	Never	Less than monthly	Monthly	Weekly	Daily
Study spaces (research rooms, laboratories, seminar rooms)	35.0	19.9	15.2	20.5	9.3
Library and reading rooms	12.8	24.7	28.2	27.0	7.3
Cafés	12.9	11.6	23.4	35.0	17.1
Outdoor spaces close to the faculty (public areas and related outdoor furniture: chairs, benches, tables, etc.)	18.5	19.9	16.2	26.9	18.5

Note: The analysis included only 143 respondents that indicated they visit the faculty even without scheduled commitments. Source: authors.

show that students primarily use university facilities for studying and research, including thesis work and exam preparation. Library use accounts for 37.84%, and only 7.21% of responses reflect attendance at lectures. Group work and projects engage 15.32% of respondents, and socializing accounts for 14.41%, reflecting the role of these spaces in community building. Administrative tasks represent 14.41% of responses, and 9.91% indicate a preference for a study-conducive environment.

The data obtained from Question C suggest that students are highly engaged in academic activities despite the absence of scheduled commitments in their timetables. Consequently, the primary purpose of university facilities remains academic in nature, with a distinct emphasis on learning and research. Libraries occupy a pivotal position, as evidenced by the considerable proportion of students that use them. Although attendance at lectures and classes is a fundamental aspect of the student experience, it is not as dominant in this second data set. The significance of group work and social interaction underscores the necessity for collaborative settings and community-building initiatives at the university. Furthermore, administrative tasks and personal preferences also exert an influence, indicating that the use of university facilities extends beyond the domain of academic pursuits.

Table 2 shows how often students use common areas at the faculty and areas near the faculty when they do not have scheduled commitments. This information is important for understanding the function and use of third places on campus and for the research questions about the significance and characteristics of these spaces.

Restaurants are used frequently, with 34.5% of students visiting on a weekly basis and 20.6% on a daily basis. This emphasizes the importance of these establishments as social hubs for informal gatherings. Libraries or reading rooms are also of great importance, with significant weekly (27.0%) and monthly (23.4%) usage, although the lower daily use (7.3%) suggests a need for more inviting study environments. It is evident that study spaces such as research rooms and seminar rooms are not used to their full potential. Indeed, 35.0% of students never make use of these facilities without commitments, which suggests that they are perceived as formal rather than flexible spaces. Outdoor spaces are also well used, with 26.9% of students using them on a weekly basis and 18.5% on a daily basis. This reflects their value for relaxation and informal interactions. Cafés are used on a weekly basis by 35% of students and on a daily basis by 17.1%. They are important third places for socializing and studying.

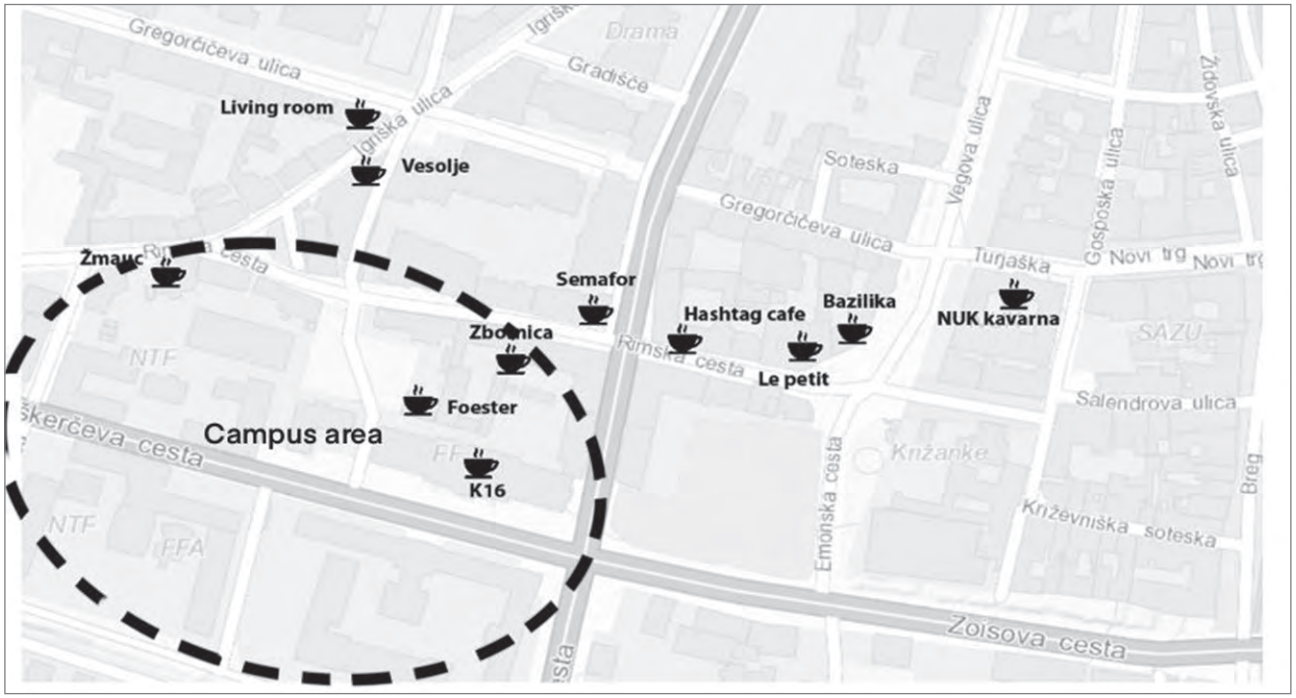

Figure 4: Most frequently visited *cafés* near the campus (illustration: authors).

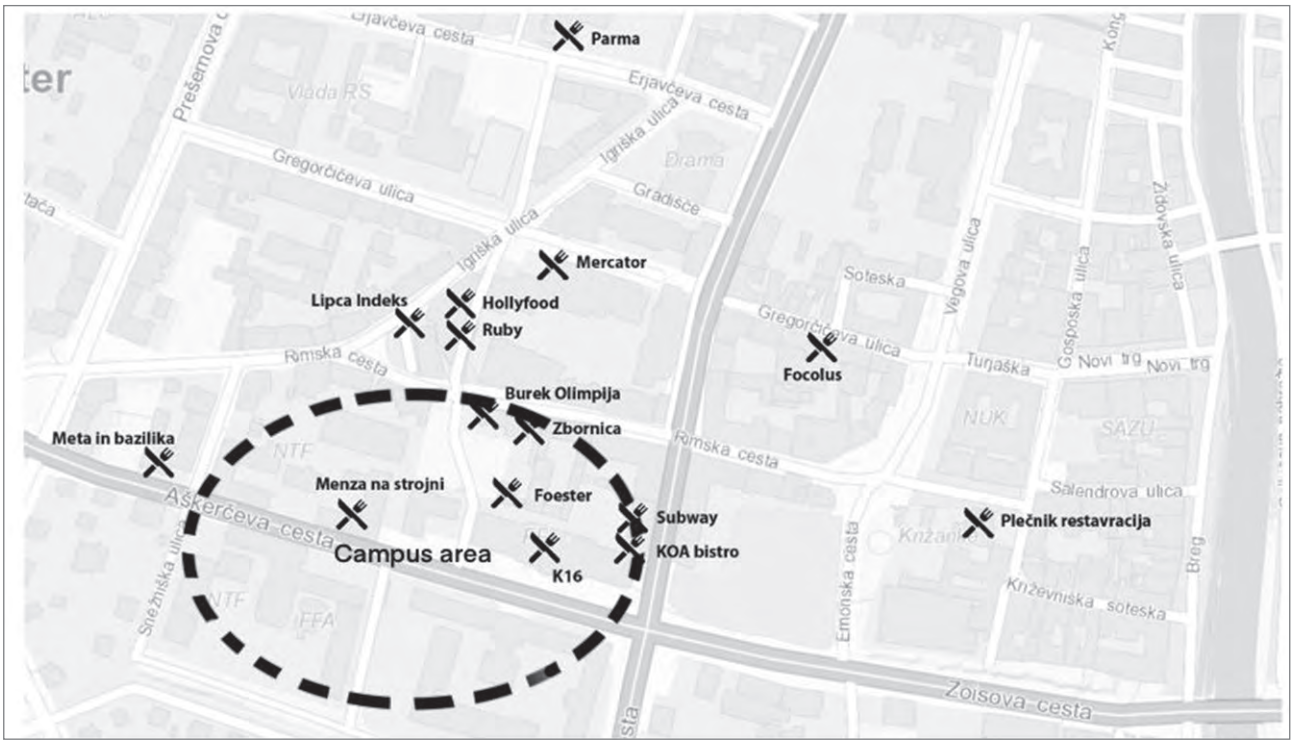

Figure 5: Most frequently visited restaurants near the campus (illustration: authors).

For open-ended Question E "Where do you most often go for a coffee during breaks from lectures or other university commitments?" a comparable manual categorization process (social mapping) was used. The categories were created according to the frequency of each answer, with a minimum of two repetitions. This process yielded eleven distinctive locations, which are shown in Figure 4. All 334 open-ended responses were additionally categorized into three groups to classify spaces by proximity to campus and location specificity. The results showed that 98 respondents (29.3%) preferred nearby cafés, and two hundred respondents (59.9%) fell into the "Other" category, suggesting that many students either lack a specif-

ic coffee venue nearby or favour other venues on or beyond campus. The remaining thirty-six responses (10.8%) indicate a preference for on-campus coffee options, such as vending machines and campus spots such as K16 and K17.

On the other hand, the analysis of lunch location preferences (see Figure 5) among students at the campus reveals a clear tendency toward convenience, affordability, and diversity in dining options. Establishments near the campus and those with student-friendly pricing are especially favoured. In addition, the variety of responses underscores the importance of providing a range of dining choices that cater to different tastes and budgets.

Student lunch locations were classified into categories based on type and characteristics: on-campus dining (student canteens and dining facilities inside campus buildings), near-campus restaurants and cafés (41.8% of students prefer these for convenience and variety), fast food and chains (offering quick options), grocery stores and supermarkets (used by 13.8% for ready-to-eat meals), food brought from home (15.2% of students bring food from home), and miscellaneous and others. The results reveal that students primarily choose nearby cafés and restaurants, valuing accessibility and affordability. On-campus facilities are popular as well (13.5%), and fast-food options (4.9%) offer additional convenience. These choices reflect how students integrate into the surrounding urban landscape, which supports a range of dining needs. The findings suggest that more social spaces on or near campus could enhance students' dining experiences, fostering a stronger link between the university and urban amenities.

5 Discussion and policy recommendations

Universities make a significant contribution to the economic vitality of urban areas, increasingly making cities the "capital of ideas" (Blackwell et al., 2002; Pastor et al., 2013; Melhuish, 2020). However, their impact as economic drivers and cultural hubs depends largely on their ability to attract students and connect meaningfully with the surrounding community. Findings from the quantitative analysis reveal that 26.6% of students visit the campus even on days without scheduled commitments, underscoring the role of campus spaces beyond formal academic requirements. The data also indicate that specific types of spaces, such as study rooms and seminar rooms, are underutilized, with 35.0% of students never utilizing these facilities in the absence of scheduled commitments. This suggests that these spaces are perceived as overly formal and rigid, lacking the flexibility to accommodate the evolving needs of students and faculty. In contrast, restaurants and cafés are visited frequently by students (55.1% of students visit a restaurant at least once a week, and 52.1% of students visit a café at least once a week). This highlights the role of these spaces as informal social hubs. Furthermore, the findings suggest that outdoor public spaces (45.4%) and libraries (34.3%) near the campus are frequently used, thereby reinforcing the significance of accessible and welcoming third places.

The qualitative interviews offer a better understanding of the specific third places that students and faculty members like. Cafés and restaurants were identified as the most significant third places, frequently functioning as social hubs despite their off-campus locations. These locations are used not only for eating and drinking, but also for activities such as studying, working, and socializing. Libraries also play a crucial role, but the lack of spaces where group discussions and collaborative work can take place without disturbing others is a significant shortcoming. Moreover, specific university locations, such as department corridors and outdoor benches, are also used as informal gathering spaces, although these areas often lack space or comfort. Therefore universities and the spaces they occupy have lost their significance as "havens of learning and research" and are somehow isolated from the surrounding society.

