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FACULTY OF FOREST SCIENCES
LANDSCAPE ARCHITECTURE AND
ENVIRONMENTAL ENGINEERING

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INTERNATIONAL SCIENTIFIC CONFERENCE



Better forestry,
for better forests,
for a better planet.

15-16TH JUNE 2022, SKOPJE, REPUBLIC OF NORTH MACEDONIA

DEDICATED TO THE 75TH ANNIVERSARY OF THE
HANS EM FACULTY OF FOREST SCIENCES, LANDSCAPE ARCHITECTURE
AND ENVIRONMENTAL ENGINEERING



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Ss. Cyril and Methodius University in Skopje
Hans Em Faculty of Forest Sciences, Landscape Architecture and
Environmental Engineering
North Macedonia

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15 - 16th June 2022
Skopje, Republic of North Macedonia



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Correct planning and proper landscape design - key to quality urban life Case Study: Macedonia Park, Skopje, North Macedonia

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Abstract:

With the modernization of urban areas, green spaces are reduced, and the importance of the existing ones is rapidly increasing. The point is not just to have open green spaces in the cities but to have multifunctional and multipurpose parks. Whether a green place is successful depends on urban planning and landscape design. The correct planning and the proper landscape design of urban parks are key to quality urban life. The subject of analysis in this research is the planning and landscape design of the first part of Macedonia Park in Skopje, North Macedonia. The goal is to determine whether this area is functional and aesthetically beautiful at the same time. The analysis addresses several different aspects (its functionality, depending on the elements it contains; the safety of its visitors; plant species selection and the layout of the plants related to the functionality and the aesthetic appearance of the park). The results show that Macedonia Park (First part) is a multifunctional and multipurpose green area. Even though there are parts with different elements in the park which satisfy visitors with different interests of all ages, some mistakes or failures made in its planning and landscape designing are noticeable. Some of them refer to the safety of the visitors, some of the plant species selection and the others on the layout of the plants related to the functionality of the park. Also, there are errors in using some of the basic principles of landscape design, such as focalization, simplicity and rhythm and line. The aspects taken into consideration in the analysis in this paper include the potentialities and challenges of planning, designing and improving city parks in urban areas like Skopje.

Keywords: urban areas; green spaces; correct planning; landscape design; Macedonia Park

