

**MSc Programme in Urban Management and Development**

Rotterdam, The Netherlands

September 2017

**Thesis**

Title: Impact of transition on transformation of public green spaces in Yerevan

**Name: Anahit Hovhannisyan**

Supervisor: Erwin van der Krabben

Specialization: EULG

UMD 13

**MASTER'S PROGRAMME IN URBAN MANAGEMENT AND  
DEVELOPMENT**

**(October 2016 – September 2017)**

**Impact of transition on transformation of  
public green spaces in Yerevan**

Anahit Hovhannisyan  
Armenia

Supervisor: Erwin van der Krabben

UMD 13 Report number: 990  
Rotterdam, September 2017

## Summary

During the period of Soviet Union, large number of public green spaces, parks and forests were implemented and integrated in the daily lives of citizens. The land was totally owned, managed and developed by the central government. After the dissolution of USSR in 1991, dramatic social, economic and political changes were reflected in urban transformations especially in central locations of former communist cities including Yerevan. Several public green spaces including parks, green courtyards and lawns were privatized and constructed into private amenities.

The aim of the research is to reveal what kind of transformations happened with public green spaces in Yerevan during the period of transition and to explain how changes of transition impacted those transformations. The study focuses particularly on the city centre due to its cultural importance, and through 4 case studies explains the causality of various interdependent factors on certain transformations. Various methods of primary and secondary data collection and analysis, such as observations, content analysis and interviews have been used for further research. Methodological and source triangulations were done in order to strengthen internal validity of the study. Moreover, the research provides a micro-level study of the qualitative outcome of those transformations. Additionally, general analysis at city-scale strengthens the external validity of the study and enables to generalize the findings.

The research revealed that emergence of a new actor in the market (the private developer) was essential. Becoming dependent on private investments, the state was willing to sell or to lease the publicly owned land, which was being commercialized and constructed into private uses. The greatest power of developer was also supported by a flexible legal framework, lack of adopted laws, regulations and planning policy for the new market economy, as well as fragmented society, which was lacking of collective actions for preservation of public green spaces.

Furthermore, it was found that drastic changes in social perceptions and trends, such as the shift of preferences from outdoor to indoor commercial activities resulted in establishment of consumerist-society and greater demand on commercial amenities. Additionally, lacking of up-to-date knowledge and experience in urban management in the conditions of new market economy resulted in short-term interventions and urban errors in the city. Particularly, the city centre was affected by transformations to a great extent due to high attractiveness for commercial developments.

The transformations of public green spaces into private uses continue to happen in Yerevan until nowadays. It is important to mention that the unique spatial structure of the centre, where the green belts play a significant role in forming the historical layout of the small centre, represents an important cultural value at a national level. Thus, the urgency of the investigated issue remains on the urban agenda due to its environmental, economic, social and cultural importance.

## Keywords

Transition, transformation, public green space, land market, privatization, tragedy of commons

## **Acknowledgements**

I would like to thank the Netherlands Government for providing a scholarship covering the tuition fee and living expenses for one year of intensive master programme. Special gratitude to IHS team, professors, assistants and all the staff for support and knowledge gained during the course. I would like to thank my supervisor Erwin van der Krabben for providing guidance and for supporting all my ideas during the thesis period. Finally, the data collection for the thesis would be impossible without the shared information by the Ministry of Urban Development of Armenia (State Urban Development Committee of Armenia), the Municipality of Yerevan, National University of Architecture and Construction, NGOs and all interviewers who agreed to share their time and experience regarding the investigated topic.



## Abbreviations

CBD	Central Business District
ENSAL	École nationale supérieure d'architecture de Lyon (National School of Architecture de Lyon)
IHS	Institute for Housing and Urban Development
IMF	International Monetary Fund
NGO	Non-governmental organization
NUACA	National University of Architecture and Construction
WHO	World Health Organization

# Table of Contents

## List of Charts

Chart 1: Green spaces of common usage in Yerevan, Source: “Perspectives of programs on restoration of green spaces and sustainable development” municipal report, Martirosyan, 2014.....	2
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---

## List of Figures

Figure 1: Yerevan city centre 2016, Source: Vardan Petrosyan Photohraphy .....	1
Figure 2: (left) Distribution of total area of urban built-up land per region of the Republic of Armenia and the city of Yerevan, 2004-2009 (in hectares), Source: National Statistical Centre of the Republic of Armenia .....	4
Figure 3: (right) Distribution of total area of public use green zones within urban communities per region of the Republic of Armenia and the city of Yerevan, 2004-2009 (in hectares), Source: National Statistical Centre of the Republic of Armenia .....	4
Figure 4: Tragedy of the Commons, Source: Stephens Planning and Design LLC, 2013.....	15
Figure 5: Tragedy of the Commons: Yerevan case, Source: Author, 2017 .....	17
Figure 6: Main aspects of the conceptual framework, Source: Author, 2017 .....	18
Figure 7: Conceptual Framework, Source: Author, 2017 .....	19
Figure 8: Situation plan of case studies 1) Circular Park, 2) Victory Park with forest-park, 3) The “Park of Main Avenue” and Mashtots Park, 4) Children’s Park and Shahumyan Park, Source: Google Maps, 2017.....	26
Figure 9: General zoning map of transformations in Yerevan city, Source: Author, 2017 .....	29
Figure 10: Zoning Codes, Source: Author, 2017 .....	29
Figure 11: Case Study 1: Circular Park before transformations (left): Satellite view 2000, Source: Google Earth, (right): zoning map before the collapse of USSR, Source: Author, 2017.....	31
Figure 12: Case Study 1: Circular Park after transformations, (left): Satellite view 2016, Source: Google Earth, (right): zoning map of transformations, Source: Author, 2017 .....	31
Figure 13: Case study 1 segment 1.1, Circular Park in 1980s, Source: unknown author .....	32
Figure 14: Observations at Case Study 1, Segment 1.1, Source: Author, 2017.....	33
Figure 15: Observations at Case Study 1, Segment 1.2, Source: observations, Google maps, Author, 2017 .....	34
Figure 16: Satellite view of Segment 2 in 2000 and 2016, Source: Google maps, Author, 2017 .....	34
Figure 17: Observations at Case Study 1, Segment 2, Source: Google maps, Author, 2017.....	35
Figure 18: Hotel constructed in the case study area 1 (segment 2). From left to right: a) view of the hotel b) the master plan of the hotel site c) situation of the hotel in the segment 2, Source: architect A, Author, 2017 .....	35
Figure 19: Observations at Segment 3, Source: Author, 2017 .....	36
Figure 20: Observations at Case Study 1, Segment 4, Source: Author, 2017 .....	36
Figure 21: Observations at Case Study 1: Segment 5, Source: Author, 2017 .....	37
Figure 22: Observations at Case Study 1: Segment 6, Source: Author, 2017 .....	37
Figure 23: “Poplavok” café in early 1980s. Source: MediaMax .....	38
Figure 24: Observations at Case Study 1: Segment 7, Source: Author, 2017 .....	38
Figure 25: Case study 2 area before transformations, left: Google Earth Satellite view 2000, right zoning map of area before transformations, Source: Author, 2017 .....	39
Figure 26: Case study 2 area after transformations, left: Google Earth Satellite view 2016, right: zoning map of transformations, Source: Author, 2017.....	39
Figure 27: Observations at Case Study 2 area, Source: Author, 2017 .....	40
Figure 28: Case Study 3 area: left: Google Satellite view 2016, right: preserved public green space area, Source: Author, 2017 .....	41

Figure 29: Observations at Case Study 3 area, Source: Author, 2017, left: master plan of reconstruction of Segment 3.2, Source: Yerevan Municipality .....	42
Figure 30: Case Study 4 area: left: Google Satellite view, 2016, right: preserved public green space area, Source: Author, 2017 .....	42
Figure 31: Observations at Case Study 4, Source: Author, 2017 .....	43
Figure 32: Coding for ATLAS.ti analysis, Source: Author, 2017 .....	45

## List of Graphs

Graph 1: Housing and apartment prices in Armenia (2004-2011), Source: National Statistical Centre of the Republic of Armenia .....	4
------------------------------------------------------------------------------------------------------------------------------------	---

## List of Tables

Table 1: Operationalization: Concept 1, Source: Author, 2017 .....	22
Table 2: Operationalization: Concept 2, Source: Author, 2017 .....	22
Table 3: Characteristics for analysis of quality of space, Source: Author, 2017 .....	30
Table 4: General co-occurrence table, Source: Author, 2017 .....	45
Table 5: Co-occurrence table: Case Study 1, Source: Author, 2017 .....	54
Table 6: Co-occurrence table: Case Study 2, Source: Author, 2017 .....	57
Table 7: Co-occurrence table: Case Study 3, Source: Author, 2017 .....	59
Table 8: Co-occurrence table: Case Study 4, Source: Author, 2017 .....	62
Table 9: Co-occurrence tables: Case Study 1,2,3,4, Source: Author, 2017 .....	65

# Chapter 1: Introduction

## 1.1 Background

With its rich history starting from the 8<sup>th</sup> century BC, Yerevan experienced and continues to experience numerous reconstructions and urban transformations. The first general plan of Yerevan was designed with the principles of Ebenezer Howard's "Garden City" by the architect Alexander Tasmanian and was approved by the government in 1924 (Mamyan, 2012); (Khatchadourian, 2016). According to the plan the historical centre was integrated in the new grid of streets and was surrounded by a green belt called "Circular Park". The second green belt was composed of Hrazdan River and surrounding forests and parks which were serving as buffer areas for the city centre (Ter-Ghazaryan, 2013).

In 1971, the master plan was redeveloped for construction of several new residential districts as the population was increasing rapidly. Nevertheless, the public green spaces did not suffer from the new constructions (Mamyan, Aloyan, et al., 2016). Under the USSR governance private land and property were transferred to the state and all the land was nationalized (French, 1995). This total state ownership and strict land-use policy and zoning regulations enabled the government to develop and control the public green spaces, which became the major part of the society's livelihoods.

Following the independence of Armenia from the USSR in 1991, the majority of land was privatized which resulted in loss of control over land by the national government. Significant percentage of public green spaces in Yerevan was sold or leased to private developers issuing permissions to construct temporary constructions, which in reality became permanent (Karapetyan and Khachatryan, 2010).

Especially the public green spaces in the "Centre" district were affected to a great extent during the period of transition. For instance, the green belt of Circular Park suffered significantly, as considerable part of green spaces were privatized and constructed into commercial uses. According to the report on "Perspectives of programs on restoration of green spaces and sustainable development" by the head of the Department of Environmental Protection at Yerevan Municipality, in 1990 public green spaces occupied 908.3 ha of municipal land, which decreased to 540 ha in 2003 (Martirosyan, 2014).



Figure 1: Yerevan city centre 2016, Source: Vardan Petrosyan Photography

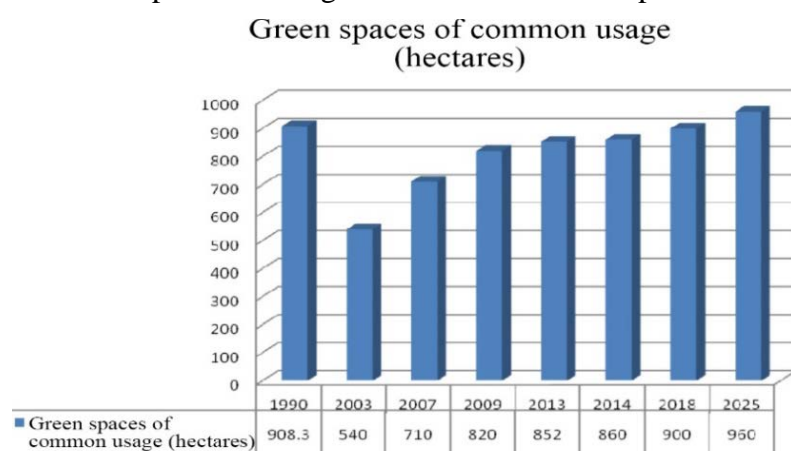
Nevertheless, the process of transformations of public green spaces is not linear, as various positive changes can be observed regarding the conservation and development of public green spaces. According to “Yerevan Development Programme 2016” (Decree N 432-N), the surface of public green spaces was extended to 852.3 hectares in Yerevan providing 7.6 square meter per capita, which still is inferior to the international standards (Yerevan Municipality, 2015).