This raises the following question for campus student service programmers and campus planners: Why are campus environments not conducive to third places? The study also indicates that food and drink are key features of third places. Moreover, why would universities not want to provide the social and economic benefits associated with incorporating third places? This study cannot answer these questions, but the data imply that campuses should view the concept of third places as places for both informal learning and potential auxiliary income (Banning et al., 2010). The analysis offers several recommendations for decisionmakers that can be summarized in five core suggestions to improve the social and urban context and the academic experience on the new campus (see Table 3).

The third places at universities, particularly those integrated into urban settings, present a significant opportunity for fostering stronger connections between academic institutions and their surrounding communities. Nevertheless, the question remains why these university spaces, despite their proximity to urban populations, are not more actively used by the broader community (Jang, 2020: 171). This introduces an intriguing element to the discussion. Given the current focus of this research on the academic community, which is a valuable area of study in itself, it would be beneficial to consider the potential for influencing the social structure in the urban environment where this community is located.

Table 3: Policy recommendations.

Policy recommendation	Context	Empirical findings
1. Redesign and expand third places	Invest in redesigning existing spaces to make them more flexible and conducive to both formal and informal interactions. Expanding cafés and libraries to include more areas for group work, discussion, and socializing. Creating new third places that are accessible and welcoming.	Quantitative findings: More than a third of the students view formal study spaces as too rigid. Qualitative findings: Cafés and restaurants are popular social hubs, but there is a lack of accessible and flexible group workspaces on campus.
2. Develop non-commercial social hubs	Establish lounges, communal areas, and multi-use halls that are freely accessible. Addressing the demand for spaces where students and faculty can gather without being expected to make a purchase.	Qualitative findings: Students and faculty expressed a strong desire for non-commercial spaces, particularly for studying and social interaction. The current reliance on off-campus cafés indicates a gap in on-campus facilities that are freely accessible.
3. Promote flexibility and accessibility	Design spaces that accommodate multifunctional uses, including modular furniture, multipurpose rooms, and adaptable outdoor areas. Facilitate the accommodation of a wide range of activities, from individual study to collaborative meetings.	Quantitative findings: Certain campus spaces are underutilized, suggesting that current designs do not meet the diverse needs of the community. Qualitative findings: Students indicated a need for more adaptable spaces, especially for group work and informal meetings.
4. Integrate with the urban fabric	Include actors from the national to local level in the planning process. Ensure that campus spaces integrate seamlessly with urban amenities (public transportation, pedestrian pathways, and nearby public areas). Increase accessibility and enhance the relevance of campus spaces to the broader community.	Qualitative findings: Cafés and outdoor spaces near the campus are important social hubs, suggesting that better integration with the urban environment would enhance their use and accessibility. Quantitative findings: High use of nearby urban amenities by students.
5. Inclusive and participatory design	Design campus spaces with input from a diverse range of stakeholders: students, faculty, and community members.	Qualitative findings: Interviews revealed a strong demand for spaces that cater to diverse needs, including quieter study areas, social hubs, and spaces for group work. Stakeholders emphasized the importance of including a variety of voices in the planning process to ensure these needs are met.

Source: authors.

6 Conclusion

The research presented here has confirmed previous research findings (Oldenburg, 1997; Waxman et al., 2007; Banning et al., 2010) that cafés, restaurants, and libraries are the most relevant third places on campuses, but that other third places, such as student association social hubs, parks, and micro-environments on and off campus (patios, benches, corridors, etc.), are also relevant (research question 1). The analysis showed that universities' third places are crucial public spaces where it is possible to socialize, hang out, relax, spend free time between lectures, and work or study alone and in groups (research question 2). The analysis of quantitative and qualitative data yielded suggestions by students and staff to improve third places; these suggestions can be summed up in five categories (see Table 3; research question 3). Although these insights offer a foundation for practical improvements, further research is required to gain a more comprehensive understanding of the links between university spaces and the surrounding community, including local residents and service providers. Such an extension of the research could clarify how these third places function in the broader social and urban environment, thereby providing insight into community interaction with campuses in city centres. Therefore, this research contributes to the literature with a new exploration of university third places, with special focus on identifying their specific attributes and highlighting the often undervalued impact that they have on university students and staff. Moreover, the article offers decisionmakers (urban

planners, ministries, university management, etc.) concrete insight into third places and their socio-spatial dynamics.

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Assessing green space indicators: A case study of Sarajevo, Bosnia and Herzegovina

The main objectives of this study were to 1) assess the following quantitative urban green space (UGS) indicators: share of UGS, total UGS per capita, and the public UGS per capita for Sarajevo and its corresponding municipalities; 2) propose the minimum area of UGS per capita and the minimum functional UGS area per capita; and 3) discuss the methodological approach used and its applicability and relevance for UGS quantity and quality assessment. UGSs were photo-interpreted based on orthophotos and Google Satellite images and mapped manually. The total UGS area for Sarajevo is 58.5 km², with continuous green spaces present in hilly and mountainous areas of the city, whereas more built-up zones are present in flat areas. The total public UGS per capita is 28.0 m², or 9.8 m² if forest parks are excluded. The results can help in better understanding UGSs in Sarajevo and can serve as a reference for decisionmakers and policymakers.

Keywords: quantification of green space, unsupervised classification, green space classes, urban green spaces

1 Introduction

Urban green spaces (UGSs) are defined as places with "natural surfaces" or "natural settings", including specific types of urban greenery, such as street trees (World Health Organization, 2016), encompassing public and private open spaces in urban areas, primarily covered by vegetation (Hernandes et al., 2018), regardless of their size and function (Pinto et al., 2022). UGSs are regarded as a critical element for the quality of life of urban residents. These areas provide aesthetically appealing spaces for community engagement that encourage social interaction and a sense of belonging among the population (Cattell et al., 2008; Peters et al., 2010; Thompson et al., 2016). Access to green spaces is associated with reduced stress, anxiety, and depression, thereby contributing to improved mental wellbeing, while also providing open spaces that promote physical activity, which enhances public health (Tzoulas et al., 2007; Barton & Pretty, 2010). From an ecological perspective, UGSs significantly contribute to reducing the negative impacts of climate change on urban areas. They mitigate the effects of urban heat islands by creating cooler microclimates, reduce energy use through shade, improve air quality, and sequester carbon dioxide from the atmosphere (Nowak & Dwyer, 2007; Tzoulas et al., 2007; Bowler et al., 2010). Furthermore, they assist in managing stormwater and reduce the risk of flooding (Lennon et al., 2014). In addition, UGSs support biodiversity and improve habitat connectivity (Farinha-Marques et al., 2017). For the purpose of this research, UGSs encompass the comprehensive system of areas within an urban setting that is predominately covered by vegetation because all types of UGSs collectively play a vital role in providing their overall functions.

Special urban planning and project implementation should aim to develop a quality urban green infrastructure with an optimal quantity, quality, and spatial structure of greenery to provide urban residents with numerous benefits from UGSs. The standards approach is conventionally used to attain consistency and certainty in UGS planning (Maryanti et al., 2017). UGS standards play a role in the development of urban green infrastructure and effective land-use planning, which help support the biological and ecological functions of urban environments (Vujković, 2003). Understanding basic UGS indicators, such as the share of UGS, the total UGS per capita, the total public UGS per capita, and UGS classification contributes to addressing broader global challenges related to sustainability, public health, and social equity. Assessments guide urban planners in establishing targets, allocating resources, and designing spaces that promote urban green infrastructure. Assessing the share of UGS is important for analysing the overall state of urban greenery as well as for making decisions about building restrictions. A larger share of UGS in the total urban environment is associated with various advantages, such as reduced urban heat island effects, enhanced biodiversity, and improved overall health of residents (Maas et al., 2006; Tzoulas et al., 2007; Bowler et al., 2010). Total UGS per capita provides a quantitative measure of all types of green spaces available to residents. Total public UGS per capita is a quantitative indicator of the green space accessibility for all residents. Specifically, it can reveal inequalities in access to recreational and relaxational opportunities. Tracking this metric allows cities to develop policies that address inequalities, ensuring that all residents, regardless of socioeconomic status, can benefit from green spaces.

In Sarajevo, Bosnia and Herzegovina, there are insufficient data on UGS in terms of both quantity and quality (Ballian et al., 2021). Similar results have been reported for several small European cities and towns (Feltynowski & Kronenberg, 2020). The spatial planning of Sarajevo varies among municipalities, which stems from their functional roles and historical development. Sarajevo is the central administrative unit, consisting of four urban municipalities: Stari Grad, Centar, Novo Sarajevo, and Novi Grad, each with its own local administration. The Sarajevo Canton is one of the ten cantons in the Federation of Bosnia and Herzegovina, and it comprises nine municipalities in total, four of which are part of Sarajevo. Changes in detailed spatial plans within municipalities often reduce UGSs in favour of demand for construction land. Given this context, it is important to investigate the quantity, spatial distribution, and UGS types among municipalities, with the aim of ensuring the adoption of standards that are tailored to the local needs and characteristics of individual municipalities.

The current UGS standards for Sarajevo can be found in the Spatial Plan of the City of Sarajevo for the Period from 1986 to 2015 (SCr. *Urbanistički plan grada Sarajeva za urbano područje Sarajevo za period od 1986. do 2015. godine*, Sl. N. GS, no. 7/86). Measurable information on the structure, quantity and spatial distribution of UGSs is one of the prerequisites for determining standards that are applicable in sustainable urban spatial planning. In an earlier relevant study of the city (Zavod, 1985), the standard of public UGSs was proposed to be 25 to 30 m^2 per capita, or 130 m^2 per capita if forest parks are included. The goal, which was set to be accomplished for all UGS classes by 2015, was 47.9 m^2 per capita (Urbanistički, Sl. N. GS, no. 7/86). The standard values of UGSs in the class of apartment buildings were between 6 and 8 m^2 per capita, and 20 m^2 per capita was determined for all individual houses in urban areas. The adopted standard for limited access and special purpose green spaces accounted for 30% to 50% of the total UGS.

It can be assumed that standards that were adapted at the city level based on environmental conditions need to be reassessed in the case of Sarajevo. With respect to the growing pressure

Table 1: Basic information about the municipalities of Sarajevo.

Municipality	Area (km²)		Coordinates	Elevation, m	Population*
	Total	Urban			
Stari Grad	51.4	12.9	43°51′33″ N 18°25′57″ E	540–1,500	35,015
Centar	33.0	16.0	43°52′08″ N 18°24′31″ E	531–1,386	53,333
Novo Sarajevo	9.9	9.9	43°50′51″ N 18°21′23″ E	519–816	63,871
Novi Grad	47.2	47.2	43°51′09″ N 18°23′07″ E	482–850	122,751

*Data obtained from the Federal Bureau of Statistics (Federalni zavod za statistiku, 2020).

of traffic, climate change effects, increased urban densification, and the financial circumstances of urban residents in critical situations such as epidemic crises and energy crises, there is increasing pressure on environmental quality. Therefore, the possible need to increase the area of green spaces is anticipated. Information on the current state and quality of green areas is crucial for assessing minimum values and recommending standards.

This study assesses UGS indicators (the share of UGS, the total UGS per capita, and the public UGS per capita) for Sarajevo. Furthermore, it proposes a minimum area of UGS per capita and further determine the minimum functional UGS area per capita. In addition, it discusses the methodological approach used and its applicability and relevance for UGS quantity and quality assessment.