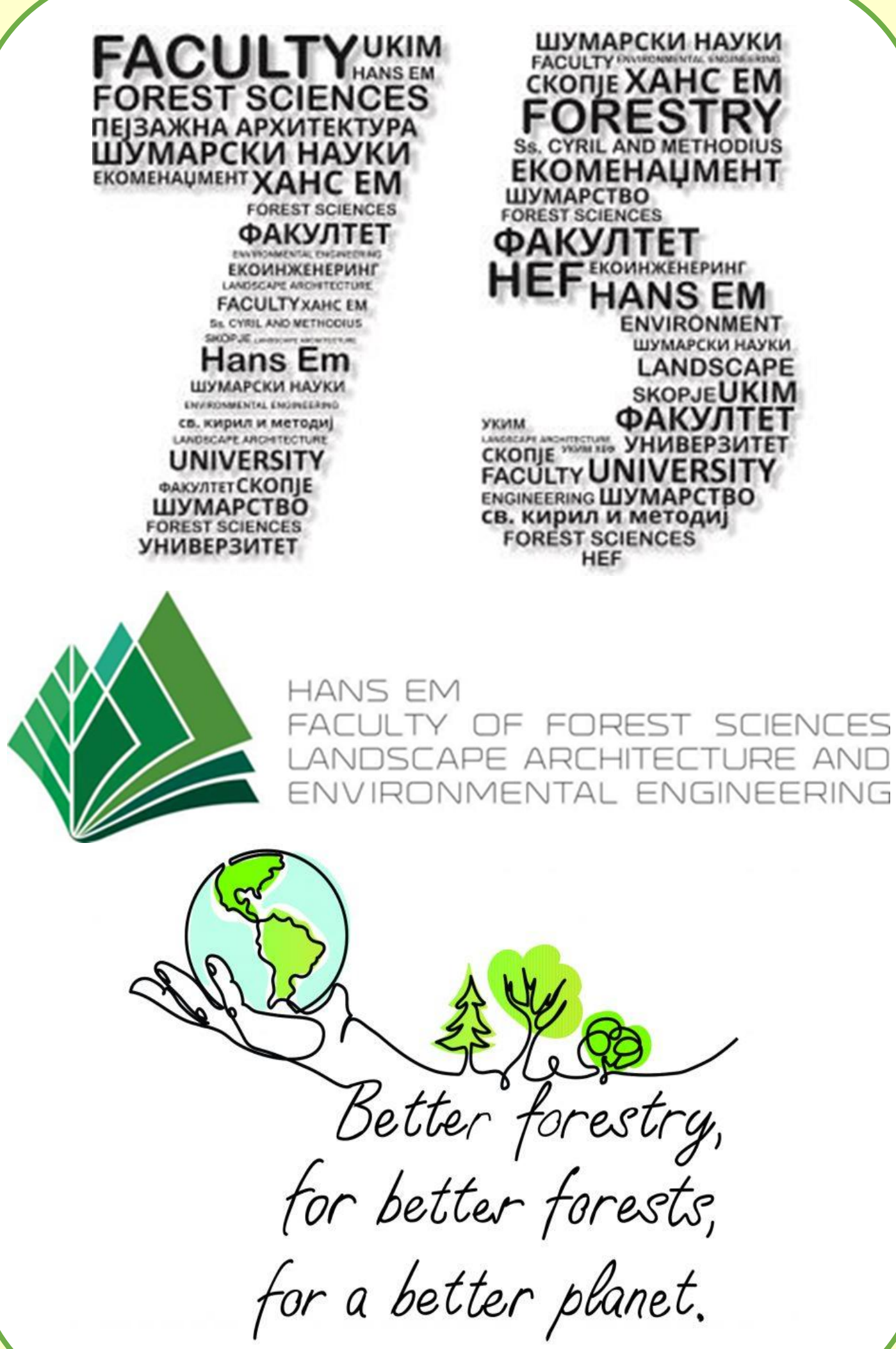
CORRECT PLANNING AND PROPER LANDSCAPE DESIGN – KEY TO QUALITY URBAN LIFE

Case Study: Macedonia Park, Skopje, North Macedonia

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INTRODUCTION

Urban green spaces are of great importance for the physical and mental health of a modern man. But fortunately, the more the world develops, the more man returns to nature. Because all of this, the work of planners and landscape designers is increasingly appreciated. Forced to create in the modern densely built environment their work become more and more difficult. Design is a highly complex and sophisticated skill and it's an important human activity because it links theory and practice and bridges scientific and creative undertakings when tackling ill-structured, open-ended problems (Lawson, 2005). The three-dimensional and environmental field of landscape design requires the designer to produce beautiful, practically useful, and well-functioning end products (Kara, 2013). But do landscape designers always manage to achieve that?



Figure 1. Location of Macedonia Park (First part), Skopje, North Macedonia

METHODOLOGY & LOCATION

The subject of analysis in this research is the planning and landscape design of the first part of Macedonia Park which is located in the municipality of Karposh, the settlement of Kapishtec, in the city of Skopje, North Macedonia. This park consists of three micro-locations. The subject of research is only the first micro-location (the first part). It is about 25 000 m² and it stretches along the Metropolitan Teodosij Golaganov Boulevard from the north side, and Jurij Gagarin Street on the south side (Fig. 1). The goal is to determine whether this area is functional and aesthetically beautiful at the same time. The analysis addresses several different aspects (its functionality, depending on the elements it contains; the safety of its visitors; plant species selection; the layout of the plants related to the functionality of the park and the layout of the plants related to the aesthetic appearance of the park analyzed according to the rules of basic principles of landscape design (balance, focalization, simplicity, rhythm and line, unity and proportion)). All tree individuals and equipment of the park are marked and displayed using QGIS software. All data were collected in the period from the beginning of March to the end of August 2021 year.