Moreover, the urban land prices in Yerevan are rising yearly, making the land allocated for public green spaces more valuable. As the public land within the municipal administrative boundaries is controlled by the municipality which is willing to sell the land and issue construction permissions to gain more revenues, the public green spaces are becoming more vulnerable for being privatized and constructed (Karapetyan and Khachatryan, 2010).

During the last decade Armenia started to attract FDIs especially in the field of construction. Number of commercial and residential buildings were constructed in the public green spaces in Yerevan. Following the technological revolution, the trends of people also have changed. Society’s interests dramatically were shifted from outdoor activities to indoor activities: cafes, restaurants, shopping malls, sport centres. The rapidly emerging markets and greater demand on commercial constructions brought to an unsparing utilization of remaining green buffer areas located within residential quarters (Karapetyan and Khachatryan, 2010). Furthermore, the high ability to pay and high expectations of Armenian diaspora created a large demand on prime real estate (Manookian and Tolosa, 2013), which lead to massive construction of high-rise residential buildings in Yerevan.

Although exactions with a form of compulsory greening and compensation for damaging the green spaces exist according to the Yerevan city council’s decision (2009) on “Approval of public green space’s protection and usages rules”, the rate of compensation is so insignificant that it does not discourage investors to develop constructions in green spaces. According to the Legal Analysis on Public green space in Armenian cities the present legal framework is inadequate for the preservation of public green spaces (Karapetyan and Khachatryan, 2010).

Despite of encouraging densification in the low dense areas, the central neighbourhoods of the city are continuously being constructed in the open areas and public green areas. On the other hand, the revenues gained from the transactions and new investments could have been used for the development of new public green spaces, as according to the Chart 1, the municipality plans to increase the surface of wooded areas and parks in 2025, which requires large expenditures (Martirosyan, 2014). Additionally, the densification of central neighbourhoods could prevent the urban sprawl and might contribute for development of Yerevan as a “compact city”.



**Chart 1: Green spaces of common usage in Yerevan, Source: “Perspectives of programs on restoration of green spaces and sustainable development” municipal report, Martirosyan, 2014.**



There are several studies regarding the issues of public green spaces in Armenian cities, however, all the studies are majorly focused on the consequences of the loss of public green spaces and no academic research was done about the impacts and causal relationship of different factors, such as changes in land market, planning policy or social perceptions on transformations of public green spaces into private uses in Yerevan.

These transformations were not a phenomenon for Yerevan, as similar patterns of development can be observed during the period of transition in almost all post-communist cities (Hirt and Stanilov, 2009b); (Sýkora and Bouzarovski, 2012). While several cities already can record a positive change towards conservation and creation of public green spaces (Pascariu, 2014), Yerevan is still experiencing those transformations and not too much is known about the factors, which are decisive and influential in these processes. Therefore, the research will enable to find out rich qualitative explanation of such phenomenon, and it will provide complex understanding of interdependent processes happening in the city.

## **1.2 Problem Statement**

Transformation of public green spaces into private developments during the last decades became an urgent issue for Yerevan. Only during the first decade of transition the “Centre” district was affected to a great extent. More than 30% of public green spaces were sold and leased to private developers (Zhvania, Karapetyan, et al., 2010). This issue represents environmental, economic, social, as well as cultural importance, as it affects the overall architectural image of Yerevan, particularly the spatial structure of the city centre which has a significant cultural value for the country.

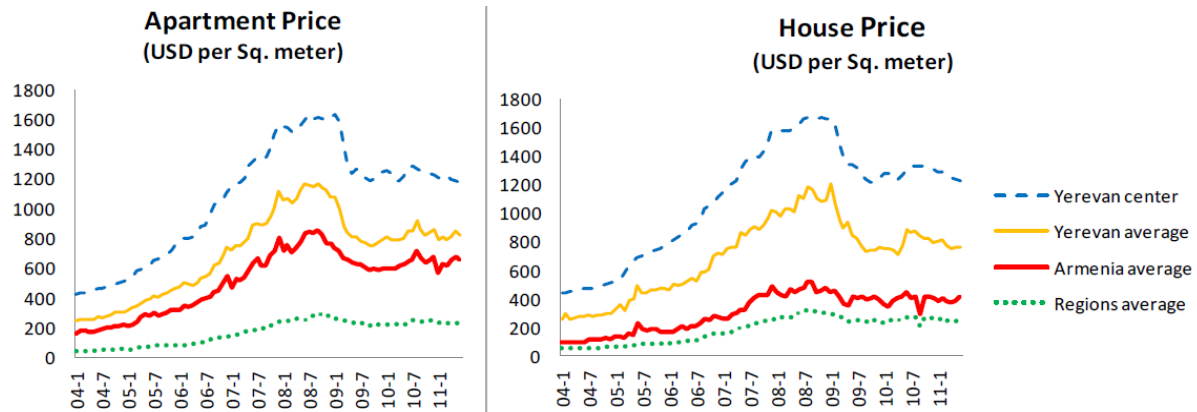
The research will focus on transformations of public green spaces in Yerevan, which happened after the dissolution of USSR and independence of Armenia in 1991 till present days. It can be stated that Armenia is still in transitional stages, as despite of shifts to market economy and adaptation to democracy, many social and institutional aspects still remain with a communist character (Sýkora, 2000); (Sýkora and Bouzarovski, 2012).

Several theories regarding the transformations of public green spaces during the period of transition in post-communist cities exist. Some of articles argue that it is the planning policy that enabled the rapid degradation of public spaces, especially in the central location of cities (Koželj and Stefanovska, 2012). Other articles bring the argument of weak institutional framework, lack of transparency and accountability by the state and also poor institutional framework that played a crucial role in rapid privatization and construction of public green spaces (Hirt and Stanilov, 2009a).

Furthermore, there is an increasing debate about the role of civil society in preservation of public spaces, as well as influence of social perceptions and trends regarding the usage of public green spaces. The fall of communism and technological development changed people’s behaviour, trends and perceptions, which was directly reflected in the urban transformations of post-communist cities. The negative impact of land and property market is also highlighted in many studies regarding this topic. Especially, the loss of public green spaces is observed in central neighbourhoods of cities, due to high demand and profitability of land in central locations.

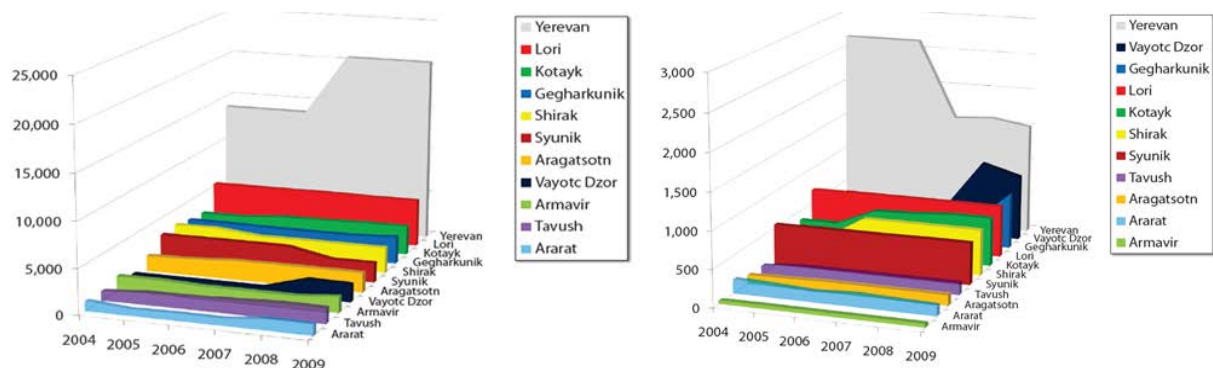
Yerevan, as a dominant Armenian city and major administrative, economic and cultural capital always was attracting local and foreign direct investments. Being designed as a mono-centric city, the “Centre” district of Yerevan always recorded the highest land and property prices, which are increasing with the proximity to the centre. Graph 1 shows that both housing and apartment prices were increased rapidly in Yerevan, especially in the city centre (2004-2009). The global economic crisis affected the prices to some extent, however the increasing trend

again can be observed during the last years (globalpropertyguide.com, 2013); (armstat.am, 2013).



**Graph 1: Housing and apartment prices in Armenia (2004-2011), Source: National Statistical Centre of the Republic of Armenia**

Numerous public green spaces located in central areas of the city are being privatized due to high potential value of the land. In parallel with a rapid increase of urban constructions and built-up area in Yerevan, the distribution of total area of public green spaces was significantly decreased during the same period of time, which is illustrated in the Figures 2 and 3. These patterns partially can be explained through transformations of public green spaces into urban-built-up areas. Referring to the Figures 2 and 3 the dominance of Yerevan in terms of urban transformations' dynamics is visible.



**Figure 2: (left) Distribution of total area of urban built-up land per region of the Republic of Armenia and the city of Yerevan, 2004-2009 (in hectares), Source: National Statistical Centre of the Republic of Armenia**

**Figure 3: (right) Distribution of total area of public use green zones within urban communities per region of the Republic of Armenia and the city of Yerevan, 2004-2009 (in hectares), Source: National Statistical Centre of the Republic of Armenia**

The Figure 3 demonstrates approximately 50% reduction of public green spaces during 2004-2009. These dynamics can be also observed in several former communist states. The same degradation of public green spaces exists also in the cities of Moscow, Budapest and Sofia. The latter recorded more than 30% of loss of public green spaces during the period of transition (Hirt, 2013b).

Due to the lack of long-term vision, the city already lost massive amount of public green spaces, which negatively impacted the environmental and social conditions, also resulted in spatial degradation and disruption of the Yerevan city's historical master plan. Last but not least, the transformations of public green spaces into private constructions also might play a negative role on the surrounding neighbourhoods' urban quality, land and property values.

Although the rapid promotion of sustainable urban development, climate change adaptation and urgency of preservation of green spaces, the post-communist cities, particularly Yerevan continues to process the transformations of public green areas into urban built-up surfaces. In order to prevent this process it is important to reveal the factors which play the most crucial role in these transformations and to explain the causality of different factors during certain period of time. Taking into account the economic, social, environmental and cultural aspects, the research will contribute to development of reasonable and efficient programmes focused on preservation of public green spaces.

### **1.3 Research Objectives**

The objectives of the research is to reveal what kind of transformations happened with public green spaces in Yerevan during the period of transition, to identify the factors influencing those transformations and to explain how does these factors interact and impact the transformations. Firstly, the trends of transformations will be examined based on general and case study analysis through observations and content analysis. Secondly, the study will explain the condition under which the certain phenomenon happened. Thirdly, several influential factors will be revealed and more deep qualitative study will be generated through interviews with key informants. Finally, the research will explain how certain factors impacted certain transformations of public green spaces.