2 Materials and methods

2.1 Study area

The study area was the urban part of Sarajevo, which is located in the southeastern part of Bosnia and Herzegovina and administratively belongs to the Sarajevo Canton. The total area is 141 km², or 11% of the territory of the Sarajevo Canton (Table 1). The study area spatially encompasses the urban area of the four central municipalities defined by the Spatial Plan of the Sarajevo Canton for 2003–2023 (SCr. *Prostorni plan Kantona Sarajevo za period 2003–2023.*, Sl. N. KS, no. 26/06), specifically the municipalities of Stari Grad, Centar, Novo Sarajevo, and Novi Grad, which together constitute Sarajevo. The city borders the municipalities of Vogošća and Ilijaš to the north and northwest, and the municipality of Ilidža to the west, and the southern and eastern borders are the Republika Srpska (Figure 1). The elevations of the vertical profile range from 482 m in the valley of the Bosna River to 1,534 m on Mount Bukovik. The city centre is located at an average elevation of 511 m. Due to the vertical dispersion of the relief, the slope and valley parts of the city are distinguished, which leads to differences in the microclimate of individual settlements; these differences can cause temperature inversions, a reduction

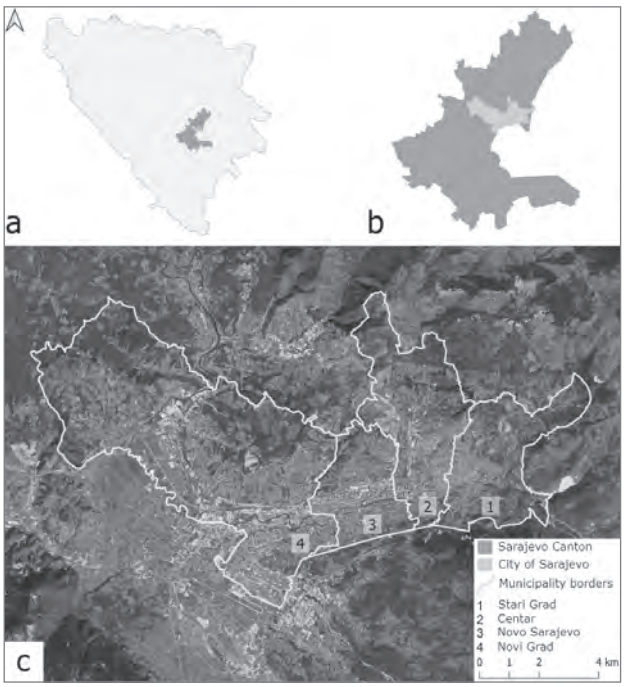

Figure 1: a) location of the Sarajevo Canton within Bosnia and Herzegovina; b) location of Sarajevo within the Sarajevo Canton; c) four municipalities in the urban area of Sarajevo (source: Google Satellite, 2022).

in the intensity and frequency of winds, the occurrence of local winds, and a contribution to the urban heat island effect (Općina Novo Sarajevo, 2023).

2.2 Sentinel-2A satellite image analysis

Sentinel-2A satellite images were used in this research to compare the results of the unsupervised classification with the total urban green space obtained by photointerpretation and manual vectorization of UGSs. We used 99.5% cloud-free, orthorectified, and radiometrically corrected (processing level 1C) S2A images of the study area. These images were acquired in July 2020 and were provided by the Copernicus Sentinels Scientific Data Hub (https://scihub.copernicus.eu/dhus/). Four types of vegetation characterizing 10 m spectral bands were used: blue, green, red, and infrared. The method of

Table 2: UGS classification.

Public UGSs	Limited-access UGSs	Special-purpose UGSs
Large parks	Around facilities and structures	Cemeteries
Forest parks	• Sports and recreation	Plant nurseries
Small parks	• Education	
Roadside green spaces	• Health	
Along watercourses	• Industrial	
Around apartment buildings	• Religious	
	• Institutions	
	• Commercial	
	• Individual houses	
	Urban forests	
	Agricultural land	
	Specialized parks	
	• Arboretums	
	• Zoos	
	• Botanical gardens	
	• Memorial parks	

Source: Vujković (2003).

unsupervised classification (hill climbing, $k = 2$, normalized) of the Sentinel-2 satellite images was applied using SAGA-GIS software to obtain a binary classification of land cover: vegetation and non-vegetation. Areas classified as vegetation were converted into vector polygons.

2.3 Visual interpretation, manual vectorization of orthophoto images, and UGS classification

Orthophoto images of the study area, dating from June 2009 and with a 0.5 m resolution, were used as a primary base for the manual vectorization of urban green spaces (Zavod, 2024). Additional tools used for vectorization and UGS classification were Google Hybrid data, integrated in QGIS software and geodata from the government website Geoportal.ba from March to May 2022. The UGSs were manually polygonized using QGIS software. Each polygon was subsequently assigned a corresponding UGS class based on the categories presented in Table 2, integrating spatial data with the in-depth knowledge about the urban area contributed by the experts involved, and ensuring a comprehensive understanding of the area's characteristics.

The UGSs were classified into three large groups that compose urban green infrastructure: 1) public UGSs, 2) UGSs with limited access, and 3) UGSs with special purposes (Table 2), following the classification given by Vujković (2003). Classification is based on the differences in land and green space use, the functions of green spaces in the urban structure, and the spatial arrangement of green spaces. Public urban green spaces are considered the most important element of urban green infrastructure because they provide almost all the main functions, especially social functions. They are central places of gathering and social interaction for residents, provide recreation services, and are usually distributed such that they are accessible to a larger proportion of the urban population. Urban green spaces with limited access include green areas for which the population has limited access due to the character of the space, special categories of users, entrance fees, and so on. The functions of these green spaces include aesthetics, culture, education, and recreation, in addition to ecological functions. Urban green spaces with special purposes are represented by classes of special functions, such as regulating (e.g., water protection zones), cultural (e.g., cemeteries), or provisioning (e.g., plant nurseries).

Large parks are public green spaces greater than 1.5 hectares, and small parks are less than 1.5 hectares. Roadside green spaces are landscaped areas adjacent to roadways, including road verges, median strips, and buffer zones. Green spaces along watercourses are landscaped areas next to bodies of water, designed to prevent erosion, improve water quality, and provide natural habitats for wildlife and recreational opportunities for the community. Green spaces around apartment buildings contribute to residents' wellbeing by offering areas for relaxation, outdoor activities, and community interaction. Forest parks are wooded areas combining preserved forest habitats with a variety of recreational facilities for outdoor activities. Cemeteries are important green spaces that offer serene environments for reflection and contemplation. Plant nurseries are used to produce plant material in open spaces. Green spaces around sports and recreation facilities provide natural surroundings for sports complexes and outdoor activity areas,

offering environments for relaxation, social interaction, and additional activities. Green spaces around educational facilities provide natural environments adjacent to schools, universities, and other educational institutions, enhancing the educational experience by promoting outdoor learning, physical activity, and social interaction. Green spaces around health facilities provide natural environments adjacent to hospitals and clinics that promote relaxation and recovery, and enhance mental wellbeing. Green spaces around industrial facilities neutralize negative impacts of production on surrounding areas. Green spaces around religious facilities enhance the surroundings of places of worship, providing tranquil environments for reflection and community gatherings. Green spaces around commercial facilities enhance the surroundings of businesses and shopping centres by providing pleasant environments for customers and employees, creating inviting outdoor spaces for relaxation and social interaction. Green spaces around individual houses are predominantly private yards on the outskirts of urban areas. Urban forests are densely wooded areas that maintain a natural landscape with minimal human intervention, prioritizing the preservation of existing ecosystems and playing a vital role in enhancing urban ecology. Agricultural land in urban areas includes community gardens, urban farms, and other green spaces dedicated for food production, contributing to promoting local food systems and enhancing food security. Specialized parks are landscaped areas that focus on specific themes or purposes. These include arboretums, zoos, botanical gardens, and memorial parks.

2.4 The standards approach: Determining green space indicators

This study analyses the following quantitative green space indicators: the share of UGS in the total urban area (%), total UGS per capita (m^2), and public UGS per capita (m^2). The share of UGS characterizes the ecological and biological effectiveness of greenery. It is determined by the ratio of the total area of UGS to the total urban area (Equation 1).

$$\text{Share of UGS} = \frac{\text{total area of UGS}}{\text{total urban area}} \times 100 \quad (\%) \quad \text{(Equation 1)}$$

Total UGS per capita is determined by the ratio of the total area of UGS to the population of the urban area (Equation 2).

$$\text{Total UGS per capita} = \frac{\text{total area of UGS}}{\text{population}} \quad (m^2 \text{ per capita}) \text{ (Equation 2)}$$

Public UGS per capita is used to evaluate the social effectiveness of greenery. It is determined by the ratio of the total area of public green spaces to the population of the urban area (Equation 3).

$$\text{Public UGS per capita} = \frac{\text{total area of public green spaces}}{\text{population}} \quad (m^2 \text{ per capita}) \text{ (Equation 3)}$$

3 Results

3.1 Total urban green space

The total UGS area for Sarajevo was 62.1 km^2, which was obtained via unsupervised classification based on Sentinel-2A satellite images; this value is roughly similar to the 58.5 km^2 found via manual UGS vectorization. The municipality of Novi Grad has the largest total UGS (i.e., 34.1 km^2), followed by the municipalities of Centar and Stari Grad (10.9 km^2 and 9.2 km^2, respectively), and the municipality of Novo Sarajevo has the smallest UGS area (4.2 km^2). The difference between the total UGS area and the built-up and other grey areas, obtained by unsupervised classification of the Sentinel-2 satellite images and manual mapping, is approximately 6% because of differences in spatial resolution. Differences are noticeable at polygon boundaries with preserved main information about the areas (Figure 2). Continuous green spaces are present in hilly and mountainous areas of the city, whereas more built-up zones are present in the flat topographic units.

3.2 Urban green space classification

Based on the results of the manual vectorization of UGSs, twenty-one classes of UGS in Sarajevo were identified. The spatial distribution of the UGS classes is the opposite of that of all white areas, where there is little or practically no greenery (Figure 3). These are the most densely built-up areas.

Public UGSs account for 8.79 km^2 (15.0%) of the total UGS area in Sarajevo (Table 3). Limited-access spaces, with a total of 49.05 km^2 (83.9%), comprise the largest part of the total UGS. UGSs with special purposes account for the smallest share: 0.66 km^2 or 1.1%.

Forest parks (10.1%), green spaces around apartment buildings (3.1%), and large parks (0.6%) comprise the largest share of public UGS in Sarajevo. Agricultural land (42.4%), urban forests (23.9%), and green spaces around houses (12.3%) are the most common types of limited-access UGS in Sarajevo.