RESULTS



Figure 2. Location of different parts at Macedonia Park (First part)

FUNCTIONALITY – park elements



Figure 3. a) Recreational part (fitness workouts) for young and middle-aged people for active rest; b) Parts for intimate rest for all ages for passive rest; c) Pet park for pet owners; d) Children's park elements for children of different ages; e) Children's velodrome; f) Children's playground and g) White gravel trim trail for young and middle-aged people for active rest

LAYOUT OF PLANTS – the aesthetic appearance of the park

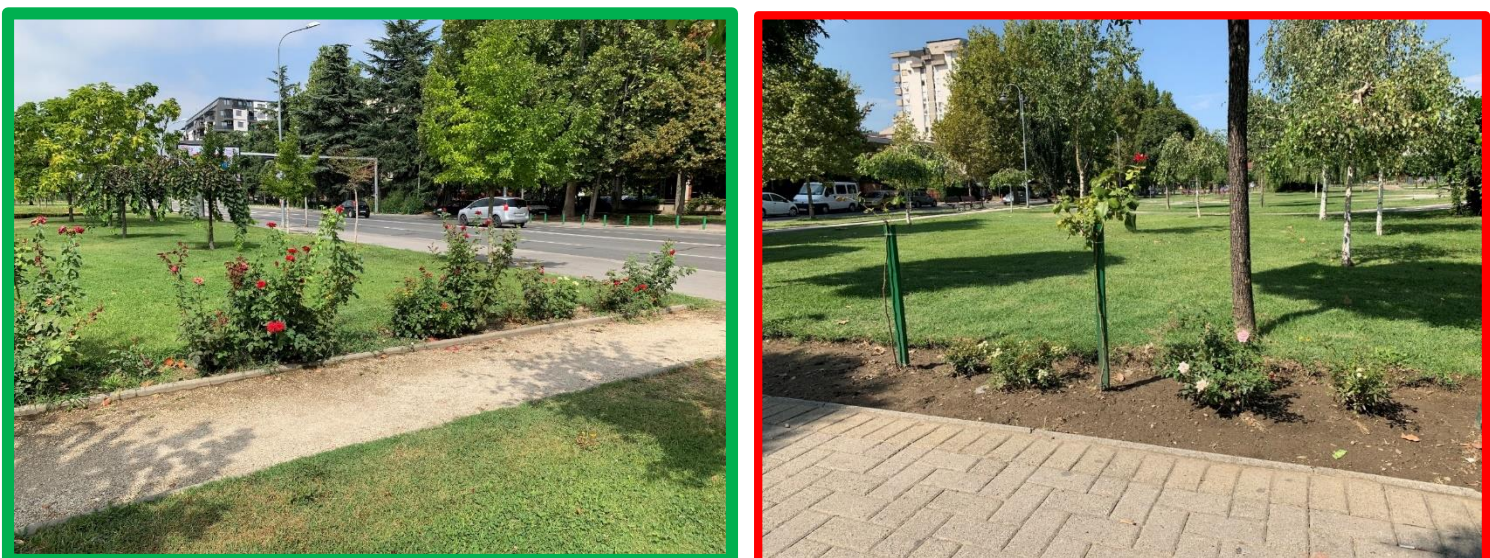


Figure 8. Example of planting roses in suitable and unsuitable conditions

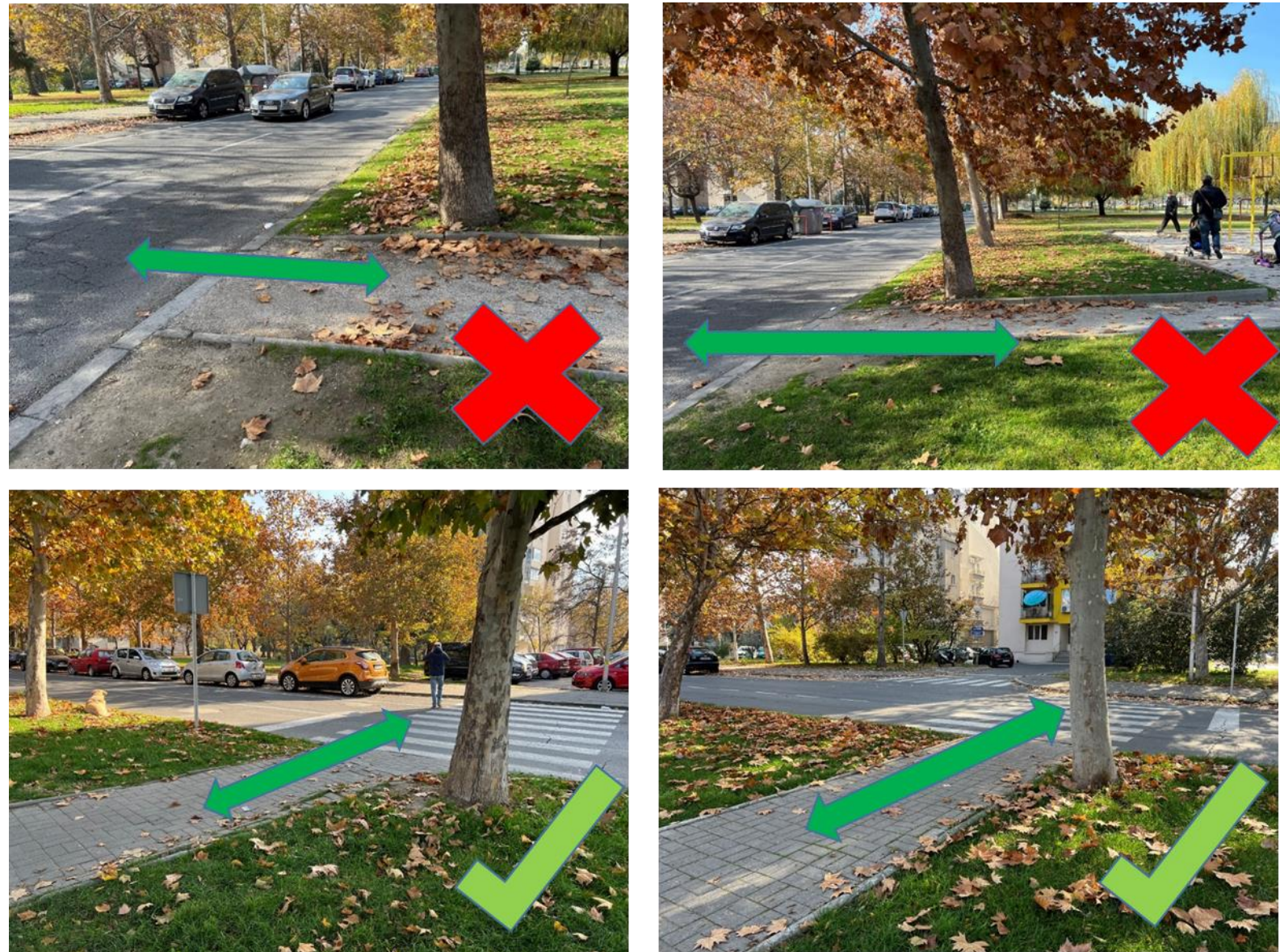


Figure 4. Paths to entry and exit the park in the south, where the park borders with Jurij Gagarin Street. Two of four paths, which are not connected to pedestrian crossings are not safe for pedestrians at all