### **1.4 Provisional Research Question(s)**

How the public green spaces have been converted into private uses in Yerevan following the independence of Armenia from the USSR?

- What transformations did happen regarding the public green spaces in Yerevan?
- Which factors are the most influential regarding these transformations and to what extent?
- How did these factors impact the transformation of public green spaces?

Research questions have been revised based on literature review, and the final research questions are presented in Chapter 3.

### **1.5 Significance of the Study**

With an increasing rate of urban constructions, there is a need to understand the dynamics and causes of transformations of public green space in the cities. The research contributes to further development of appropriate planning policies for sustainable development. Furthermore, it enables to reveal the main gaps and to focus on certain factors, which are the most influential in the investigated issue. The research also helps to narrow down the conceptual framework for future research on this subject, particularly in Armenia. Finally, the study contributes to urban planning, through revealing specific patterns and tendencies of transformations based on empirical case study evidence.

Moreover, the research results can be used for establishment of new master plans, zoning schemes and long-term policies, as well as strengthening social and environmental initiatives at local and national levels in Armenia. The study can also be used as a supporting argument for adoption of several unacknowledged laws on preservation of public green spaces, as well as laws on empowering architects, urban planners and civil society in decision-making processes for land-use changes and urban operations in public land.

Finally, the study contributes to scientific research through providing empirical case study evidence to two different bodies of literature: 1) the urban commons literature; and 2) literature

based on property rights theory that focuses on problems related to ambiguous property rights in transitional countries. Bringing new insight to these topics, and linking the theories with the case studies the research ensures the scientific relevance of the study.

## **1.6 Scope and Limitations**

Due to critical situation regarding the transformation of public green spaces in the “Centre” district and the urgency of the issue, the geographical scope of the research will consider the city centre as the main area of research. Detailed arguments regarding the choice of the central district are presented in the Chapter 3 “Selection of case studies”.

Public green spaces consider the outdoor spaces with essential amount of green surfaces and vegetation, which exist or existed as common use areas with free accessibility to everyone. (The term will be explained further in Chapter 2: “Concepts and definitions”). Furthermore, it is important to mention that public green spaces include diverse types of areas, such as public parks, playgrounds, green courtyards and lawns. Due to time limitation, only large spaces, particularly public parks will be examined within the research.

The study will be developed at micro-level, based on city-scale and case-study scale analysis. The aspects at macro-level, such as global economy or climate change will be out of the scope of research. Instead, the research will be focused on local transitional changes and outcomes. Additionally, secondary data regarding similar transformations in post-communist cities will be proceed in order to narrow down the scope of conceptual framework of the research.

During the data collection process only one developer and his architect representing the private sector were interviewed. It is important to mention, that it was hard to find private developers for the interviews, thus the unbalanced involvement of the private sector in the primary data collection process is considered as one of the limitations of the study.

## **Chapter 2: Literature Review / Theory**

### **2.1 State of the Art of the Theories / Concepts of the Study**

#### **2.1.1 Introduction**

The amount of urban built-up area has increased in almost all countries in the last decades, bringing serious challenges in conservation of natural resources, forests, as well as urban green spaces. The fall of the Berlin Wall and the collapse of the Soviet Union by the end of the 20<sup>th</sup> century opened new doors for a market-based economy, privatisation, and private property promotion. Influenced by the shift from socialism to capitalism, from communism to democracy and seeking to integration in the global economy, the new post-communist developing countries established several legal mechanisms and approaches for creation of private property, which became the central object of market economies (Jacobs, 2016).

De Soto famously argued that the main key for the capital and money is property (Soto, 2000). Emphasizing greater economic benefits through land and property market, the concept of “highest and best” use came back on the political agenda of transitional cities, aiming at profit maximization through transferring the land to the actor with the highest ability to pay and converting the land use to its most efficient and profitable use (Isaac, Balchin, et al., 2000). However, being focused on economic perspectives and ignoring the social aspects, the rapid urban development and promotion of private properties significantly affected the amount of public spaces in many cities, including parks, green yards, which were converted into private properties, especially in the post-communist countries, due to insufficient and/or inefficient planning regulations (Jacobs, 2016).

The drastically changing social, political, economic, institutional conditions were directly reflected in the spatial structural changes of post-socialist cities. Various urban transformations took place during the period of transition, bringing new challenges into the urban development field (Sýkora and Bouzarovski, 2012). Several studies revealed that the transformation of public green spaces into private uses took place in many transitional cities due to changing power relations between state, market and civil society (Wegener, 2000); (Sýkora and Bouzarovski, 2012); (The SkopjeRaste project, 2014). This Chapter addresses the major changes that took place during the transition period, then presents the results of a literature review focusing on transformation of public spaces (namely public green spaces into private uses in post-socialist / post-communist cities), and additionally it tries to find a link with the “tragedy of urban commons” theory in order to reveal the Yerevan’s tragedy. Finally, the main conceptual framework of the research is presented and the major concepts and definitions are explained.

#### **2.1.2 Changes of transitional period in post-communist cities**

##### **Spatial transformations and shift to the market economy**

The spatial structure developed by totally centralized planning approach in socialist countries is featured by several specific characteristics: mono-centric spatial structure; concentrated urban functions within the dominant city centre; mono-functional residential quarters between large industrial areas and parks. Socially inclusive communities were creating homogenous settlements, which was possible due to totalitarian control over land and property market by the national government.

The dissolution of Soviet Union and collapse of communism in Eastern Europe brought drastic urban challenges for the cities in transition. While several post-socialist European countries are already integrated in market-based economy, some developing countries such as Armenia and



Ukraine are still living the transitional transformations linked with political and cultural conflicts (Hirt, 2013b). Although the transitional changes affected each post-communist country to different extent, it is notable that similar processes and transformations were happening in all the states of former Soviet Union. The extensive study by Hirt and Stanilov (2009) reveals the similarities of the transitional paths between all post-communist and post-socialist countries including Armenia (Hirt and Stanilov, 2009b). Thus, the literature review is relevant to the investigated study.

The major spatial transformations of post-socialist period were featured by: development of decentralized multifunctional centres and districts; densification of mono-functional quarters, and construction of new outlying business districts; rapid increase of land and property prices with the proximity to the city centre resulting in gentrification of the centres; greater demand on new commercial amenities resulting in commercialisation of public spaces; competition for FDI and domestic investments at city and neighbourhood scale; creation of social exclusion in wealthier neighbourhoods; ignorance of legal and institutional urban planning approach and shift to market economy. Although various rates of population decline are observed in many post-socialist and post-communist countries, the urban built-up area is continuously increasing (Hirt and Stanilov, 2009a); (Hirt, 2013b), which confirms that new type of urban amenities, commercial and cultural structures became extremely demanded during the period of transition.

The establishment of new market economy leading to spatial transformations was one of the crucial changes in transitional post-communist cities (Sailer-Fliege, 1999);(Pichler-Milanović, 2009); (Tsenkova, 2006). It is highlighted that the city centres, which usually are the most accessible regarding the public transport, were experiencing the most drastic transformations due to high demand on land. The new types of cultural and service facilities resulted in rapid expansion of the CBD in Skopje, emphasizing the dominant functional importance of the city centres (Sailer-Fliege, 1999). The new market of various economic activities and diversity of services created greater demand on urban land, residential and commercial properties, which was typical to neo-liberal economies. One of the outcomes of these factors was the drastic change of ratio between the public and private spaces. The private ownership resulted in greater role of investors in the city's economic and also political processes (Stanilov, 2007).

After 1990s, several spatial transformations occurred in cities of Budapest (Tosics, 2006), Bucharest (Ioan, 2007), Belgrade (Vujović and Petrović, 2007), Sophia, as well as in Skopje, where essential changes in spatial structure were happening during the first 2 decades of transition. (Koželj and Stefanovska, 2012). Particularly the city centre of Skopje, experienced rapid densification through the injection of various projects and also through the new constructions occupying the open spaces through speculative planning policies leading to degradation of public spaces. The changes in city centre, which is the most vital part of the city, were happening in the condition of lacking transparency in the urban development processes. Moreover, the lack of awareness by the civil society regarding the new constructions enabled the rapid restructuring of the centre in Skopje through quick approval of the projects by the responsible officials (Koželj and Stefanovska, 2012).

Abovementioned processes are similar to almost all post-socialist and post-communist cities in transition, and Yerevan is not an exception. The continuous reconstruction processes in post-communist Yerevan in many cases are not responding to the modern requirements and image of the city, on the other hand, the urban transformations testified that city is living and developing (Mamian, 2014). However, the shrinking amount of public green spaces can be observed in Yerevan since years of independence. Several parks and open spaces are being

converted into diverse uses, such as residential, commercial and cultural amenities, making the issue of public green spaces critical (Karapetyan and Khachatryan, 2010); (Koželj and Stefanovska, 2012).

### **Changes in power relations**

Following the dissolution of the Soviet Union and the shift to market economy the loss of decision making power by the state authorities regarding the urban development operations was observed. Furthermore, a new influential actor was evolved in the market: the investor or private developer. As during the communist regime all the land was nationalised and the main developer was the state, it was easy to control and manage the urban development processes, which became uncontrolled during the period of transition, namely because of rapid evolution of influential private developers and changes in power relations between public and private sectors (Zhelnina, 2013).

The reducing power of the public authorities regarding urban development activities is also related to the limitation of municipal funds and greater dependency on the national budget. Serious gaps in division of national and municipal taxation, unequitable distribution of responsibilities and resources between the municipalities lead to a radical shift of power from governmental authorities to private developers, who own considerable budget for various investments. This resulted in privatization of land, property, infrastructure, as well as public services such as maintenance of public green spaces (Hirt and Stanilov, 2009b).

The process of privatization characterised by the transfer of property rights from state to private owners started directly after 1990s. This can be observed in many post-communist countries. For instance, in former Czechoslovakia the process of restitution can be noticed. Hungary also experienced rapid privatization due to possibility of tenants to buy the property at a low price (Sailer-Fliege, 1999). The transitional period in Central and Eastern Europe is also characterised with rapid privatisation of open public spaces. Several factors, such as outdated condition of urban spatial structures, evolving trends of capitalism, technological development impacted the transformation of public spaces into private properties. (Stanilov, 2007). The changes in power relations were the main drivers of urban transformations in Skopje as well (The SkopjeRaste project, 2014).

### **Institutional changes: planning policies**

The general master plan was the main planning instrument of spatial development of communist cities. The master plan was usually designed for long term period, approximately 20-25 year timeframe. In general many Soviet cities were designed with the same spatial structural schemes and principles. Several compulsory norms and regulations existed regarding the physical dimensions and construction processes, which were focused on ideology of socioeconomic equality. In addition, regulatory plans including generalized and not detailed land-use zones were developed for separate districts and neighborhoods. All the planning processes were guided by the national government, thus the urban development was controlled by the state to a great extent (Tsenkova and Nedovic-Budic, 2006); (Hirt, 2013b).

Following the fall of communism the process of decentralization took place not only at spatial lever, but also at institutional levels, thus all urban planning responsibilities were transferred to the local municipal institutions, which were lacking of experience and were limited in their resources. Moreover, the designed plans could not be realized due to budget limitations, therefore the responsible institutions started to focus on stimulation of private investments, privatization of land and property (Hirt, 2013b).

In many transitional cities, such as Skopje, the quality of building environment and urban planning has deteriorated in the condition of economic crisis. The urban planning lost its power as an instrument of management and control, especially in the sphere of conservation and promotion of public spaces (Koželj and Stefanovska, 2012). During the first decade the controlled planning policy was replaced by speculative development and “under-the-table” deals between the local authorities and private developers (Hirt and Stanilov, 2009a); (Koželj and Stefanovska, 2012).