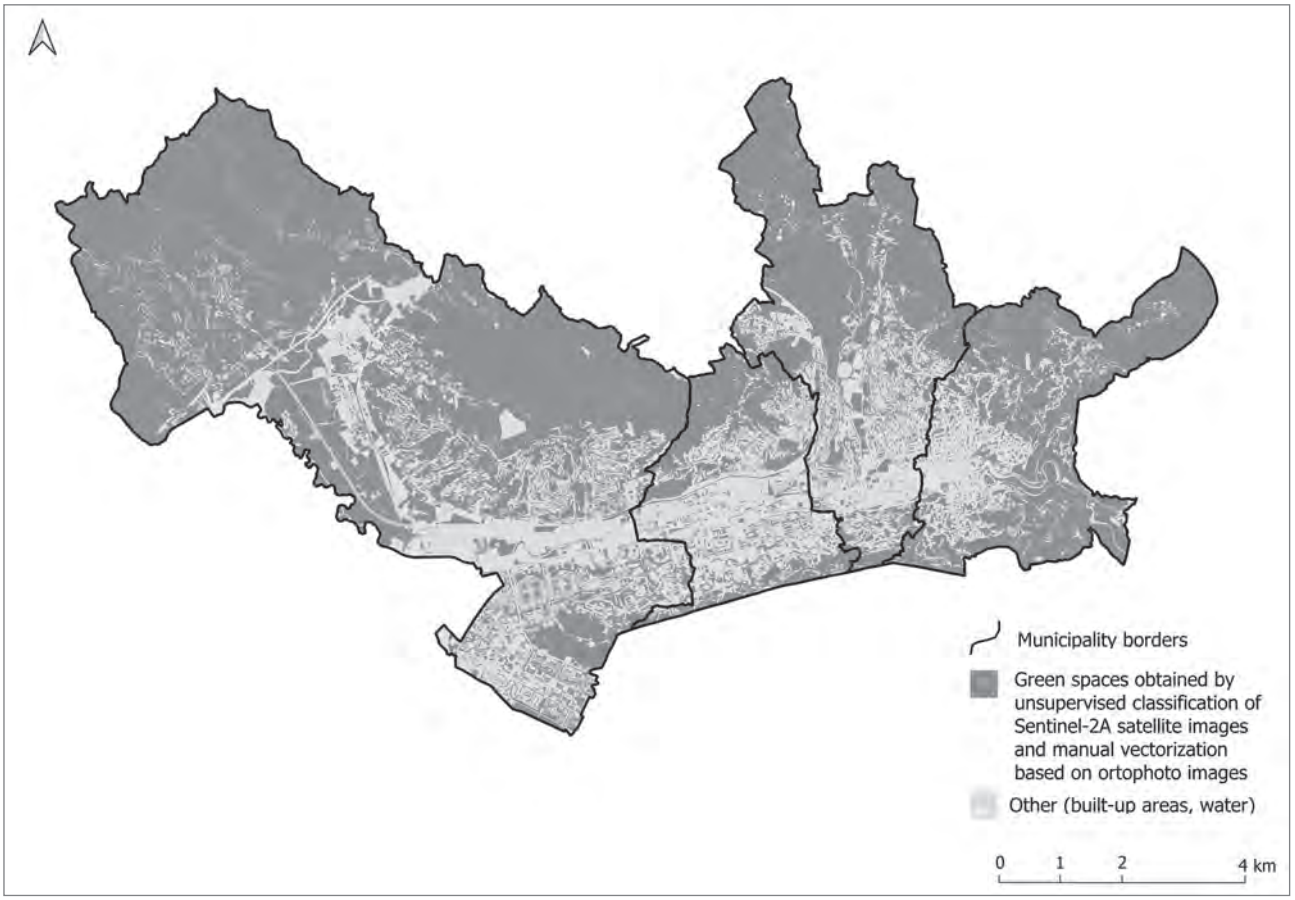

Figure 2: Spatial distribution of green (UGS) and grey areas in Sarajevo obtained by unsupervised classification of Sentinel-2A satellite images and visual interpretation and manual vectorization based on orthophoto images (illustration: authors).

Forest parks have the largest share of public UGS in all municipalities; they are usually located on the periphery of the research area and are less accessible to many residents of the city centre. Green spaces around apartment buildings rank second in terms of the share of public UGS. Parks are found only in the municipalities of Centar and Novo Sarajevo, where they account for 2.56% and 1.15%, respectively, of the total green space. The structure of UGSs with limited access differs with regard to municipalities. In the municipalities of Stari Grad, Centar, and Novi Grad, the most common classes are agricultural land, urban forests, and green spaces around individual houses, whereas in the municipality of Novo Sarajevo the most common classes are agricultural land, green spaces around houses, and green spaces around educational facilities.

3.3 Green space indicators

The share of green space based on manual vectorization in Sarajevo is 64.2%. This result is roughly similar to the value obtained by the unsupervised classification of satellite images, where the share of green space is 70.4% (Table 4).

The total UGS is 203.6 m^2 per capita in the urban area of Sarajevo. The indicators have different values with respect to the city area (Table 4). However, most municipalities have similar shares, ranging between 68% and 72%, and the total UGS per capita ranges between 207.0 and 277.8 m^2. Only the municipality of Novo Sarajevo has substantially lower values of the UGS share and the total UGS per capita: 45.6% and 65.7 m^2, respectively.

The obtained value of the public UGS per capita is 28.0 m^2 for the area of Sarajevo. Two municipalities, Novi Grad and Centar, have higher values of 42.8 and 33.8 m^2 per capita, respectively, and the other two municipalities, Stari Grad and Novo Sarajevo, have lower values of 16.8 and 18.6 m^2 per capita, respectively. When assessing the public UGS per capita, if forest parks, which are usually located on the periphery of urban areas, are excluded, the total public UGS per capita is 9.8 m^2 for Sarajevo. The lowest result is obtained for the municipality of Stari Grad, at only 1.4 m^2 per capita.

Because public green spaces provide the most social functions and are usually available to a large number of urban residents within a short distance, quantitative UGS indicators are pre-

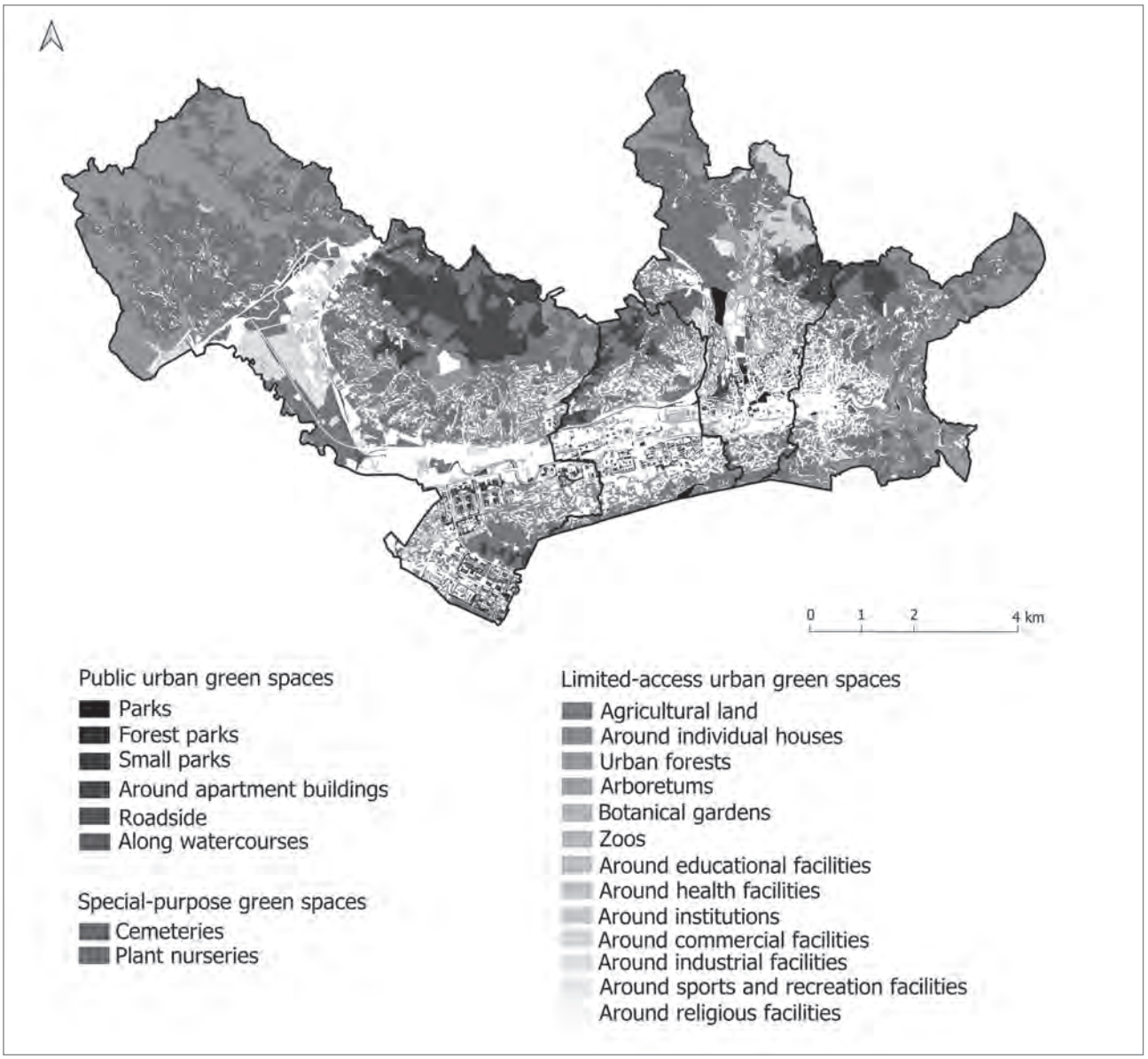

Figure 3: UGS classes in Sarajevo (municipalities of Novi Grad, Novo Sarajevo, Centar, and Stari Grad (illustration: authors).

Table 3: Areas of UGS classes and class shares by municipality and for Sarajevo (hectares).

UGSs		Stari Grad	Centar	Novo Sarajevo	Novi Grad	Sarajevo (total)
Public	Area	65.2	180.5	107.3	525.9	878.9
	Class abundance (%)	7.1	16.5	25.5	15.4	15.0
Limited-access	Area	837.3	874.6	312.0	2,881.3	4,905.1
	Class abundance (%)	90.7	79.9	74.1	84.5	83.9
Special-purpose	Area	20.9	39.9	1.6	3.7	66.0
	Class abundance (%)	2.3	3.6	0.4	0.1	1.1
Total	Area	923.4	1,095.0	420.9	3,410.8	5,850.0
	Class abundance (%)	100.0	100.0	100.0	100.0	100.0

Source: authors.

Table 4: Quantitative UGS indicators by municipality and for Sarajevo.

Municipality	Green space (%)	UGS per capita (m^2)		
		Total	Public	Public (excluding forest parks)
Stari Grad	71.4	263.7	18.6	1.4
Centar	67.7	207.0	33.8	19.1
Novo Sarajevo	45.6	65.7	16.8	7.6
Novi Grad	72.1	277.8	42.8	11.0
Sarajevo (total)	64.2	203.6	28.0	9.8

Source: authors.

Table 5: Public UGS (m^2) per capita for selected UGS classes by municipality.

UGS class	Municipality			
	Stari Grad	Centar	Novo Sarajevo	Novi Grad
Large parks	0	5.3	0.8	0
Small parks	0.6	0.7	1.1	1.1
Forest parks	17.2	14.8	9.2	31.9
Around apartment buildings	0	12.3	4.6	6.9

Source: authors.

sented for the following UGS classes: large parks, forest parks, small parks, and green spaces around apartment buildings (Table 5).

4 Discussion

4.1 Green space indicators

Regarding the intensity of the decrease in area of green spaces, applying the UGS standards approach is an effective measure for preserving these spaces. The obtained UGS indicator of 28 m^2 per capita for Sarajevo indicates an insufficient optimal UGS area. It also shows that the established goal of 47.9 m^2 per capita (Urbanistički, Sl. N. GS, no. 7/86) was not met. As an optimal value of UGS, 50 m^2 per capita is proposed by the World Health Organization (World Health Organization, 2012). This value is considered the most favourable for the general health of the population (Morar et al., 2014).

The spatial accessibility of UGSs is crucial for maximizing the overall benefits that these areas offer to communities. Based on this study, only 9.8 m^2 is regarded as more easily accessible to residents because most forest parks are found on the slopes of the city. Although UGSs fulfil essential ecological functions, their sociological impact can diminish if they are not spatially accessible to a large share of the population. Differences in the accessibility of UGSs can reflect broader socioeconomic inequalities in urban areas, particularly in low-income neighbourhoods that typically have fewer UGSs, leading to worsening social disparities (Dai, 2011). Furthermore, limited accessibility of UGSs can result in decreased physical activity among the population, contributing to a sedentary lifestyle and associated health problems, such as obesity and cardiovascular diseases (Giles-Corti et al., 2005; de Jalón et al., 2021).

Based on the calculated indicators, relative to the recommended UGS standards (Herzele & Wiedemann, 2003), this study indicates necessary limitations in the expansion of construction land for a sustainable urban environment. According to the 1986 spatial plan (Urbanistički, Sl. N. GS, no. 7/86), a scarcity of green areas can be observed. Over time, these areas are characterized by unsustainable urban development and have become increasingly less common in Sarajevo. However, the city is surrounded by natural forest areas; these contribute to the correction of UGS standard values, which should be evaluated.