Figure 5. Children's playground near densely planted plant composition



Figure 6. Locations and plant layout of evergreen and deciduous trees

PLANT SPECIES SELECTION

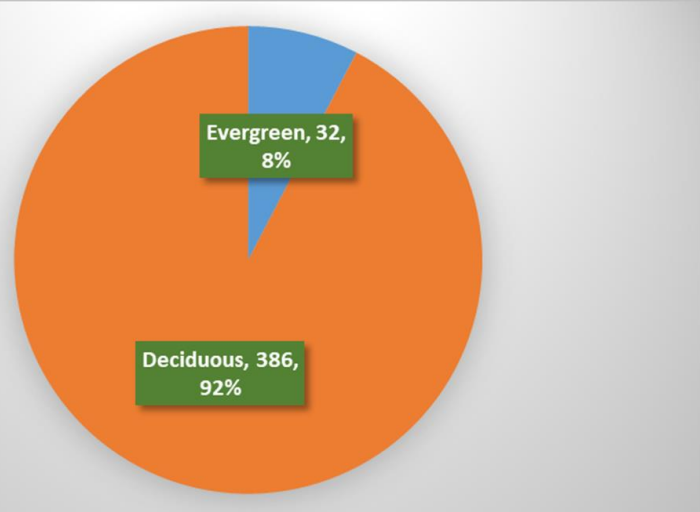


Figure 7. Evergreen and deciduous trees in Macedonia Park (First part)