The role of planning system was decreased not only because of scarcity of local budgets, but also due to poor institutional management. Vertical integration and coordination between local agencies and ministries was inefficient because of absence of intermediate planning institutions. Moreover, in many post-Soviet countries, such as Armenia the legal framework related to planning system is not fully updated since USSR period (Hirt and Stanilov, 2009a).

Additionally, the constant adaptation of planning policy is one of the key features for successful urban planning, which was lacking in post-communist territories. The difficulties to implement a “new” planning system to some extent was related to large aversion against any kind of planning after 1990s in many transitional countries. For instance, in the case of post-communist Poland lack of adaptability of planning regulations and weak legal framework enabled generation of chaotic urban transformations in the period of transition. Furthermore, the Planning Act in 2003 cancelled the responsibility of local governments to generate local plans, which gave freedom to private developers to develop profit-driven constructions without long-term vision and poor integration into existing urban structure (Karbhen, et al., 2012).

Institutional changes in urban planning proceed since the last decade of transition period in many post-communist cities. Civic participation, consensus building, transparency of processes and accountability of responsible stakeholders, principles of equity were the new trends for the revised policies of urban governance. The role of municipalities is also being strengthened in the post-socialist cities, as these bodies undertook the main responsibility for decision making and managing the urban policies and development plans. It can be noticed an emergent competition between the municipalities for FDI and external funding, which created new land markets within the rapidly changing urban systems (Tsenkova and Nedovic-Budic, 2006). Although transition period is characterized with focus on market economy, the role of planning is strengthening again, especially with focus on sustainable development. This can be observed in many post-socialist cities following 2000s (Hirt, 2013b).

During the last decade various cities seeking for financial support especially from EU funds, demonstrated increase in the role of urban planning policies and environmental issues. As the main strategic condition to get EU funds was the development of integrated urban policies with focus on sustainability, many countries, such as Romania strengthen their institutional capacity. For example, one of the important initiatives, set to research and reveal urban and social issues regarding public spaces, was organized by the Romanian Union of Architects and supported by responsible ministries and organizations (Pascariu, 2014). During last years advanced urban planning policies, such as eco-neighborhoods, sustainable city, smart-city, self-organized neighborhoods became the major trends of many transitional countries.

### **Social changes**

Beside of institutional, political and urban transformations, the transitional period is characterised by transformations in society, which was also an influential factor in shaping of the new urban circumstances of cities (Sýkora and Bouzarovski, 2012); (The SkopjeRaste

project, 2014). For instance, the social transformations in Skopje, as well as in other transitional cities were the respond of decentralization, which reflected the new local trends. The changes in society's demand on new diverse markets shaped the urban development directions and forced the planning policy to adopt to the new reality. On the other hand, at a long-term, the urban development transformations undoubtedly changed the lifestyle and perceptions of civil society (The SkopjeRaste project, 2014).

It can be stated that the social and spatial structural changes are interdependent variables reflecting and influencing each other. The question arises: does the new trends and social transformations of post-communist society impacted the urban development in transitional period, or the urban planning itself had changed the lifestyle and trends of civil society? The role of society in urban development transformations, especially in conservation of public green spaces in Armenia have not been examined yet, which adds value to this research. Moreover, the literature review revealed that the role of civil society was ignored in many studies on urban transformations of post-communist cities.

According to Howard (2003) transitional period in many Central European countries is featured by increased role of civil society in city's urban development (Howard, 2003). For example, during the first decade of transition Poland already recorded several achievements by the civil society, which played a decisive role in the process of entering the European Union (Linz, 2011). Nevertheless, in several post-communist countries, for example in Russia the civil society was disappearing from institutional and political agendas in the first decade of transitional period. Although scholarly articles illustrate increase in number of initiatives and established organizations of civil society, the society is still vibrant (Howard, 2003). Armenia was experiencing similar processes as in Russia after the collapse of Soviet Union.

Despite of weakened power of society during the first decade of transition (Wegener, 2000), the last decade demonstrates an increasing role and changing perception of necessity of public green spaces among the civil society in post-communist and post-socialist cities. For instance, it was notable the increased role of public participation in the debates against the privatization and restitution of public green spaces. Non-governmental organizations were collaborating to claim against the massive constructions in the public green spaces, as well as the society's demand to recover and create more public green spaces within the city was increased during the last years (Tsenkova and Nedovic-Budic, 2006). Although frequent resistance and protests from residents against the restitution of public green spaces happened in numerous cases, the examples of transformations of playgrounds and green spaces into private properties is not rare in many transitional cities. These processes were possible through the flexible and uncertain legal framework (Hirt and Kovachev, 2006).

During the last decade the role of civil society is increasing in transitional countries (Tsenkova and Nedovic-Budic, 2006) including Armenia (Isakhanian, 2008). Various initiatives by the society can be observed especially regarding environmental and heritage conservation issues in Yerevan. Moreover, the environmental and qualitative loss became one of the most influential topics of political agendas during the governmental elections in many post-communist cities in transition (The SkopjeRaste project, 2014). The environmental and urban issues were included also in the municipal agenda of Yerevan during the last decade (Yerevan Municipality, 2016). This shows the growing social recognition of importance of public spaces, especially green areas.

### **2.1.3 Transformation of public green spaces in the cities of transition**

The last decade of the Soviet Union era, was featured by massive constructions of public spaces intended to increase the attractiveness of the urban space. The public spaces, urban parks had

a significant role in the urban life of communist cities. After the dissolution of the Soviet Union (1991), the role of the public spaces have been reduced, resulting in massive loss and deterioration of the quality of public green spaces in many transitional countries (Pascariu, 2014).

Moreover the land which was totally owned by the state, had an insignificant value during the socialist period, hence, the government was willing to produce projects with large open spaces (Tsenkova and Nedovic-Budic, 2006). After the fall of communism and socialism, rapid privatization processes made the land more valuable and more demanded, which resulted in lack of sufficient open spaces and green surfaces within the new constructions. As a result, the planning policy was entirely focused on profit-driven projects with maximization of economic benefits bypassing the importance of open green spaces (Pascariu, 2014).

Open public spaces were radically affected by the large wave of privatization and restitution of properties in almost all former socialist and communist cities. Significant amount of public green spaces, playgrounds, courtyard parks and lawns were converted into private uses, which rapidly increased the density of the urban structures. The peri-urban areas were affected by rapid development of high-rise residential buildings and private dwelling houses occupying the remained open spaces. Sofia serves as an example of these practices: due to great extent of privatization and urban development, the areas of urban parks were redeveloped into private properties in the capital of Bulgaria. Sofia even recorded more than 900 hectares of loss of public green spaces during the period of transition (1980s to 2000s) (Stanilov, 2007).

Hirt and Kovachev (2006) also highlighted the negative influence of the evolution of land market and privatization processes on public green spaces bringing again the case of Sofia as an example. It is highlighted that significant portion of West Park, North Park and South Park were transformed into private uses. The latter was converted into construction site for Hilton hotel and a building for the Embassy of USA. Considering the economic effectiveness of the investment projects, the government of Sofia was willing to change the zone of open space into building sites (Hirt and Kovachev, 2006).

Although the power of market and global economy is relatively strong, the role of planning has being slowly increased and recognized particularly in Central European cities. However, the post-communist countries such as Moldova, Armenia, Georgia still demonstrate an indecisive planning policies (Hirt, 2013a). Hence, these countries and also Southern European states such as Greece and Portugal demonstrate higher level of informality in urban development, compared to the Central Northern Europe (Hirt and Stanilov, 2009b). Additionally, in the case of Russia, a specific partnership between governmental authorities and influential developers brings a relative power to the state (Hirt, 2013a).

The public green spaces were the first to be constructed during the massive densification of the city of Skopje as well. During the socialist period, the public spaces and green surfaces were seen as necessary element, which was keeping the balance between the open space and urban-built-up areas. The role of public spaces was also to provide natural surfaces and to achieve the standards of green surfaces per capita (The SkopjeRaste project, 2014).

Being a post-socialist city, the capital of Estonia also experienced spatial structural transformations caused by the “shift from state-led to market-led urban planning” (Tuvikene, 2016). According to Tuvikene (2016) the main features of transition period are the rapid construction of high-rise residential and commercial buildings resulting in high densification



of city centre, development of shopping malls and sprawling individual residential housing in suburban areas. Although many characteristics are in common in many post-socialist cities, it is argued that there is no single formula of urban transformations in post-socialist cities, as the transition period affected the urban development of cities differently (Tuvikene, 2016), thus individual research has to be done for different cases in order to reveal the influence of specific factors on urban transformations of cities.

Furthermore, regarding the vulnerability for transformations, the smaller green areas were more affected by the private development mainly because of the generalized zoning scheme. The zoning plans of socialist period were merging all the housing blocks with surrounded courtyards and green spaces into one “residential-complex construction” zone, and public open spaces were not presented as particular category of zone. Thus, the process of privatization and construction of public green spaces was easy, as the development of new properties on the public green spaces between already constructed buildings did not require any modifications in the land-use scheme (Hirt and Kovachev, 2006). In fact, during the period of transition, the land uses were being defined regarding the markets, rather than urban planning policies and zoning schemes (Hirt, 2013a).

Some slippages of urban planning policy of socialist era were also crucial in terms of vulnerability of public green spaces. Namely the urban planning of that period required a large distance between the buildings and large public green spaces in-between, which later enabled the construction of new properties in the playgrounds and courtyards. Some influences of broad-acre city and le Corbusier’s concept of the La Ville Radieuse can be noticed in many of constructed neighborhoods of socialist period. The large distance between the buildings also relates to the construction techniques of that time, which required large space for the cranes transferring the prefabricated modular panels for the buildings (The SkopjeRaste project, 2014); (Tsenkova and Nedovic-Budic, 2006). It can be stated that the physical dimensions of the socialist urban structures also made the public open spaces, including parks and green surfaces more vulnerable for transformations.

Neugebauer and Rekhviashvili (2015) also raised the issue of transformation of public green spaces after the dissolution of USSR. Within their study limited amount of academic literature and lack of scientific attention on this issues was noted. Their research also highlights the importance of studying the transformation of public green spaces in the cities of transition in order to understand the new spatial, social and economic concepts, perceptions, values and challenges of post-socialist societies (Neugebauer and Rekhviashvili, 2015).

Several changes are distinguished as influential factors for the transformation of public spaces in post-Soviet cities. First of all the political change and the loss of control over urban development decisions was crucial. The new ideologies also had impact on the perception of public spaces. An important role played institutional changes, which brought diversity of governance mechanisms for urban development and created new platforms for community participation in decision-making and space making processes. Moreover, new market economy led to greater demand on modern infrastructure, central business districts, and commercial structures, which in their turn influenced the societal perception of public spaces. Finally, all those changes are linked to general social changes considering ideologies, concepts, values, perceptions regarding the public spaces (Neugebauer and Rekhviashvili, 2015).

It can be stated that these transformations are the reflection of the changing trends of society. The increased demand on in-door property, rapidly emerging markets and activities resulted in

dramatic transformations of open spaces into shopping malls, residential and commercial amenities in most of Romanian cities. The new transformations were also a result of short-term profit-driven interventions, absence of appropriate planning system and lack of long-term vision by the new government. Nevertheless, the positive change of public perception towards the public spaces, especially by the young generation can be observed during the last years in Romania and in many other countries. Attention to the planning of public green spaces was also increased in parallel with the availability of European Union funding and support from other large international funding sources (Pascariu, 2014).