4.2 Minimum functional green public space per capita

The results indicate that the total share of green space per capita is 64.2% (or 203.6 m^2 per capita), which is satisfactory for Sarajevo. The average share of total green infrastructure for thirty-eight European capital cities is 42% (European Environmental Agency, 2022), and Maes et al. (2019) estimated that the average cover of core cities in Europe with UGSs is 40%. The estimated value according to the study of the European Environmental Agency (2022) for Sarajevo is 46%. The differences between the results are likely primarily attributable to

the fact that not all types of green spaces were included, as in this study. A clear spatial pattern of UGS quantity can be seen in Europe: the lowest UGS provision occurs in southern and eastern Europe, increasing toward the north and northwest (Fuller & Gatson, 2009; Maes et al., 2019; European Environmental Agency, 2022). The reason for the relatively high share of UGS in Sarajevo is that, in places, the urban part of the city includes less built-up peripheral areas with larger agricultural areas and forested land, especially the urban part of the municipality of Novi Grad. These areas are mostly functionally limited in terms of providing multiple direct benefits for the population and are not accessible to a large number of residents. However, they possess very important habitat, regulating, and/or provisioning ecosystem functions. Thus, it is important to consider the quantity of functional public UGSs that provide the broadest range of benefits, focusing on their preservation and improvement, primarily by establishing a minimum public UGS per capita.

Our results show that the share of public UGSs in the total area for Sarajevo is 10.2%, whereas the estimated share according to the European Environmental Agency (2022) is 5%. The estimated total public green space per capita at the municipal level also shows an expected inconsistency. Some municipalities have higher UGS values (Novi Grad and Centar), whereas others have lower ones (Stari Grad and Novo Sarajevo). This depends on their functional role in the structure and historical development of the city. Therefore, it is important to consider the variability of urban environments in establishing UGS standards, given that certain neighbourhoods have specific urban characteristics and needs.

In a study of the mid-term and long-term development of communal activities in the city focusing on urban greenery, optimal per capita norms were proposed for the following UGS classes: 8 m^2 for large parks, 4 m^2 for small parks, 100 m^2 for forest parks, and 8 m^2 for green spaces around apartment buildings. Based on the results of green space indicators for the entire urban area of Sarajevo, it can be concluded that the optimal values proposed are not met in any of these classes. The results for Sarajevo as a whole were as follows: large parks (1.2 m^2 per capita), small parks (1.0 m^2 per capita), forest parks (21.4 m^2 per capita), and green spaces around apartment buildings (6.5 m^2 per capita).

Based on the results obtained from this analysis, Sarajevo has the potential to develop into a sustainable green-blue city. However, because the most densely populated parts of the city have the least amount of green space and because the spatial accessibility of UGSs that would satisfy the population's minimal needs is questionable, it is necessary to work on amending the current urban planning laws and on prescribing standards for UGS to ensure a sufficient quantity of UGSs. Urban planning guidelines specifically focused on UGSs should be developed and integrated into spatial planning, ensuring the preservation of existing urban green infrastructure and requiring investors to incorporate a sufficient percentage of green space in new projects. Public UGSs should be safeguarded through legal measures and formally recognized as public goods to prevent their conversion into built-up areas (Ballian et al., 2021). It is essential that guidelines adhere to a minimum standard of 9 m^2 of public UGS per capita. In peripheral parts of the city, where more land is available, the focus should shift toward achieving an optimal standard of public UGS per capita, tailored to the specific needs of different neighbourhoods, taking into account factors such as population density and the existing quality of UGSs. Given Sarajevo's unique topography, it is crucial that changes in spatial planning documents prioritize the protection of high-value agricultural land, urban forests, and forest parks. Agricultural land serves as a critical ecological buffer, offering essential services such as soil conservation and food production. These areas are particularly valuable in peripheral zones on sloped terrain, where they also aid in stormwater management and soil erosion control. Urban forests and forest parks, located primarily on the city's outskirts, help maintain ecological connectivity between urban and rural environments, while also contributing to stormwater management and soil stabilization. Linear green spaces, such as tree-lined streets and UGSs along watercourses, are often overlooked but are a crucial component of urban green infrastructure. These spaces are typically not well defined in higher-order spatial planning documents but are essential for creating continuous networks of green corridors that connect disparate green spaces across the city. In addition to providing recreational paths, these spaces serve as vital connectors for biodiversity, urban cooling, and improving air quality and ventilation. Given the limited opportunities for new larger UGSs in Sarajevo's central, highly built-up areas, it is important to preserve and expand existing linear green spaces and introduce alternative forms of urban greenery. Finally, involving the public in planning processes, surveys, and focus groups would contribute to improving UGSs that resonate with the preferences and needs of local populations, ensuring that UGS standards reflect community values.

4.3 Methodological approach, applicability, and relevance

This study makes some important contributions to understanding UGSs in Bosnia and Herzegovina because it provides basic information about the quantity, spatial arrangement, and classes of UGSs; as such, it is the first known research of this type and scope at the level of Sarajevo and the individual

municipalities within the city. In terms of spatial and thematic detail, it exceeds the data available in the Urban Atlas project and other geospatial data about UGSs in Sarajevo. More precise planning decisions require higher-resolution input data. The proposed approach combines automatic recognition of green and nongreen areas derived from Sentinel-2A data and more detailed manual vectorization and classification of UGSs based on higher resolution orthophotos. Therefore, the methodological approach in this article is applicable to all urban areas in Europe. The spatial information obtained using these methods has the potential for ongoing and easy modifications over time. The findings of this study will help in better understanding UGSs in Sarajevo and can serve as a reference for decisionmakers and policymakers for spatial planning and the general management of urban space in landscape architecture, for the recommendation of UGS norms in future spatial plans, for the preservation and improvement of existing UGSs, and for the protection of valuable ecosystem services. Furthermore, the results provide a basis for future research in this field and can provide better insight into the condition, quality, and significance of UGSs, spatial accessibility, and the ecosystem services that UGSs provide to improve their management. It is recommended that the study be extended to other municipalities in the Sarajevo Canton, considering the level of urbanization and the potential for improving urban green infrastructure, as well as other larger urban areas in Bosnia and Herzegovina, to gain insight into the state of UGSs and generate a basis for planning and managing greenery in accordance with sustainable city development.

4.4 Limitations

Although this study offers significant insights, there are limitations that may affect the accuracy of its findings. The temporal gap between the study period and orthophoto images may result in discrepancies in UGS vectorization, although additional geospatial data, including Google Hybrid data, together with the geospatial data available at the government website Geoportal.ba, served to partially address this challenge. Second, the UGSs classification methodology was based on integrating geospatial data with in-depth knowledge of the urban area, without complementary methods such as on-site visits. This may result in UGS classification inaccuracies. Future research should aim to utilize more current geospatial data and explore advanced classification methods to mitigate these limitations, improving the accuracy and applicability of the results.

5 Conclusion

Because official data on the urban area are not known, this study provides reliable information on the categories of urban green spaces in Sarajevo. In addition, based on the indicators of green spaces, it is possible to evaluate the quality of urban space by comparing it with known standards. The total public urban green space per capita was 28.0 m^2, or 9.8 m^2 if forest parks were excluded. The quantitative standards were not met with regard to the recommended optimal standards proposed in 1985 for Sarajevo or the optimal standard of 50 m^2 per capita recommended by the World Health Organization. The findings presented will help in better understanding urban green spaces in Sarajevo and serve as a reference for decisionmakers and policymakers for spatial planning and the preservation and improvement of existing spaces.

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The unutilized potential of temporary use of space: A case study of Avtomatik Delovišče, Koper

Degraded, underutilized, or abandoned spaces are a formidable challenge and an unused opportunity for many contemporary cities. In such cases, temporary use of space has proved to be an efficient spatial practice, allowing the best use of spatial resources of a particular place and time. During the last two decades, temporary use of space has become the subject of much debate and unambiguous praise in academic circles, primarily validated as a socially progressive, economical, and flexible spatial practice that may initiate an innovative, new, and inclusive culture of urban life. It is considered a catalyst for change that, using experimental solutions, can relatively quickly revive degraded spaces while at the same time preserving their individual, historical, and environmental qualities. This article verifies theoretical approaches to the temporary use of space with the results of a participatory case study of Avtomatik Delovišče in the Slovenian city of Koper. The study focuses on the effects of the spatial practice applied in the urban environment and, consequentially, its potential role in urban regeneration. With the help of a multiple case study of temporary uses in various cities in Slovenia, the main goal is to determine the extent to which alternative, experimental, and temporary spatial interventions can contribute to increased urban diversity, community involvement, creativity, innovation, and local identity. Furthermore, the article examines the ways in which temporary use is perceived and accepted by the residents, professional community, and official representatives of the City Municipality of Koper.

Keywords: temporary use of space, degraded urban areas, sustainable urban development, regeneration, social cohesion, cultural capital, Koper, Slovenia

1 Introduction and background

In the twenty-first century, temporary use of space has gained increased attention from academic circles and politics, as well as the general public, rising to prominence as a frequently used spatial practice in many European cities (Stevens & Dovey, 2023). The potential contribution of temporary use of space to European urban development has been the subject of a large number of books, studies, and articles, among them Haydn and Temel (2006), SfS (2007), Bishop and Williams (2012), Colomb (2012), Andres (2013), Oswalt et al. (2013), Lydon and Garcia (2015), Madanipour (2017a), and Stevens and Dovey (2023). This article focuses on authors that are important in the Slovenian context.

For some time, the concept of the temporary use of space in Slovenia has been present in various spatial phenomena; for instance, in gardening, informal stands, and parking spaces. However, new applications of the concept, focused on urban revitalization, have multiplied and become established mainly during the last decade (e.g., Mreža za prostor, 2018; Šifkovič Vrbica et al., 2014; Šifkovič Vrbica, 2015; Jurman & Lovšin, 2021). It is important to note the relative lack of research literature dealing with temporary use of space from the perspective of urban regeneration in the Slovenian context (exceptions being Kurnik & Beznec, 2009; Uršič, 2011; Cvejić et al., 2015; Pignar, 2015; Vilfan, 2015; Cotič & Lah, 2016; Cotič, 2023; Gatouillat & Nikšič, 2023). Many more contributions deal with participation in spatial planning in Slovenia, in which temporary use is regarded as merely one of the potential participatory spatial practices contributing to urban regeneration (Cerar, 2015; Uršič, 2021).

Recently, a number of important practical cases of temporary space use in Slovenia have been formed under the auspices of non-governmental organizations (NGOs), particularly cultural and artistic societies whose activities are directed in various ways toward sustainable spatial planning. Current practices include Participativna Ljubljanska Avtonomna Cona (PLAC, Ljubljana), GT22 (Maribor), and the recently established AKC Nama (Škofja Loka). Concluded cases of practices that have left their mark on space in various ways, primarily in the form of sociocultural and sustainable impacts, include Onkraj Gradbišča (Ljubljana), Kreativna Cona Šiška (Ljubljana), Tobačna Tovarna (Ljubljana), Avtonomna Tovarna Rog (Ljubljana), Carinarnica (Nova Gorica), Ustvarjalna Platforma INDE (Koper), and Avtomatik Delovišče (Koper). It is evident from the above that the hub of such practices was Ljubljana, with other Slovenian cities trailing behind.