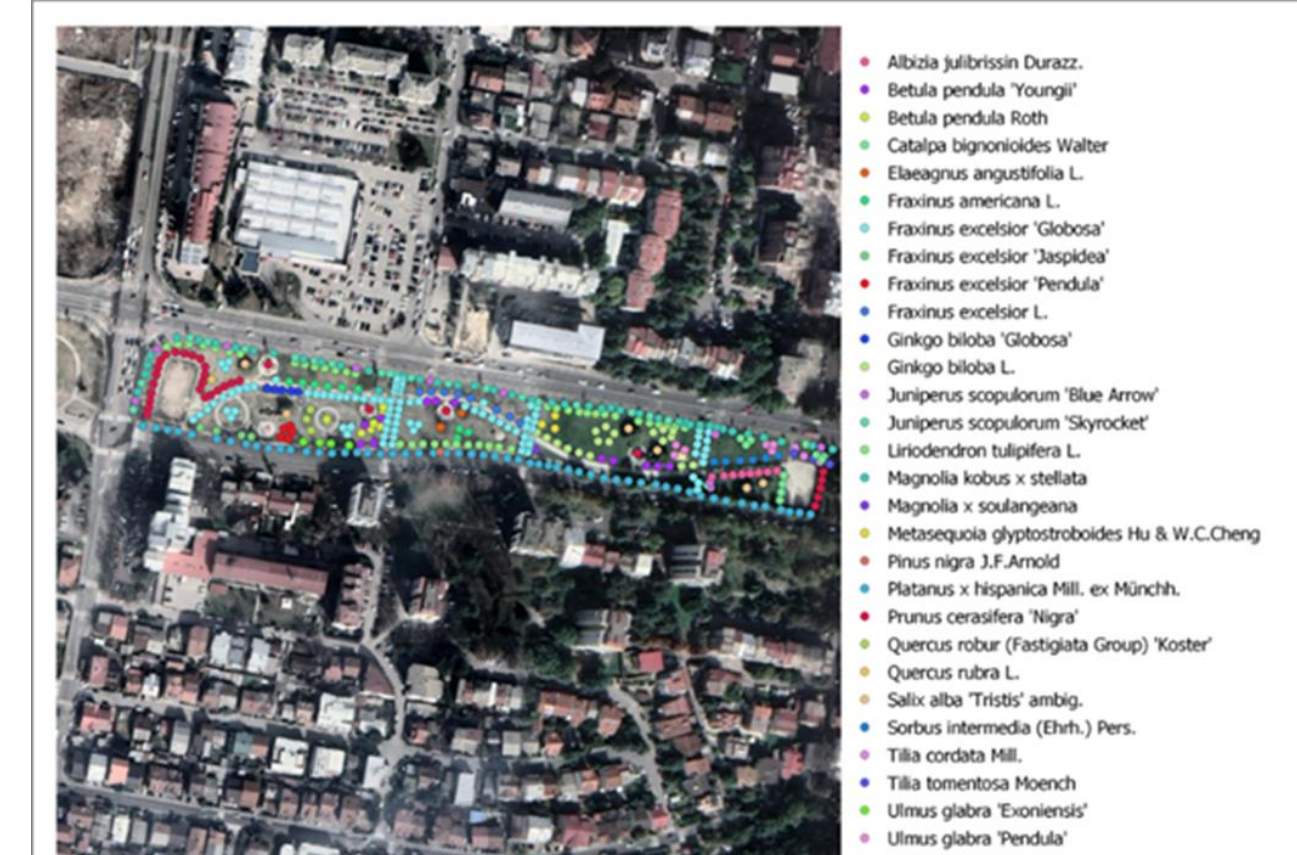


Figure 9. Urban dendroflora of Macedonia Park (First part)

PLANT SPECIES SELECTION

Table 1. Inventory of the urban dendroflora of the Macedonia Park (First part)

Scientific name	Number of individuals
<i>Albizia julibrissin</i> Durazz.	8
<i>Betula pendula</i> 'Youngii'	12
<i>Betula pendula</i> Roth	7
<i>Catalpa bignonioides</i> Walter	11
<i>Elaeagnus angustifolia</i> L.	2
<i>Fraxinus americana</i> L.	9
<i>Fraxinus excelsior</i> 'Globosa'	91
<i>Fraxinus excelsior</i> 'Jaspidea'	4
<i>Fraxinus excelsior</i> 'Pendula'	5
<i>Fraxinus excelsior</i> L.	8
<i>Ginkgo biloba</i> 'Globosa'	5
<i>Ginkgo biloba</i> L.	18
<i>Juniperus scopulorum</i> 'Blue Arrow'	10
<i>Juniperus scopulorum</i> 'Skyrocket'	21
<i>Liriodendron tulipifera</i> L.	39
<i>Magnolia kobus x stellata</i>	44
<i>Magnolia x soulangeana</i>	1
<i>Metasequoia glyptostroboides</i> Hu & W.C.Cheng	3
<i>Pinus nigra</i> J.F.Arnold	1
<i>Platanus x hispanica</i> Mill. ex Münchh.	55
<i>Prunus cerasifera</i> 'Nigra'	32
<i>Quercus robur</i> (Fastigiata Group) 'Koster'	3
<i>Quercus rubra</i> L.	1
<i>Salix alba</i> 'Tristis' ambig.	6
<i>Sorbus intermedia</i> (Ehrh.) Pers.	6
<i>Tilia cordata</i> Mill.	3
<i>Tilia tomentosa</i> Moench	3
<i>Ulmus glabra</i> 'Exoniensis'	4
<i>Ulmus glabra</i> 'Pendula'	6