Similar processes of transformations are observed in Russian cities. For example, Moscow registered loss of 750 hectares of forests located in the Green Belt. Only between 1991 and 2001, forests within metropolitan Moscow reduced by 15 percent, public green spaces declined by 55 percent, while urban built-up area increased by 26 percent (Hirt and Stanilov, 2009a). The contrast shift to market economy, massive privatization and absence of civic society's participation in decision-making processes were the main factors influencing the loss of public spaces, including green areas and parks in St. Petersburg (Zhelnina, 2013).

However, by the beginning of the 2000s, despite some critics and discussions against the European city concept, several positive changes regarding the perceptions of public green spaces were observed and the new ideology of 'Europeanness' was promoted in St. Petersburg. This trend considers not only strategic change of economy, but also change in lifestyle. While public spaces were basically used for social and political events in USSR, the European city concept suppose massive creation of public spaces with green surfaces, diversity of activities and free accessibility. The concept of European city was a foundation for the development of the general plan of the St. Petersburg in 2005 (Zhelnina, 2013).

While several studies are criticizing the changes of urban structures in post-socialist cities in transition, Tsenkova and Nedovic-Budic (2006) brought some positive arguments in favor of transitional transformations. If the socialist cities are associated with planned economy and totally controlled urban development policy through the state's great monopoly of power, the shift to capitalism replaced planning with the market economy, where social consensus and participatory policies were being encouraged. Moreover, the free land market brings diversity of urban structures and greater involvement of modern innovations and technologies (Tsenkova and Nedovic-Budic, 2006).

Furthermore, while focusing exclusively on the positive aspects of urban public spaces, the debate about the public spaces also brings another argument, where public spaces are represented as structures stimulating social exclusion specifically in the cases of European cities (Neugebauer and Rekhviashvili, 2015). Several articles confirm that particularly proximity to green spaces and natural parks is resulting in increase of land value and gentrification of the neighborhoods (Wolch, Byrne, et al., 2014); (Rouwendal, van Marwijk, et al., 2014); (Space, 2006); (Woolley, 2004). On the other hand, there is a reverse effect on the public green spaces in the case of Yerevan city: With the gentrification of the area, the public green spaces are becoming more valuable, thus more vulnerable for transformations.

Majority of urban parks and public green spaces of Yerevan were constructed during the socialist era. Following the collapse of Soviet Union, the majority of parks and green spaces have been partially or fully transformed into private uses. The urban land prices in Yerevan are rising yearly, making the land allocated for public green spaces more valuable, thus it is continuously being privatized and contracted (Zhvania, Karapetyan, et al., 2010).

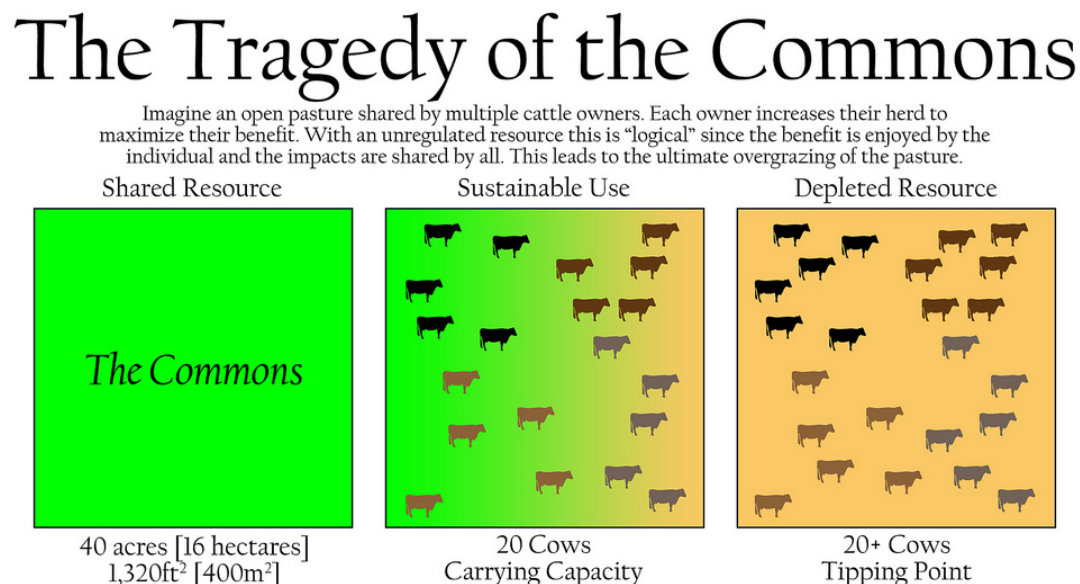
One of the rare articles by Hirt and Stanilov (2009) tackling down the transformations of public spaces in transitional cities of Eurasia, brings comprehensive understanding of spatial and social changes on the case studies in Tbilisi, Tashkent, St. Petersburg and other post-Soviet cities. While several academic studies regarding the structural urban transformations and cultural changes in the Russian cities exist, the remaining post-socialist cities, especially South Caucasian cases are lacking of relevant literature on public spaces in terms of legal aspects, social and economic linkages (Hirt and Stanilov, 2009a); (Darieva and Kaschuba, 2011).

Being mostly analyzed at the macro-level, transformation of public spaces requires also micro-level research regarding the local political, social and cultural changes of cities. Those processes of transformations and their relations with different political, social, economic factors during the transition period however are not linear (Darieva, Kaschuba, et al., 2011); (Tsenkova and Nedovic-Budic, 2006). Thus, the research requires more deep and qualitative study, which will provide micro-level evidence of these processes, aiming to understand 1) the extent to which public green spaces disappear, and 2) the processes underlying transformation of public green spaces into urban development.

## 2.2 Tragedy of the Commons

Being shared amenities with free access to all, public green spaces, urban parks and green belts can be considered as common goods, or as Foster (2012) described “urban commons”, meaning the collectively shared urban resources. These urban resources are non-rival and non-excludable goods, which may experience – if insufficiently managed - the “tragedy of commons” illustrated by Garrett Hardin in his well-known “The Tragedy of Commons” book (Hardin, 1968). He raised the problem of difficulty to exclude the potential consumers, who are lacking of manners for sustainable and conservative use of the particular resource.

Figure 4: Tragedy of the Commons, Source: Stephens Planning and Design LLC, 2013



In her turn, Foster (2012) opened the discussion of “Tragedy of Urban Commons”, where she shifted the problem to the urban amenities, such as public spaces, parks, services and infrastructure. While Hardin illustrated the tragedy caused by overconsumption and lack of regulations and excludability over the particular resource, Foster’s tragedy is dependent on

overregulated policies over public spaces, which result in usage failure of the specific resource (Foster, 2012).

Moreover, Foster opens a discussion on “regulatory slippage”, where several gaps and failures of regulatory framework are shaping the tragedy. Mostly this slippage is caused by reduction of financial and other resources of the state or by suppressing demand on particular resource. In any case, the theory assumes that the lack of willingness and accountability by the government to manage and protect the common goods is resulting in greater degradation of that resource. For instance, urban parks are controlled by various regulations, which limit the permitted actions on that land, utilization options and various requirements set for efficient use of the parks (Foster, 2012). However, if the regulations have gaps and are not established for the protection purpose, the final result can be tragic.

Additionally, Foster argues that collective management of the natural resources is considered as one of the most successfully implemented solutions for the tragedy of the urban commons (Foster, 2012). Discussion regarding the community’s role in preserving and controlling the public spaces was also tackled by Ostrom (2015), who argued that self-governing institutions formed by the communities play an important role in the process of efficient management of public spaces (Ostrom, 2015). Moreover, LeGoix and Webster suggested that communal self-governance and support by the state is essential for creation of private urban governance. Furthermore, the guidance by the high levels of government on management of specific resources is equally important. (LeGoix and Webster, 2006).

In general the tragedy of commons describes how freedom of usage allows individual actors to overuse and damage the resource for self-benefit. Lack of rules and limitations for usage and it could be added that the lack of fair policies and regulations result in exploitation of resources, in this case public green spaces. Latters, became a depleted resource reflecting in exploitation and degradation through the transformation into urban built-up areas, which is the tragedy to be examined and explained further within the particular research on the case of Yerevan. It can be assumed that the lack of appropriate regulations, uncertain legal framework and absence of long-term planning policies resulted in tragedy of urban commons, particularly the public green spaces, which were exploited by individual actors (developers) for self-benefit.

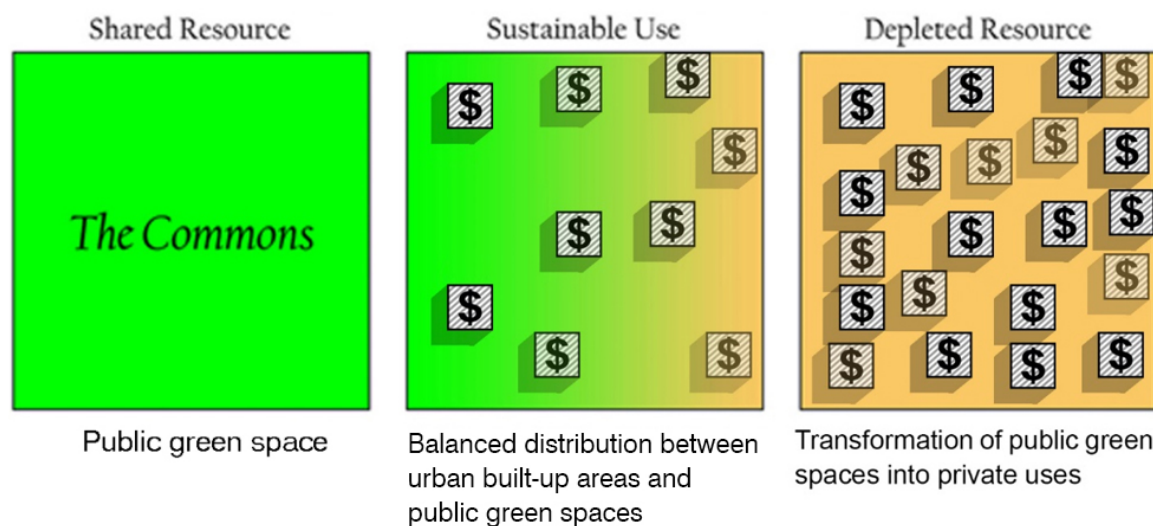
In her book "Glottz nicht so Romantisch! On Extralegal Space in Belgrade" Don’t stare so romantically: in external space of Belgrade, Dubravka (2012) tackled the issue of spatial structural transformations which took place after 1990s in Belgrade. The total ignorance of regulations and laws as one of the main factors of transformations is highlighted. So called “developer-led urbanism” was the main urban development approach after 1990s, which confirms the increased role of investor in the urban processes, namely empowering developers to act against the legal framework or adopting several laws for realization of large scale investment projects (Dubravka, 2012); (Dolenec, Majstorović, et al., 2013).

Influenced by those shifts in urban policies of transitional period, the public spaces, namely green areas were affected significantly in Belgrade. One of the example is the realization of Ušće shopping mall, which gross area occupied all the surface of plot previously used as a parkland. Moreover, it was constructed disregarding the permitted physical parameters of the building. It is argued that instead of empowering the society, the shift to democracy empowered only a few actors: private developers, who act according to private interest and totally neglecting the existing laws (Dolenec, Majstorović, et al., 2013). This scenario of tragedy is not phenomenal, as it is specific to practically all transitional cities, including Yerevan.