The spatial practice of temporary use has turned into a new urban trend in European cities for several reasons. They include the recent economic crisis and the concomitant stress on reuse and recycling strategies, as well as limited resources, concerns for the preservation of architectural heritage, growing awareness of the importance of sustainable development, and the increasing importance of participation in spatial planning (UEL, 2019, 2020; Galdini, 2020; Uršič, 2023; HEI-TRANSFORM, 2024). Technological changes and increasing insecurity in the labour market both promote creativity, new cultural trends, social innovations, and a number of flexible and transitional spatial practices, and they stimulate multidisciplinary reflection on possible tools for urban spatial planning. Practices of temporary use, or temporary urbanism, are an alternative method of urban planning, aimed at activating spaces in need of transformation, which in turn leads to socioeconomic changes in the environment (Blumner, 2006; Andres & Kraftl, 2021). Temporary urbanism is defined as the temporary nature of urban planning, with the emphasis on two key concepts: time and temporality (Madanipour, 2017b). Temporality reflects modern conceptions of time and societal fragmentation, along with the need for experimentation and innovation. Temporary urbanism acknowledges multidimensional interactions and the need for adaptability and responsiveness to ever-changing urban rhythms (Andres & Kraftl, 2021). It includes temporary, primarily informal, and especially bottom-up-directed practices performed by public, private, and civil society stakeholders (Henneberry, 2017; Madanipour, 2017b). Their primarily collective character helps pave the way for social innovations and solidifies social cohesion and environmental values (Simões Aelbrecht, 2022). Simultaneously, they can support economic activities and encourage the valorization of cultural heritage, while acting as a counterweight to rigid formal spatial planning (see, e.g., HEI-TRANSFORM, 2024). In light of the failure of traditional developmental strategies, according to De Smet (2013), practices of temporary use of space allow for an experimental and playful search for solutions, as well as a very definite one. According to Lehtovuori and Ruoppila (2012: 30), temporary uses possess the "capacity and goal to explore further potentials of places they are located" in. "Hence, they form a category between momentary events and permanent (re)development." Earlier studies also indicate the efficiency of temporary users' interventions in urban regeneration because they are not focused solely on space and its physical renovation or transformation but on human beings and the social aspect of spatial production itself (Klafft, 2014; Marra et al., 2016). The human and social aspects are precisely the key characteristics of this spatial practice.

The above discussion provides the theoretical context for the study of the role and significance of temporary use in urban regeneration in the case of Avtomatik Delovišče (hereinafter,

Delovišče). Various qualitative research methods are employed to verify the spatial effects of this small-scale, experimental, and temporary intervention. A comparative multiple case study of temporary uses in certain other Slovenian cities is used to determine whether such interventions can contribute to increased urban diversity, creativity, innovativeness, local identity, and integration of the local community into spatial planning. Furthermore, this article explores public and specialist attitudes toward temporary use and the systemic, or institutional, possibility of its incorporation into spatial planning for the City Municipality of Koper. The article concludes with recommendations for systemic regulation of this kind of urban regeneration, allowing for at least partially institutionalized temporary use to become part of the urban planning and developmental strategies of the local community and the municipality.

2 Effects of temporary use of space

This article focuses on extraordinary temporary uses rather than ordinary temporary uses of space. Ordinary temporary uses are commercial spatial practices frequently employed by public or private owners using profit-oriented, temporary solutions, such as charging parking fees in empty, unregulated urban areas or renting out plots for advertising billboards, for purely financial gain (Martin et al., 2019). This article discusses the key effects of extraordinary temporary uses as products of bottom-up community initiatives extending beyond economic interests and developing urban forms that, in comparison to formal urban planning and its top-down approach, are better adapted to local urban communities.

2.1 Spatial and environmental effects

Studies of temporary uses already implemented show the following physical manifestations of the spatial and environmental effects of such practices: they decrease, slow down, or even stop the physical degradation of the area and establish the conditions for resumption of activities with minimal restoration efforts, leading to redefinition of the degraded urban area (DUA) or to new functional, primarily flexible, innovative, and creative uses (Bishop & Williams, 2012; Colomb, 2012; Madanipour, 2017a). In this way, the DUA acquires new use and symbolic value (Galdini & De Nardis, 2023). Introduction of temporary uses improves the quality of the living environment and establishes a new place identity. Once concluded, temporary uses may be divided into two categories according to their physical effects on space (Cotič, 2023): those with no permanent physical changes to existing areas and construction (e.g., pop-up stores) and those causing long-term changes to existing areas and construction, which may include adaptation or removal of existing structures, restructuring of areas, changes in the microtopography of the area, or construction of new structures of a different scope (e.g., LX Factory in Lisbon or Onkraj Gradbišča in Ljubljana).

2.2 Economic effects

In most cases, temporary use is economically efficient for both the owner and the temporary user. From the owner's point of view, temporary use of the property is almost always economically beneficial because it preserves its assets, lowers maintenance costs, and prevents vandalism. In this way, the owner avoids additional costs of insurance and prevention of illegal use (i.e., occupation) of space while benefiting from lower taxes on empty property (Bishop & Williams, 2012; Colomb, 2012; Šifkovič Vrbica, 2015). In addition, the value of the property is preserved, or, in the case of property with no market value, it may even increase on account of the introduction of temporary content, while the property improves its profile and attracts more potential users (SfS, 2007: 37; Bishop & Williams, 2012: 43).

Temporary use is advantageous to temporary users because it offers access to space at low prices and thus provides an opportunity for testing and developing their own ideas in practice (Haydn & Temel, 2006; Bishop & Williams, 2012; Andres, 2013; Oswalt et al., 2013; Németh & Langhorst, 2014). The spatial practice under discussion is often accompanied by new forms of economies, such as the economy of collaborative commons, solidarity economy, or gift economy, whose impact on the location may attract new collectives and creative individuals. Temporary uses can be commercially or non-commercially oriented. Non-commercial and non-market-oriented temporary uses may attract commercial profit-oriented spatial uses (Bishop & Williams, 2012). The property owner may, for instance, lease part of an empty building for low or nonprofit rent for non-commercial purposes (e.g., a studio or a gallery), while another part, insofar as the building allows, is temporarily leased for commercial purposes (e.g., a coffee shop or other shops) for higher rent, thus simultaneously catering to the needs of visitors (Bishop & Williams, 2012). As pointed out by Colomb (2012: 136), some temporary uses are commercially oriented from the outset and are implemented as part of either a formal or grey economy, whereas others are nonprofit and carried out without the exchange of money.

2.3 Sociocultural and sustainable effects

In principle, temporary uses deliver fast and tangible results and thus encourage communities to pursue shared goals centred on local needs instead of outside interests or programmes.

For the duration of the temporary use, users' activities may produce various social and cultural-artistic content, which is an important element of intangible urban cultural and social capital (Bourdieu, 1986). At the forefront are activities primarily informed by innovative and alternative spatial practices of civil society, which are typically performed outside governmental control and are directed toward the "public good" in space, as opposed to practices driven by individual interests, which are mainly directed toward profitability and commodification of space (Madanipour, 2017a).

Studies of temporary uses of space already implemented demonstrate their potential long-term contribution to improving the quality of urban daily life and thus promoting sustainable urban development, despite their temporary, or short-term, nature (Križnik, 2015, 2018; UEL, 2019, 2020). They are characterized by a participative approach to planning, implementation, and governance (Cerar, 2015; Peterlin, 2015). Temporary uses may encourage the development of intensive and diverse social ties, enriching residents' daily lives and strengthening social capital as a vital source of the developmental potential of local communities. These factors contribute to the formation of active, inclusive, and safe "sustainable communities" characterized by social aspects of sustainability (ODPM, 2005). Other attributes typical of sustainable communities, indicated by researchers, include the sense of community in a healthy and safe environment (Burton & Mitchell, 2006), social contacts, and a stable community of residents with a sense of belonging to the place they live. At the forefront are therefore those collective and shared aspects of daily life that strengthen the social cohesiveness of an area. In addition to temporary uses, they encourage heterogeneity through concentration of different sociocultural groups, roles, information, events, and encounters. In this way, they promote creativity, urban experimentation, and a number of opportunities for the expression of various individual and collective needs, in contrast to closed, standardized, and socially uniform urban areas (Uršič, 2011: 8). Such activities, in marked contrast to alienated and time-consuming spatial planning, demonstrate that it is possible to change the city for the better (Peterlin, 2015: 6).

It follows that, with their contribution to the social, cultural, and economic diversity and influence on local production and consumption, temporary users and their activities may both enrich the cultural attractions of the city and help regenerate DUAs (Uršič, 2011; Madanipour, 2017b; UEL, 2019; UEL, 2020). Madanipour (2017b) points out that temporary users, applying their embodied and cultural capital, can significantly contribute to the economic value of a DUA and, as a consequence, help change the perception of the affected area and speed up its development. However, the implicit danger of this approach is that creative non-commercial temporary uses attract commercial spatial uses and open the door not only to DUA regeneration but also to possible abuse. Creative regeneration of an area, prompted by temporary users, and the consequential increase of its value and appeal can result in urban gentrification, with non-commercial activities of temporary users being squeezed out (Uršič, 2011; Colomb, 2012; Tardiveau & Mallo, 2014; Cerar, 2015; Madanipour, 2017b). No cases of systematic abuse of temporary use as a means of increasing property values have been recorded in Slovenia so far, which of course does not mean such incentives will not come into play in the future. It is then safe to assume that the above processes ultimately depend on the urban environment in which the temporary use is implemented, the type of temporary use, the effectiveness and popularity of the temporary content, and the initiator of the temporary use (Jurman & Lovšin, 2021; Cotič, 2023).

2.4 Risks and negative effects of temporary use of space: commodification, gentrification, and touristification

Temporary use can be understood in contradictory ways. On the one hand, it can offer new opportunities to creative entrepreneurs, civil initiatives, and local activities. On the other hand, it can become an instrument of metamorphosis used by trademarked companies and corporations to establish new market niches and attract new consumers (Ferreri, 2016; Madanipour, 2017b; UEL, 2019, 2020). Imitation and exploitation of urban culture change the meaning of temporary use, turning it into a much-desired social trend (Colomb, 2012: 144; Madanipour, 2017b). This shift from need to choice has a direct influence on temporary users, who can unwittingly become actors involved in commodification, gentrification, and touristification. Colomb (2012) uses the case of Berlin to illustrate how intentional integration of temporary uses, initiated by policymakers and real estate investors, puts pressure on temporary users, endangers their existence, and destroys the spontaneous and experimental nature of their practices. The consequences of such actions are commodification, metamorphosis, ousting, and disappearance of alternative and non-commercial temporary uses, leading to intensive conflicts. Such processes negatively affect many grassroots venues intended for culture, art, and entertainment. Because temporary uses revitalize DUAs, they contribute to the increase in value of these areas and trigger commodification, gentrification, and touristification. While acknowledging the utility of temporary uses in the formation of good market conditions or the creation of new content, the responsible authorities usually ignore the fact that temporary users necessarily need their support to continue their activities. Simultaneously, due to the globalization of the

Table 1: Interviewees, their functions, and representative roles in Koper.

Interviewee	Function	Role
IN1	Public employee, Institute for the Protection of Cultural Heritage, Piran	Institutional
IN2	Public employee, Office of Spatial Development and Real Estate, Koper	Institutional
IN3	Landscape architect and temporary user of Delovišče	Expert
IN4	Architect and bureau chief, Koper	Expert
IN5	Professional advisor, Pina Cultural and Educational Society	NGO
IN6	Member of Independent Riviera Radio and initiator of Inde Creative Platform	NGO
IN7	Representative of the local community Koper Center	Institutional

gentrification trend and the intensification of renovation and regeneration of urban centres, creative individuals and groups are faced with a decreasing likelihood of finding low-cost urban spaces in which they can experiment and develop their content.

Temporary use is thus a flexible form of spatial production, offering different opportunities to different stakeholders: circumvention of the image of urban decay to public authorities, low-cost access to space to creative individuals, maximized use of property to owners, and gentrification to real estate companies (Madanipour, 2017b). Adopting a brilliant cultural trend, the humanitarian façade promotes and normalizes precarity and squeezes out those that must move on once the short-lived opportunity is finished. As such, temporary use is part of broader urban processes, with multifaceted economic, social, and cultural consequences for assorted stakeholders.

3 Methodology

Various possibilities of temporary use were verified by an analysis of primary data based on the participative case study of Delovišče (participant observation) and structured and semi-structured interviews with stakeholders on site. Primary data were compared with an analysis of secondary data from a multiple case study of temporary space uses in other Slovenian cities. The research explored the effects initiated in space by the temporary use of space, its reception by residents and the professional community, and the relationship established by the City Municipality of Koper. The entire study is grounded in research carried out between 2017 and 2022.