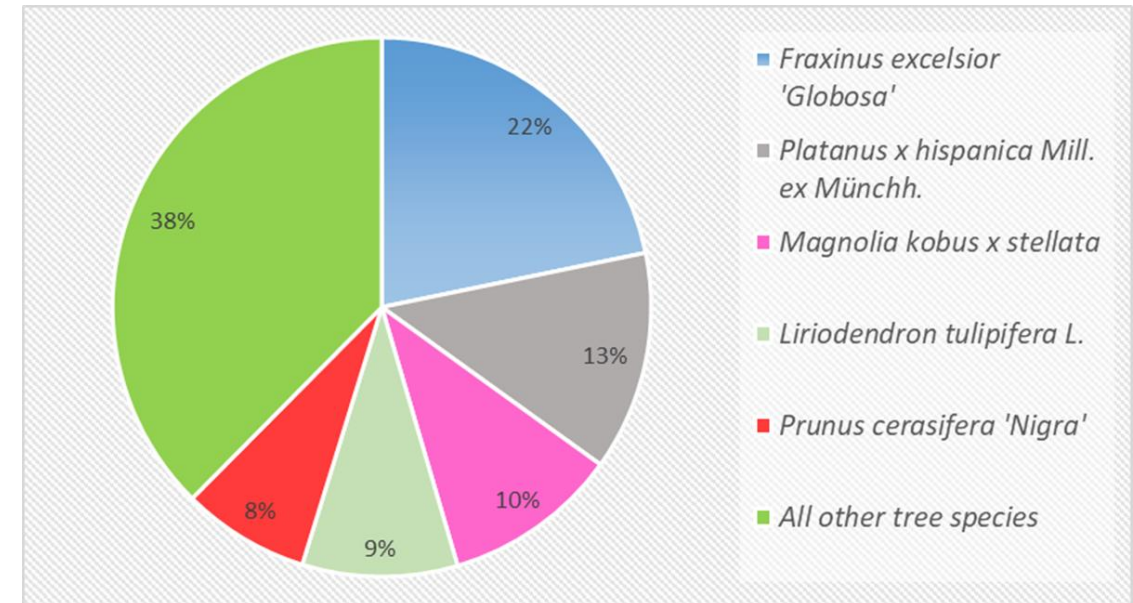


Figure 10. Most common tree species



Figure 11. Planted plants between the roots of a large tree *Salix alba* 'Tristis'

LAYOUT OF PLANTS – the aesthetic appearance of the park



Figure 12. Examples of incorrect distance of plants from each other

MAIN CONCLUSIONS AND RECOMMENDATIONS

- Macedonia Park (First part) is a multipurpose and multifunctional green area (Fig. 3).
- There are two problems with safeties: a) visitors' safety at two of four entries and exits of the park (Fig. 4) and b) children's safety (Fig. 5).
 - Wide green lawn instead strange, chaotic, cluttered and fussy plant composition.
- Only 5 tree species are present in the largest number (Tab. 1 and Fig. 10). It is great for the image of the park. It makes the park recognizable, specific and unique.
- There are only 32 evergreens (8%) of 418 tree individuals, so late autumn and winter are seasons with poor plant landscape effects.
- Macedonia Park is a linear park, stretched along the boulevard, but there is no protected plant belt, like a buffer zone, on the north side.

To plant evergreen trees with wide habitus and fast-growing deciduous trees with wide canopies instead *Magnolia kobus x stellata* and *Juniperus scopulorum* 'Skyrocket'.

- There are errors in using some of the basic principles of landscape design: a) Rhythm and line - it is boring and it feels monotony when the same colour and the same form are repeating all the time (*Fraxinus excelsior* 'Globosa', planted in line, extend along paths and white gravel trim trail, almost along the entire length of the park); b) Focalization – overuse of focal points (specific forms, *Betula pendula* 'Youngii' and *Ulmus glabra* 'Pendula', planted in groups) and c) Simplicity – overusing focal points, planting certain plants in inappropriate places (Fig. 11) and incorrect distance of plants from each other and mixing similar or the same forms so close one to another (Fig. 12). In that way, they could not be expressed and their decorativeness is lost.

To use different colours and forms, from time to time. Short breaks with *Prunus cerasifera* 'Nigra', between the *Fraxinus excelsior* 'Globosa' or short breaks without nothing (free spaces), is a good way to break the monotony with the help of a complex rhythm.

References

- Lawson, B. (2005). How designers think: the design process demystified (4th ed.). Oxford, Great Britain: Architectural Press.
- Kara, B. (2013). Landscape design and cognitive psychology. Procedia-Social and Behavioral Sciences, 82, 288-291.