In the context of the Yerevan, the tragedy can be explained as following: the private developer can be considered as an actor who use the resource, which in this case is the public green space. The sustainable use and conservation of public green areas will contribute to a balanced ratio between the urban built-up area and public green spaces. A typical tragedy of the commons may appear if one developer decides to change a green area into buildings: the developer will benefit individually from the gains of that development (return on investment), while the negative impact (degradation and reduced quality of public space; possibly a reduction of property values) will be shared with all other land and property owners (See Figure 5).

Nevertheless, there are always two sides of the coin. The tragedy might have its positive externalities, which in the case of Yerevan could be the economic benefit from the investments, new sources of revenue from property and income taxes, improvement and maintenance of the remained public green spaces by the private owners.

Figure 5: Tragedy of the Commons: Yerevan case, Source: Author, 2017



urban commons: public green space  
consumer: private developer

## 2.3 Concepts and Definitions

### Transformation

The “transformation of public green spaces” has different meanings in various articles depending on the field of the study. For instance, in architectural articles “transformation of public green spaces” mostly describes the process of reuse and rehabilitation of industrial or other type of spaces into green areas. However, in articles related to transition period of post-communist cities, the transformation is emphasizing the major changes that happened during that period. Specifically, in the articles on urban development studies, (Dragičević, 2005); (Sýkora and Bouzarovski, 2012); (Krisberg, 2015); (Sýkora, 1999); (The SkopjeRaste project, 2014); (Sailer-Fliege, 1999); (Grigorescu, Mitrica, et al., 2012) “transformations of public green spaces” are representing a land use change; process of conversion of public green spaces into private uses. Thus, the research will emphasize the last described version of “transformation”, as it is the most relevant for this study.



## Transition

Although there is no particular timeframe established as transition period for post-communist cities, several articles argue that in many cities the period of transition continues until nowadays. For example, Koželj and Stefanovska (2012) argue that the transition is not finished yet in Skopje (Koželj and Stefanovska, 2012). Moreover, social practices and trends are still keeping the socialist features, as well as the spatial structural character of the cities in many cases is reflecting the communist era, thus, the post-communist cities are still considered as cities in transition (Sýkora, 2000); (Sýkora and Bouzarovski, 2012). Armenia is not an exception, as according to several articles (Paturyan, et al, 2014); (IMF Country Report, 2015) the first 25 years of Armenia can be still considered as period of economic, political and social transition. Thus, in this research the period after the independence of Armenia from USSR (1991) until 2017 will be presented as transitional period.

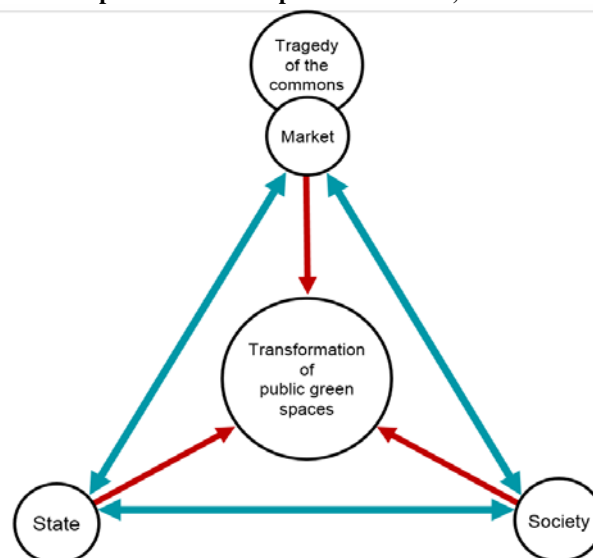
## Public green spaces

The definition “urban green space” is frequently used in academic articles emphasizing the green space usually located in the urban areas (WHO, 2016). This expression is not used in this research, as beside of parks “urban green spaces” include also the natural meadows, forests, wetlands and green vacant lots, which are part of urban ecosystem (WHO, 2016); (Wolch, Byrne, et al., 2014), but are out of the scope of this research. Instead, the definition “public green space” will be used for particular study, considering the parks, loans and green playgrounds which are integrated in the urban livelihoods and have free access to everyone.

The latest article of Taylor and Huchuli (2017) provides various definitions of green spaces used in different types of articles. In particular case of Armenia, the public green spaces are called “green zones of common usage” emphasizing the status of the shared resource. However, the majority of studies focused on architecture, urban development and social sciences use the terminology “public green space” to explain the areas, such as parks, community gardens, sport fields used by the public (Taylor and Hochuli, 2017). This particular research will examine the public green spaces, which are non-revalorise and non-excludable for the public, are or were owned by the Yerevan Municipality and in particular cases were partially or fully transformed into private uses, such as commercial, cultural or residential buildings owned by private developers.

## 2.4 Conceptual Framework

Figure 6: Main aspects of the conceptual framework, Source: Author, 2017

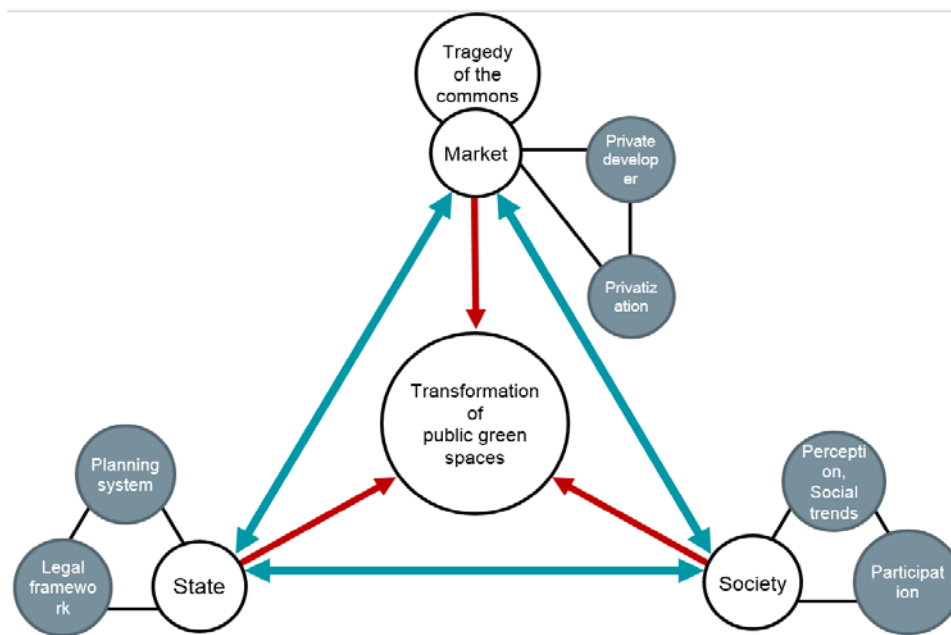


Following the main research question, the dependant variable (transformation of public green spaces) and independent variables (known and unknown factors) are identified as a general basis for formation of the conceptual framework. The literature review enabled to reveal several influential factors, which showed a linkages between the state, market and society. All these factors have particular impact on transformations of public green spaces in Yerevan.

The transformation of public green spaces in most post-communist and pots- socialist countries is being viewed as an outcome of transitional changes of that period. Moreover, each city case has its individual characteristics and dynamics regarding the transformations. However, all the examined cases in the literature review, provide an undeniable evidence that radical changes in 3 main aspects (state, society and market) impacted the urban transformations to high extent.

According to Sýkora and Bouzarovski (2012) the urban transformations of post-communist cities obviously require a complex integration of social, institutional and urban transformations within one conceptual framework (Sýkora and Bouzarovski, 2012). The interdependency and complexity of those factors has to be examined within this research. Hence, the market, state and society will be selected as the scope of aspects examined within the research (See Figure 6). Further, component variables will be studied within each aspect, which is illustrated in the Figure 7.

**Figure 7: Conceptual Framework, Source: Author, 2017**



The research will be developed under the “umbrella” of the concept of “Tragedy of the Commons”, which will help to explain the particular tragedy of Yerevan. Accordingly, several factors such as privatization, commercialization trends and private developer’s role will be examined, which will help to explain the impacts of market on the transformation processes. Within the “State” the institutional changes will be considered, including the planning system, legal framework and role of the state. Under the aspect of “Society” changes in perceptions, social trends and level of participation in conservation and decision-making processes related to public green spaces will be examined. Additionally, several new factors will be revealed and explained based on the case study analysis.

As it was mentioned earlier, public green spaces represent cultural value for the Yerevan city’s master plan, namely the city centre which was designed with the garden-city concept and was realized through unique layout in which the green spaces play significant role in forming the

spatial structure of the city (Orberlyan, 2017); (Khatchadourian, 2016). Thus, it can be stated that the transformation of public green spaces into private uses is not only a “tragedy” in terms of environmental, social and economic aspects, but is also a critical issue regarding the cultural values both at local and national levels.

Given the fact that the degradation and transformation of public green spaces was happening specifically during the period of transition when all the cities including Yerevan adopted the democratic approach, several questions arise: How in the condition of democracy and capitalism the European cities were able to keep and continuously increase the amount of public green spaces in urban settlements? Does the societal perception play role in European cities? Or the strict planning system, urban policies, norms and regulations do not allow the investors to convert the land into the private uses?

To some extent several transitional cities already are solving this issue by reconstructing and developing new public green spaces and initiating sustainable development plans for public green areas. However, the majority of those programs is also profit-driven, as they are being implemented for getting funds from large international organisations (Pascariu, 2014). In the case of Yerevan the dynamics of loss of public green spaces is also non-linear, as during the last years many public green spaces were created and maintained. Not too much is known about the driving forces impacting conservation or transformation of public green spaces. Thus, it has to be observed how did various interdependent factors impacted those transformations.

## **Chapter 3: Research Design and Methods**

### **3.1 Revised Research Question(s)**

Based on the literature review on transitional transformations in post-communist cities, several major factors were revealed and the main research question with its supporting sub-questions was formulated.

Main research question: “Which factors explain the transformation of public green spaces into private uses during the period of transition in Yerevan?”

Research sub-questions:

1. What transformations did take place regarding the public green spaces after the independence of Armenia from the USSR?
2. What changes did happen regarding the state and land market during the period of transition?
3. What changes did happen regarding the trends and perceptions of civil society?
4. How and to what extent did these factors impact the transformation of public green spaces in Yerevan?

### **3.2 Operationalization: Variables, Indicators**

The major concepts used in the research are the “transformation of public green spaces” and the “factors” influencing the transformations. As it was discussed in the Chapter 2, the transformation of public green spaces will be used to express the land use change from green space into urban built-up area, and change of ownership from public to private. Hence, “transformation” will be used to indicate the spatial structural change of public green spaces into privately owned built-up amenities. The main variables of this concept are the land use, ownership, the timeframe and the quality of space, which accordingly will be measured by several indicators shown in Table 1. The indicators will help to answer the first sub question and to reveal the types and trends of transformations that happened in Yerevan during the period of transition.

The factors influencing the transformations are represented as a separate concept. The research is focused on general aspects: changes in State, Market and Society. Each of these aspects contain several indicators (factors) which will be examined and complimented with other yet unknown factors. The indicators, also the data type and collection method is illustrated in the Table 1 and Table 2.

Particularly, within the planning system, the role of policy documents, such as master plans and zoning schemes, also the urban management system and the legal framework will be revealed and the influence of these factors will be examined. The changes in land market, specifically the role of private developer, emerging trend of privatization and the new demand for land and real estate will be taken into account for deep understanding of the impacts on investigated phenomenon. The role of civic society’s participation in conservation of public green spaces, as well as changing perceptions and social trends will be studied in order to explain the influence of social changes on the examined transformations.