Participant observation was conducted for the duration of the temporary use by Delovišče in the Tomos Tower Block from November 2019 to March 2020 as part of events organized by the C3 Cultural and Artistic Society. Various observational strategies allowed for interchangeable roles of researchers as both outside and in-group observers; that is, as active co-initiators and co-operators of the spatial practices established in the development of temporary spaces. In this way, Delovišče became an experimental environment, interlinking both theory and practice.

These results were complemented by unstructured interviews conducted between November 2019 and March 2020 with individuals that, in one form or another, were involved in the temporary use of space in the Tomos Tower Block; that is, initiators and temporary users. The interviews took the form of open-ended conversations, with questions formulated in real time to determine the interviewees' estimation of the spatial practice and its role in Koper.

In addition, semi-structured interviews were used to determine the opinions of the stakeholders directly or indirectly involved in spatial issues in Koper. The first author selected seven interviewees by purposive sampling, based on specific criteria: two experts (IN3, IN4), three representatives of institutions (IN1, IN2, and IN7), and two representatives of NGOs (IN5, IN6; see Table 1). All interviews were conducted in May and June 2022. The questions were directed toward comprehensive research on the concept of temporary use and its importance for the regeneration of DUAs in Koper. The purpose of the interviews was to determine the interviewees' assessment of temporary use, its role in preventing the degradation of DUAs, and the key factors obstructing its implementation.

The multiple case study method was used in addition to the participative case study to better understand the functioning of temporary use of space. Three different cases of temporary use in Slovenia were selected, varying in location, type of temporary use, temporary content, time component, and ownership. Each case was analysed according to the context of spatial implementation, the initiative incentive, and the effects prompted in its surroundings. Data were obtained through field observation and narrative interviews involving key initiators of the spatial practices. The interviews were conducted

between 2017 and 2022. Primary data were complemented with secondary sources.

4 Participative case study: Temporary use of space in Delovišče

4.1 Main characteristics of the temporary use of space in Delovišče

Delovišče is the first example of a formal extraordinary temporary use of space on the Slovenian Riviera, formed as a communal creative experiment (Cotič, 2023) and in operation from November 2019 to March 2020 on the ground floor of the Tomos Tower Block at Nazor Square (*Nazorjev trg*) 5, in the historical urban centre of Koper. The Tomos Tower Block was built in 1958 as part of the Belveder neighbourhood development plan, designed in 1956–1957 by the architect and urban planner Edo Mihevc. The apartment block for Tomos factory workers from other republics of Yugoslavia immediately became "the dominating feature of the Belveder neighbourhood and the main motif of the visual identity of the new-old city" (Čebron Lipovec, 2019: 256). For this reason, the description and analysis of effects prompted by Delovišče must be extended to the wider area of the Belveder neighbourhood; that is, to Nazor Square and Museum Square (*Muzejski trg*; Figure 1). For many years, both the Tomos Tower Block and Museum Square were functionally and physically completely left to deteriorate. The last residents moved out of the Tomos Tower Block in 2015, and it was purchased by a private investor in 2018 and renovated. Most of Museum Square was covered by an abandoned and overgrown archaeological site and a temporary parking space. In 2022, the area was renovated as a new city park, and an underground garage was built. Nazor Square, once a social hub, has been inappropriately used for parking for decades, depriving the local residents of an open public space and lowering the quality of life. Near the Tomos Tower Block is the Totto ex Gavardo Palace, which has been left to decay since 2000 and is thus a further contributing factor to the social and visual degradation of the Tomos Tower Block's surroundings as well as a sense of insecurity for the local population.

After the renovation of the tower block (Figure 2), C3, in search of areas suitable for temporary use of space since 2017, suggested establishing temporary use in the premises on its ground floor, which was accepted by the private investor. The goal of C3 was to create a communal autonomous creative space for the integration of various stakeholders with various orientations and skills, including nonprofit organizations, creative individuals, and the local population (Cotič, 2023). The

Figure 1: Location of the Tomos Tower Block (source: satellite image, GIS browser, MOK Koper).

Figure 2: View of the renovated Tomos Tower Block from the courtyard of the Totto ex Gavardo Palace (photo: Tina Cotič).

private investor saw an opportunity in temporary use in the Tomos Tower Block to promote and revive the long-neglected and degraded Belveder residential neighbourhood. In this way, for a short period of time, the investor surrendered the property to public use and as a result allowed the local community and other stakeholders to participate in spatial planning. In addition, the decision encouraged flexible production of space and permitted urban experimentation supported by alternative and innovative spatial practices. C3 and the private investor concluded a six-month lease agreement on temporary use. However, due to the COVID-19 pandemic, this came to an end two months before the agreed deadline.

C3 developed the concept and the rules for temporary use and invited like-minded individuals to explore their visions under

Figure 3: Delovišče was the first communal working space in the City Municipality of Koper, integrating socializing, creativity, development, and education (photo: Tina Cotič).

Figure 4: Exhibition *Koper: Imaginary* (photo: Tina Cotič).

the auspices of Independent Riviera Radio (Sln. *Neodvisni obalni radio*) to participate in creating the temporary content. The investor offered to lease the ground-floor premises free of charge, and the users obtained funds for implementing the programme through various public tenders. The users furnished and maintained the premises and paid the operating costs.

Delovišče thus became the first communal use space in the City Municipality of Koper, integrating socializing, creativity, development, and education (Figure 3; Pavlović, 2020). Through guided events, it connected local and non-local stakeholders from various areas of the creative sector, which made it possible to plan shared projects, develop new skills, and transfer knowledge. The content was aimed at developing individuals, innovations, ideas, products, and new living practices. The activities, centred on creating new local policies and integrating them into the city and the wider region, were based on trust, participation, self-management, experimentation, and self-initiative. With its activities lasting just under six months, Delovišče held several public events on topical issues, including discussions on the urban challenges of contemporary planning, architecture, landscaping, design, and creative and media productions (Figure 4; Bratož Gornik, 2021).

Due to the COVID-19 pandemic, Delovišče halted its live activities in March 2020. In June, the lease contract for temporary use in the Tomos Tower Block expired. Although the investor was aware of Delovišče's contribution to the site and wanted to see the building's ground floor premises continue to function as a public space, the economic aspect of its man-

Figure 5: Kiosk K76: Koper's urban content generator (photo: Tina Cotič).

agement prevailed. The investor first offered the collective a new lease with the option to buy, but the collective was unable to gather the financial resources necessary and was forced to abandon the premises. The collective thus turned to the municipality, filing a request to obtain data on empty municipal premises in the hope of being able to continue its activities in one of those spaces. It turned out that the municipality did not hold any such records and had never put temporary use into practice, despite its inclusion in the Spatial Planning Act (Sln. *Zakon o urejanju prostora*, ZUreP-3, Ur. l. RS, no. 199/2021) since 2018. The collective thus made its own inventory of empty municipal premises suitable for the input of temporary use, prepared possible reactivation scenarios, and presented them to the municipal property department. It received a prompt answer that the municipality was uninterested in either free-of-charge or temporary use because it preferred to lease property at market prices.

Having failed to acquire a space in which to continue the activities formerly held at the Tomos Tower Block, the Delovišče collective remains active and continues to pursue its goals. The programme it has devised is active as an independent, self-sustained model, no longer tied to a single location. Instead, the temporary use is on the move and active in several locations in Koper, such as Mala Loža, the Libertas warehouse, and, until recently, the K67 kiosk (Figure 5) on Ukmar Square (*Ukmarjev trg*; Avtomatik Delovišče, 2021).

4.2 Evaluation of the effects of Delovišče's temporary use of space

Evaluation of the effects of Delovišče's temporary use of space in the Tomos Tower Block shows that even a small experimental temporary spatial intervention can help revitalize a DUA. Field observation has shown that the spatial practice under discussion encouraged participation in spatial planning and contributed to the urban diversity of Koper, its local identity, creativity, and innovation. The temporary intervention did not contribute any physical changes to the space or to the surrounding area of the Belveder neighbourhood (Cotič, 2023). For its duration, the temporary use revived this neglected area to a certain degree, but it was too short-lived to result in any more substantial physical changes in the neighbourhood. After Delovišče's lease contract expired, a hostel was built in the area. Nazor Square is still a parking area, Museum Square was renovated about a year after the end of the temporary use, and the Totto ex Gavardo Palace is undergoing extensive restoration. Part of the Belveder neighbourhood thus remains blighted and degraded.

Although Delovišče did not result in any substantial physical change, its activities introduced many positive sociocultural and sustainable effects to the area that are still present in the municipality. As it turned out, temporary use can be understood as a "social phenomenon", according to a member of the professional community (IN5): "Temporary use is always conditional on content, regardless of the space it takes place in. It is content that builds the space and community. It is the community that does not degrade and that keeps a space alive."

Table 2: Onkraj Gradbišča.

Case	Onkraj gradbišča, Ljubljana
Description of temporary use	The first publicly declared community urban garden, established in 2010 by the Obrat cultural and artistic society at the dormant building site inside the Tabor neighbourhood in the centre of Ljubljana. Obrat signed a contract each year on free temporary use with the City Municipality of Ljubljana. The project was self-financed through user contributions. It was based on personal engagement, participation, self-initiative, self-organization, and collective decision-making. A coordination board and fundamental rules on shared use of space were established.
Initiative incentive	The project was launched by Obrat as part of the Mladi Levi festival, organized by Zavod Bunker. Its goal was to emphasize the importance of gardening and urban greening as well as to support the revitalization of empty urban spaces with emphasis on creating social urban spaces for non-commercial uses.
Users	At first Obrat and Zavod Bunker, and then only Obrat, neighbourhood residents, and other interested individuals.
DUA regeneration	Reactivating and regenerating the area, changing its function and spatial structure, and returning the area to everyday use with a clearly defined content and new identity created in cooperation with the local community. Improving food security and quality of neighbourhood living, and strengthening urban social and environmental sustainability.
Results	The project was wound up in 2022. The municipality rejected the suggestion put forward by the temporary users, Obrat and Mreža za Prostor, to preserve the area as a public park. The city administration, however, accepted the alternative suggestion and designated the location for the construction of affordable apartment buildings by the municipal Public Building Fund. The modus operandi established in the project has been partially preserved and can be seen in other temporary projects in Ljubljana, such as Krater.

IN7 is of a similar opinion. In his view, temporary use is a spatial practice that allows active community participation in spatial planning and permits a certain degree of autonomy and creativity in content creation. All interviewees see temporary use as a successful tool that can assist both the physical and substantive revitalization of an area.

The activities of the temporary users of Delovišče drew attention to the importance of the urban area and highlighted its developmental potentials. For a short time, they managed to open the area and introduce it to the public and various social groups, making it more heterogeneous. The temporary users helped "raise the level of cultural dialogue on spatial planning", strengthened "its ability to mediate between the city administration, experts, and the local community", and underlined the potential of urban creative industries (Bugarič, 2020: 73).

The Delovišče collective is continuing its activities even after the termination of temporary use in the Tomos Tower Block. In addition to holding various events at various locations in the municipality, its current activities include Urbana Kavarna, which holds informal urban planning consultations on the development and design of municipal spatial policies; the online platform Zbirnik, which focuses on spatial issues in the Riviera area; and the monthly column Prostorska Frka, which discusses a range of spatial and architectural issues. The collective thus continues to pursue its long-term goal: on the one hand, recognition of its activities as a model for bringing together and connecting the local population and creative individuals, local entrepreneurs, young and old, experienced individuals, and beginners; and, on the other hand, cooperation with the municipality and other public and private institutions, regardless of the location of its activities (Cotič, 2023).

4.3 Analysis and identification of shared elements of temporary uses of space in the Slovenian context

This multiple case study involves the following three cases of temporary use of space in Slovenia: the project Onkraj Gradbišča and Kreativna Cona Šiška (KCŠ) in Ljubljana, and GT22 in Maribor. A synoptic analysis was carried out for each of the cases, including a description of the temporary use, the initiative incentive, the temporary users, and the DUA regeneration and its tangible results. This section analyses and identifies the shared elements in these practices and their complex role in DUA regeneration.