### **3.3 Research Strategy**

The research aims to reveal and to explain the factors which influence the transformation of public green spaces into private uses during the period of transition in Yerevan. The literature review already revealed the general aspects, which impacted similar transformations in post-socialist and post-communist cities including Yerevan in the period of transition. The most

influential factors are the changes in institutional and planning system, shift to the market-economy, as well as several studies argue that changes of social trends and perceptions are essential factors influencing the transformation of public green spaces.

**Table 1: Operationalization: Concept 1, Source: Author, 2017**

CONCEPT	VARIABLES	INDICATORS	DATA COLLECTION METHOD / RESEARCH METHOD	DATA TYPE	DATA SOURCE
<b>Transformation of public green spaces</b>	land use change	<ul style="list-style-type: none"> <li>• commercial</li> <li>• residential</li> <li>• housing</li> <li>• cultural</li> </ul>	<ul style="list-style-type: none"> <li>• Content analysis</li> <li>• Observations</li> </ul>	Qualitative	Secondary and Primary Data
	timeframe	<ul style="list-style-type: none"> <li>• USSR period</li> <li>• 1991-2000s</li> <li>• 2000-2008</li> <li>• 2008-2016</li> </ul>	<ul style="list-style-type: none"> <li>• Content analysis</li> </ul>	Qualitative	Secondary Data
	ownership	<ul style="list-style-type: none"> <li>• public</li> <li>• private</li> <li>• leased</li> </ul>	<ul style="list-style-type: none"> <li>• Content Analysis</li> <li>• Interviews</li> </ul>	Qualitative	Secondary and Primary Data
	quality of space	<ul style="list-style-type: none"> <li>• greenery</li> <li>• pavement</li> <li>• lighting</li> <li>• benches and additional facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Observations</li> </ul>	Qualitative	Primary data

**Table 2: Operationalization: Concept 2, Source: Author, 2017**

CONCEPT	VARIABLES	INDICATORS	DATA COLLECTION METHOD / RESEARCH METHOD	DATA TYPE	DATA SOURCE
<b>Factors impacting the transformation of public green spaces</b>	<b>State</b>	<ul style="list-style-type: none"> <li>• Policy documents (Zoning)</li> <li>• Legal Framework</li> <li>• Planning System</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews (semi-structured)</li> </ul>	Qualitative	• Primary Data
			<ul style="list-style-type: none"> <li>• Content analysis</li> </ul>	Qualitative	• Secondary Data
	<b>Market</b>	<ul style="list-style-type: none"> <li>• Private Developer</li> <li>• Land market</li> <li>• Privatization</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews (semi-structured)</li> </ul>	Qualitative	• Primary Data
			<ul style="list-style-type: none"> <li>• Content analysis</li> </ul>	Qualitative	• Secondary Data
	<b>Society</b>	<ul style="list-style-type: none"> <li>• social trends</li> <li>• perception</li> <li>• participation</li> </ul>	<ul style="list-style-type: none"> <li>• Interviews (semi-structured)</li> </ul>	Qualitative	• Primary Data
			<ul style="list-style-type: none"> <li>• Content analysis</li> </ul>	Qualitative	• Secondary Data

Containing small number of units (public green spaces) and large number of independent variables (known and unknown factors) the research aims to describe the phenomena more depth, instead of breadth (Timney Bailey, 1992). Thus the “Case study” is used as research strategy, as it enables to generate detailed qualitative study within the certain context. Moreover, the “case study” enables to examine limited number of situations in a “very great detail” and to generate more deep findings (Van Thiel, 2014).

Additionally, the “case study” allows to make a comparison between different sub-systems, namely between neighbourhoods/parks over the certain period of time (1991-2016). Furthermore, a comparison of theories can be done in order to discover and explain the causality of certain factors on transformations. The research meets the pre-conditions for the choice of co-variation type of case study due to possibility to control different variables and to

formulate several hypothesis. The combination of secondary and primary data collection and mixed method of analysis will lead to more rich qualitative study.

The research is divided into two main parts: the general analysis and case study analysis. The general overview of 12 districts is done through content analysis of secondary data, such as maps and master plans, and analysis of primary data in the form of photographs of different sites. The main trends related to the transformations are revealed in order to illustrate the actual situation and to reveal what types of transformations did happen with the public green spaces after the independence of Armenia. Additionally, interviews complement the findings of content analysis and observations. For the further research, the case studies are selected and deep qualitative study is done. Content analysis, observations and interviews are generated separately for each case study and the data is triangulated and cross-validated in order to enhance higher validity and reliability of the research.

### **3.4 Research Methodology**

Mixed method is chosen as the main research methodology. This includes the collection of primary and secondary qualitative data. The combination of primary and secondary data is very effective approach for the particular study, as the secondary data narrows down the scope of the research and primary data leads to a deep qualitative findings. Furthermore, the mixed method provides greater flexibility and adaptability to different study designs (Driscoll, Appiah-Yeboah, et al., 2007).

The collection and analysis of secondary qualitative data, particularly the maps and master plans enables to reveal the main trends of transformations and to identify the scope of the research, which leads to more precise and focused study. The higher level / latent level of content analysis helps to explain the major trends of transformations and to reveal linkages with investigated factors.

Primary qualitative data is further used for deep examination of case studies. It gives the most valid answers to the research question, as it guarantees the reliability of data sources. Primary qualitative data comprised of observations and interviews brings new insight and ensures that the findings are based on human experience (Van Thiel, 2014). Moreover, the subjects can be evaluated not in standardized but in more depth and detailed way, which generates new knowledge on the topic. Additionally, the direction of the study can be reinterpreted quickly regarding the newly emerged findings, which can lead to more rich results.

### **3.5 Sample Size and Selection**

Due to time and budget limitation, the interviews with representative number of residents was impossible to generate, thus semi-structures interviews with key informants as one of the options of purposive sampling was chosen for primary data collection. This allowed to select representative respondents from different category of groups based on their specific knowledge about the subject. Consequently, semi-structured interviews were done with key informants from the following groups: 1) Governmental institutions representing public sector; 2) Researchers and academics representing public sector and in specific case the civil society 3) NGOs representing civil society 4) Private developers representing private sector.

**Governmental institutions:** The key informants representing the public sector were selected from following departments: Experts at Ministry of Urban Development of Armenia (currently State Urban Development Committee of Armenia) who are responsible for establishment and adoption of urban development policies at national level, experts at Architecture and Urban Development Department at Municipality of Yerevan, who are involved in design of planning policies including development and implementation of projects for public green spaces at the

city level, experts at Urban Development and Land Inspection Department at Municipality of Yerevan, who are responsible for land use changes, permissions and inspection of urban development projects within the administrative boundaries of Yerevan city.

**Academics:** In order to gain more insight in the role of planning policy, the researchers and professionals, who worked or did relevant research on public green spaces were interviewed. Particularly, a few academics and the Dean of the Urban Development Department at National University of Architecture and Construction of Armenia who also had participation in design and establishment of last Zoning scheme for the city of Yerevan were interviewed. It is important to mention that two experts (professors) from University represent the “civil society” sector.

**NGOs:** Two NGOs which are working on the projects related to the subject of research, specifically in the geographical scope of the case study areas were interviewed in order to gain more knowledge about the role of social perceptions and civic participation in conservation of public green spaces. The NGO 1 is specialized on preservation of public parks in Yerevan. The expertise of the NGO 2 includes protection of historical buildings and public spaces in Yerevan through active involvement of society in social movements and protests.

**Developer:** One of the private developers, who constructed large-scale amenity in the public green space of one of the case study areas was interviewed in order to reveal the driver forces and supporting factors enabling the particular transformation. Additionally, an architect working on abovementioned project was interviewed. This contributed to better understanding of the phenomenon from perspectives of different stakeholders, particularly private sector.

The content of the interviews is divided into two main parts: general part regarding the transformation, management and conservation of public green spaces in Yerevan, and questions related to specific case studies.

### 3.6 Data Collection Methods

The multiple data collection method was used for more rich and depth findings. The primary data was collected through semi-structured interviews, which was recorded for further analysis. The semi-structured interviews enabled to prepare questions ahead, but also to provide flexibility and freedom to respondents to express their opinions and experiences. Thus, semi-structured interviews guaranteed reliable qualitative data (Creswell, Fetters, et al., 2004); (Cohen, 2006). Additionally, observations such as photographs of the case study areas were done in order to do generate qualitative analysis at micro-level and to illustrate more detailed outcome of transformations.

The secondary data collection was composed of digital versions (AutoCAD, pdf) of master plans and zoning schemes of the districts, which were acquired from the Municipality of Yerevan. Due to unavailability of data regarding the spatial changes over the time, the most effective tool Google Earth, which contains yearly satellite views visualising the spatial changes starting 2000 was used for general analysis.

### 3.7 Data Analysis Methods

The research was developed using mixed-method analysis, which contains diverse methods of analysis.

**Content analysis (latent level)** Firstly, the content analysis of collected existing secondary data (master plans, policy documents) was done in order to generate qualitative findings regarding spatial transformations, urban development trends and gaps in legal framework.



Software, such as AutoCAD was used for content analysis of master plans, which is time-efficient way (Garnett and Kanaroglou, 2016). Finally, the latent level of content analysis was used to reveal the typology of public green spaces, types of transformations regarding the land uses and to explain the general trends of transformations linking with research questions.

**Primary data analysis:** The semi-structured interviews helped to explain the phenomenon through investigated factors. ATLAS.ti was used for interview analysis, which enabled to explore various research materials at the same time, and also it reduced the amount of mistakes due to consistency and transparency of analysis process (Ngalande and Mkwinda, 2014). Moreover, it allowed to discover new patterns and to compliment the findings with the manual analysis of interviews and content analysis. Additionally, based on physical characteristics the quality of space was analysed through the primary data, such as photographs generated in the case study areas.

### 3.8 Validity and Reliability

The “Case study” research strategy enables to explain the unique research subject in very detailed and depth way, however, it is often difficult to generalize the findings to other cases, as the research is very unique and application of certain finding to different cases will have a very limited external validity (Flyvbjerg, 2006); (Van Thiel, 2014). Even within a specific context, namely within 12 districts in Yerevan, it is difficult to generalize the findings without further research, as each case might have unique factors influencing the result of the study, thus the external validity is considered as one of the weaknesses of this research. However, the general analysis of the transformations through content analysis of maps, as well as general part of the interviews allow to reveal general trends and to enhance the external validity of the research.

In contrary, case study as a research strategy ensures high internal validity due to high quality and large amount of collected information. In order to achieve internal validity the results of interviews are compared between different data sources for source triangulation. Moreover, methodological triangulation, which considers the comparison of data collected and analysed by different methods (observations, interviews, content analysis, co-occurrence analysis) also contributes to high level of internal validity (Van Thiel, 2014).

Utilization of different data collection and analysis methods, also the flexibility of research design can reduce the reliability of the study (Van Thiel, 2014). Thus, detailed step by step documentation of the study and usage of case study protocol was used for more transparent research, which enabled to check whole process, enhancing the reliability of the research.

### 3.9 Selection of Case Studies

Firstly, the city of Yerevan is selected for the further research due to its dominant importance for Armenia as a main administrative, economic and cultural capital. Moreover, while other Armenian cities are slowly experiencing the transition by keeping the main communist character, the capital city is living the most radical urban transformations leading to critical situation in terms of preservation of public green spaces. Therefore, due to its national importance and high extent of urban transformations, Yerevan is selected for the further research.