The results of the comparative analysis show that all of the above cases of temporary use, including Delovišče, have a common mechanism or principle of operation (see Figure 6), with certain similar effects stimulated in the immediate environment. All the temporary uses discussed above were either initiated by NGOs or in cooperation with them. The key incentive for establishing the practice was the lack of financially viable premises for carrying out their activities, which was also

Table 3: KCŠ.

Case	Kreativna cona Šiška, Ljubljana
Description of temporary use	Kreativna Cona Šiška (KCŠ) was a creative centre and cooperative space, established in 2011 in an old condemned house in Spodnja Šiška, Ljubljana. Rompom Collective and the owner signed a low-rent lease contract, subject to regular renewal. The users paid the rent and operating costs, and they furnished and maintained the building. The community-created programme focused on member empowerment through new skills and knowledge, better implementation of projects, and improved promotion and marketing of products and ideas.
Initiative incentive	Rompom Collective was looking for a space to work, form connections, and create new business and work opportunities.
Users	NGOs (Rompom Collective, Muslauf Cycling Society, Teater Ponoreli, and others) and individuals (young artists from various fields).
DUA regeneration	Reactivating, rehabilitating, and reorganizing the building and establishing basic infrastructure with minimum resources, in accordance with the DIY principle and users' needs. The introduction of coworking encouraged the development of both coworking culture in Slovenia and new economies, such as the economy of collaborative commons, solidarity economy, and gift economy, thus reinforcing urban social and cultural capital.
Results	KCŠ introduced the pop-up concept (Pop-Up Dom) to Slovenia and contributed to the establishment of the Poligon creative centre, which part of the KCŠ community moved to after NLB Leasing acquired the building in 2017 and the temporary users were forced to leave. In 2019, the building in Spodnja Šiška was demolished, and Poligon terminated its activities in the former Tobačna factory.

Table 4: GT22.

Case	GT22, Maribor
Description of temporary use	GT22 is "an inter(trans)disciplinary laboratory" for art, culture, urban sports, and urban life. It was founded in 2013 in an abandoned warehouse factory building and nightclub in the city centre at the initiative of the building's owner and the foundation Fundacija Sonda. A five-year free lease contract for temporary use was initially concluded between the owner and Fundacija Sonda, followed by a nonprofit rent contract. Fundacija Sonda, as the manager and user of the premises, covers insurance, operating costs, and property taxes, as well as maintenance. GT22 users form a self-organized community, create the programme, and help maintain the place as well as pay for the operating costs.
Initiative incentive	The building's owner offered his property for temporary use as a patron in exchange for rich cultural and artistic development. Economic motives: the owners also considered the temporary use of space an opportunity to help revitalize and maintain their property.
Users	NGOs (Fundacija Sonda, Mišnica GT22 photography platform, and others), bands, artists-in-residence, and creative individuals.
DUA regeneration	Through joint effort, volunteer work, recycled materials, personal contributions, and municipal and state support, the temporary users refurbished and reactivated the building and its immediate surroundings, equipped it with a new function and identity, and returned it to everyday use. The project and associated activities encouraged urban, creative, and social solidarity practices and thus left a lasting imprint on Maribor, contributing to its urban vitality and connecting it to the international environment.
Results	The project passed from temporary to permanent use of space, leading to the establishment of a formal creative arena in the city and to new models of cultural and artistic education, research, and production.

confirmed by most interviewees in the semi-structured interviews. For example, IN6 claims that no municipal authority so far has tackled the problem. According to him, the hindrance lies in the lack of understanding of the NGO sector on the part of the municipal property department.

Similar DUA regeneration was present in all cases. The temporary users resorted to recycling, minimal readapting, and the innovative use of space to reactivate the DUA and establish the conditions suitable for their activities. In this way, the area obtained higher utilization value, and the quality of the local environment was improved. The temporary users gave the place a new identity, increased the symbolic value of space, and, through their alternative spatial practices, countered the existing patterns of spatial planning. In addition, they introduced a range of sociocultural and sustainable effects into space, which

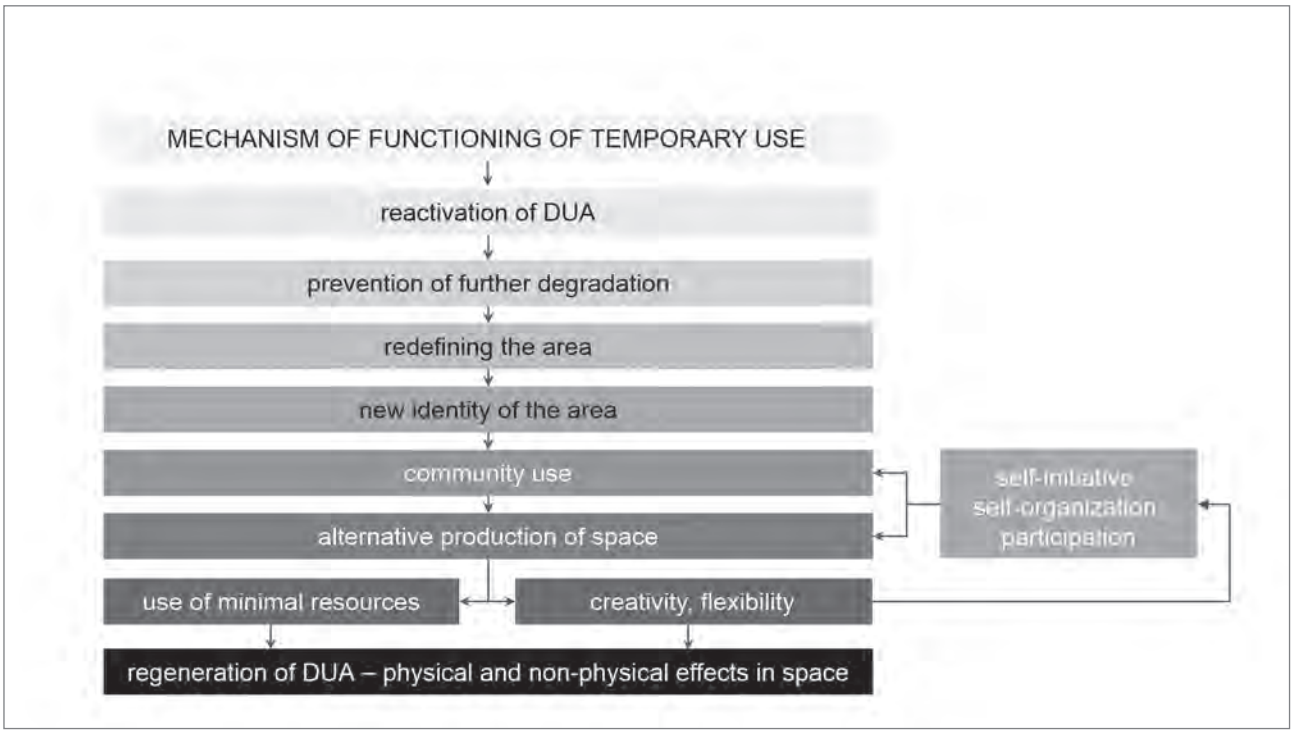

Figure 6: Common characteristics of temporary use of space activities (illustration: Tina Cotič).

were – and, in the case of GT22, still are – evident in cultural, artistic, social, and educational events and projects, as well as in the development of original programmes and services. Their activities encouraged social interaction, contributed to heterogeneity (in the sense of the concentration of various sociocultural roles, individuals, encounters, information, and events), allowed active community participation and organization, and encouraged creative activity and experimentation. All of the above added to the social and cultural capital of the local community. Two of the temporary uses (KCŠ and GT22) produced economic effects as well. The temporary uses provided new business and work opportunities to creative individuals and nonprofit organizations and allowed them to implement new, marketable ideas.

Key results of the temporary projects discussed are still visible, mainly in the formation of complex social networks and the development of social innovations and new models of governance. It is evident from the above cases that temporary uses can primarily contribute to the creative regeneration of DUAs, whereas their influence on stakeholder spatial planning is often very limited, especially timewise, as demonstrated by the case of Delovišče. The case of GT22, which passed from temporary to permanent use, is rather exceptional in this regard. Once Onkraj Gradbišča and KCŠ wound up their activities, the spatial effects produced by the temporary use evaporated, and they left no permanent changes in the existing areas and structures. Although the project Onkraj Gradbišča became part of the local environment, improving food security and quality of life in the neighbourhood, its activities were brought to an end after twelve years in 2022. The area of the former community garden will become an apartment building construction site for the municipal Public Building Fund. Trees and plants were dug up by the temporary users and replanted in other locations in the city. The fate of Onkraj Gradbišča is an example of failure on the part of the municipality to support a successfully functioning community garden, formalize and extend the collaboration to existing and new urban gardens and community practices, and thus contribute to the empowerment of local communities beyond mere formalities (Križnik & Cerar, 2021).

None of the temporary uses under discussion, Delovišče included, resulted in any negative effects in the location where they took place (such as touristification, commodification, or gentrification). In fact, the building owners used the spatial practice to prevent the degradation of their property – and thus enhance its value and appeal – but it turned out to be a "win-win" solution in all the cases discussed because in large measure it also helped the temporary users reach their own goals.

5 Conclusion

This research has shown that the temporary use of space is not only a transitional solution for DUAs but can serve as a tool for dynamic and adaptable transformation of urban environments while meeting both community needs and sustainability objectives. This spatial practice facilitates spontaneous adaptation of the urban space to its users and provides opportunities for innovative and participatory solutions, often unsupported by traditional approaches to urban planning. The analysis of the effects of temporary uses in various Slovenian cities, including Koper's Delovišče, has shown the key effects of such practices to be more of a sociocultural and sustainable nature, as opposed to physical changes in the space itself. Based on the material analysed, the main effects of temporary uses may be described as follows:

- The roles of the residents change from passive recipients of services into active participants and initiators of collective action invoking their right to the city (see the participant observation and unstructured and semi-structured interviews).
- New models of urban governance are encouraged that are adaptable, strategic, cooperative, and based on coordination of institutional and spatial specificities (see the multiple case studies).
- A different view of urban planning allows it to be considered a tool of support for sustainable transformation, based not only on material sources but also on encouragement of equality, social justice, and higher quality of life (see the case of Delovišče).

The analysis has also shown that temporary use allows DUAs to assume new functions and become identifiable as an important factor of community cohesion. This involves not only renovation of space but its reintegration into the social and urban fabric. Changes caused by temporary spatial interventions can become a part of broader urban regeneration strategies.

Despite its various positive effects, temporary use remains a rare spatial practice in Slovenia. Even the legal recognition of temporary use of space has not led to any progress in practice. Although it is now possible to change the land use of a certain space for the purposes of temporary use via site verification, the procedure remains problematic and expensive. The procedure should be simplified to inspire more trust in this spatial practice on the part of building owners.

The City Municipality of Koper has so far demonstrated a more or less commercial proclivity, and, regarding the introduction of temporary use, it has shown very little interest or sufficient flexibility. In this regard, further study is needed to establish support mechanisms to ease the implementation of this practice for the long-term benefits of the city and its urban planning sector. Because this research is limited to Koper, its conclusions should not be generalized. Temporary use of space opens important research areas, extending beyond spatial planning. It offers opportunities for an in-depth understanding of social and cultural effects, the formation of new models of governance, and the integration of these practices into broader strategies of sustainable urban development. In the future, it would be reasonable to investigate how to improve the legislative and regulatory framework, increase the support of local authorities, and develop comprehensive policies that would recognize the temporary use of space as an important element of urban regeneration in Slovenia and elsewhere.

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urbanistična politika urban spatial policy
kolektivna stanovanjska gradnja **collective housing**
začasne rabe prostora temporary use of spaces
kazalniki zelenih površin **green space indicators**
zelene površine green spaces
tretji prostori **third places**

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