From the literature review it was revealed that the transformations of public green spaces during the transitional period in many post-communist cities in majority were happening in central areas of the cities, where the land is highly demanded (Koželj and Stefanovska, 2012). It is important to note that besides of administrative and economic importance, the central areas of

cities are usually the historical parts of the urban structures, consequently they represent an urban value and cultural importance for the city. Hence, drastic transformations of public green spaces, particularly in the city centre of Yerevan is extremely urgent issue not only regarding the environmental, economic and social aspects, but also regarding the cultural aspect. Furthermore, it can be stated that Yerevan's city centre was the most affected area in terms of urban transformations and degradation of public green spaces during the transition. Thus, the "Centre" ("Kentron") district will be selected for the research.

Due to time limitation, only public parks were considered for the selection of cases studies. 4 case studies were further examined in the central district of Yerevan, two out of which are parks which were converted into private uses, and the remained two cases were preserved. This combination of case studies enabled to examine deeper why some public green spaces have been transformed and why others have been conserved. Moreover, it was possible to compare parks with both similar and diverse patterns of transformations, which led to deep qualitative understanding of the researched subject. The case study areas are demonstrated in the Figure 8. The cases 1 and 2 are the public green spaces, which were transformed into private uses. The 3 and 4 are these case studies which were conserved during the period of transition.

**Figure 8: Situation plan of case studies 1) Circular Park, 2) Victory Park with forest-park, 3) The "Park of Main Avenue" and Mashtots Park, 4) Children's Park and Shahumyan Park, Source: Google Maps, 2017**



## **Chapter 4: Research Findings**

### **4.1 Introduction**

This chapter presents the findings of the research using various methods of data collection and analysis. The findings are generated based on research questions and research objectives. The first part is comprised of analysis and findings of content analysis and observations. It includes general part, where the transformations of public green spaces are analysed at city level based on observations in all 12 administrative districts of Yerevan, and content analysis of city's master plan and Google Earth maps. The second part presents the analysis and findings at case study level. Types of transformations and qualitative characteristics of public green spaces are revealed, and findings are demonstrated through the generated "zoning maps of transformations" for each case study. Additionally, several factors influencing the transformations are captured and cross-validated with the interviews' results.

Furthermore, the results of the interviews are analysed and the findings are supported through the co-occurrence table analysis generated through ATLAS.ti. This section is comprised of general part and case study part, which respectively represents the analysis and findings at city-scale and case study-scale. The general part includes the discussion regarding the causality of investigated factors on transformations, and it reveals new factors and patterns of researched phenomenon. Finally, the case study part captures more detailed and in-depth findings explaining particular transformations at micro-level.

### **4.2 Content analysis and observations**

Content analysis is done using secondary data such as master plans and cadastral plans (AutoCAD) gathered from the municipality of Yerevan, and maps gathered from Google Earth satellite views from 2000-2016. This is complemented by the analysis of primary data such as photographs taken at the sites. The content analysis is comprised of basic level of content analysis at city level and latent level of content analysis in case study areas. This respectively helped to reveal and describe the general trends of transformations at city scale, and to explain the transformations in case study areas.

Master plans and satellite maps of different years are used to identify locations of public green spaces and transformation areas. The Google Earth satellite is reliable source, although the provided resolution of the maps is not sufficient for detailed analysis. Moreover, as the master plans and maps could not provide information on physical characteristics and functions of buildings, and the only available zoning map provided generalized zones without details, it was necessary to collect the cadastral maps of administrative districts in order to acquire the required information regarding the land uses and their changes during the time.

Due to unavailability of cadastral maps of all 12 administrative districts, additional observations in the form of photographs were done at the case study areas, as well as in various other administrative districts. Collection of primary qualitative data brought new insight and increased the reliability of the study. The observations were used to identify general characteristics of buildings constructed in public green spaces in case study areas. Moreover, it enabled to generate more qualitative findings at micro-level.

As a result of content analysis and observations, zoning maps of transformations are generated and used to develop descriptive analysis around beforehand divided segments of case study areas. Additionally, a transformation map was generated also at a city level. An overview of public green spaces in different administrative districts of Yerevan enabled to compare the types and qualitative outcomes of transformations between different locations, including the

case study areas. This increased the external validity of the study and provided arguments for generalization of the findings at a city level.

The results of content analysis and observations are cross-checked with the interviews for methodological triangulation. This strengthened the internal validity of the study and enhanced the understanding of the phenomenon from different perspectives. Furthermore, source triangulation helped to cross-validate the findings and capture different explanations of the same phenomenon.

#### **4.2.1 Content analysis and observations: General findings**

Based on master plan of Yerevan and Google Earth satellite maps (2000-2016) the public green spaces in 12 administrative districts were identified and studied. Due to time limitation only the parks and large public green spaces were selected and analysed. Observations done in selected sites helped to reveal the transformations, specifically the functions and general dimensions of the buildings constructed in selected areas. The general zoning map of transformations at a city level was generated, and several patterns were captured.

The main zones identified in this general study were commercial, cultural, residential and private housing. The detailed description of zones is presented in section 4.2.2 and the zoning codes are presented in the Figure 10. Through the analysis of generated “zoning map of transformations” several trends at a city scale were revealed, which enabled to generalize the findings of the case studies.

From the generated map (See Figure 9) it is visible that the major function of transformations is commercial use. It was found that especially the parks in central neighbourhoods of the city were affected by transformations into commercial uses. With a proximity to the centre, public green spaces are also being transformed into commercial uses (usually cafes and restaurants and small shops). Additionally, in several central neighbourhoods, such as Arabkir district, green courtyards between the residential blocks are constructed into high-rise residential buildings. In the periphery the public green spaces are transformed into private housing, usually occupying those perimeters of the park, which are close to traffic roads.

During the observations it was also revealed that the public green spaces which were fully preserved, in majority were featured by dense wooded areas with old and big trees. Moreover, it was also captured that with a few exceptions, the majority of preserved parks were dedicated to Armenian national heroes, famous figures and artists, and several memorials and cultural monuments were located in those sites: For example Saryan Park, Komitas Park, Komitas Pantheon, Tumanyan Park, Pushkin’s Park (currently Lover’s Park) dedicated to national artists and famous figures; Tsitsernakaberd (Armenian Genocide memorial complex) dedicated to Armenian Genocide in 1915; Victory Park (dedicated to victory in World War 2), David Bek Park (dedicated to Armenian national figure and military commander of 17<sup>th</sup> century) etc.

With a few exceptions, those public green spaces which were affected by transformations did not carry names of national importance and most importantly did not contain memorial monuments and objects carrying cultural value during the communist period. For instance, the public green spaces in Hrazdan Gorge were transformed into commercial uses along the perimeter of the Hrazdan River. The park around Yerevan Lake and Tokhmakh Lake (less known as Lyon Park), which are located in the periphery, were partially transformed into private housing zone and a few commercial and administrative amenities.

Furthermore, it was found that the public green spaces are better maintained and have good quality of space around outdoor and indoor cafes and other commercial amenities. It can be explained by the competition between commercial businesses and high attention to the quality



of surrounding space, as well as through municipal laws, which require compulsory regular maintenance of greenery and landscape in front of the commercial amenities.

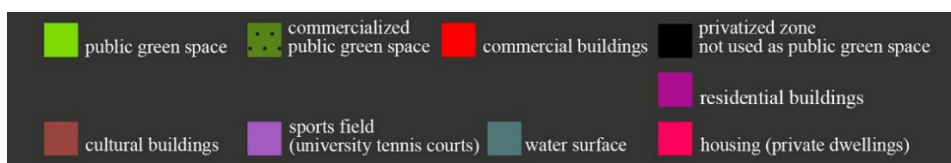
**Figure 9: General zoning map of transformations in Yerevan city, Source: Author, 2017**



#### 4.2.2 Content analysis and observations: Case study findings

Zoning maps of transformations in case study areas were generated based on content analysis of maps from Google Earth satellite views, master plan of Yerevan and observations in case study areas. These maps illustrate the urban built-up areas in the public green spaces, and through colours show the functions of buildings built in the case study areas. The conventional colour-based zoning codes are demonstrated in the Figure10. The characteristics and functions of the buildings were cross-checked through observations in the case study areas during the field walk. It is important to note, that the exact construction areas and parameters of buildings are not essential, as the generated maps are needed to identify the functions of buildings, and the basic physical characteristics, for example: single-storey or multi-storey construction, temporary building with flexible constructions, etc.

**Figure 10: Zoning Codes, Source: Author, 2017**



The main zones identified in the case study areas are commercial, which includes the restaurants, bars, cafes, hotels as well as business amenities such as luxury sport complex; cultural zone, which includes buildings with cultural importance such as church or concert hall; and housing zone, which includes private dwelling houses. Due to absence of residential buildings as a transformation outcome in case study areas, this zone is shown only in the

general or city level analysis of transformations. Additionally the “commercialized public space” zone indicates the public space with total commercial function, such as amusement park. The public green space layer includes all the remaining public green spaces, which are non-revalorise and non-excludable zones.

Furthermore, the quality of space in case study areas was analysed in order to generate micro-level research and to increase the level of knowledge regarding the investigated phenomenon. Referring to the observations in case study areas, the quality of space was analysed based on following characteristics: the quality of greenery maintenance, availability of woods and water areas, quality of benches and other facilities, quality of pavement and lighting, landscape beautification, variety of activities and additional characteristics, such as WI-FI availability or parking for bicycles (see Table 3). Notes were taken during the field-walk separately for each segment of case study areas, and separate tables were generated for further analysis (Annex 7).

**Table 3: Characteristics for analysis of quality of space, Source: Author, 2017**

characteristics			
Greenery (the level of maintenance)	poor	sufficient	good
Wooded areas (Availability of trees)	absence	scattered	dense (with old trees)
Water surfaces	absence	low maintenance	well-maintained
Benches	shabby (old)	sufficient	brand-new
Garbage bins	shabby (old)	sufficient	brand-new
Lighting	poor	sufficient	good
Pavement (pedestrian pathways)	shabby (old)	sufficient	good
Ramps	absence	low maintenance	well-maintained
Landscape beautification	absence	low maintenance	well-maintained
Commercialization of the space	commercialized	partially commercialized	not commercialized
Additional characteristics	cameras	Wi-Fi	free telephone booth

### 4.2.3 Case study 1

The Circular Park was designed as a recreational zone and a green belt for the downtown Yerevan (Ter-Ghazaryan, 2013). The park covers half-circular shaped area around the eastern part of small centre of Yerevan. It has 2500 metres length, 120 metres average width and total 30.3 hectares surface. The area of the park was divided by the streets into 6 (currently 7) segments (see Figures 11, 12). During the communist period, a canal was passing through the segments 1, 2, 3 (see Figure 11) and complimenting with large fountains was forming the water surface of the park. Later, in 2008 the canal was removed into underground pipelines for the expansion of the Khanjyan street and construction of a new road connection to Charents street.

During the communist period the Circular Park was considered as one of the best maintained recreational spaces of Yerevan, with its sufficient wooded and green areas and water surfaces. However, according to the archive photos and expert interviews this area was partially damaged during the massive deforestation happened in Armenia in the early 1990s. During the interviews many of experts mentioned the factor of deforestation and its possible impact on transformations. Thus, additional related secondary data was collected and studied.

From the articles and archive photos collected during the field walk, it was revealed that the whole country was appeared in the condition of social, economic and political crisis resulted by armed conflict in Nagorno Karabakh (Artsakh Republic) with Azerbaijan in 1988, then energy blockade imposed by Azerbaijan in 1991, and the war in Abkhazia (Georgia) leading to closure of an important route to Russia. Moreover, the last remaining gas and oil pipelines passing through territory of Georgia were blown up by the saboteurs. In the condition of total energy crisis Armenians were cutting trees and using as firewood in order to survive cold winters of early 1990s. It can be stated, that the energy crisis resulted in mass impoverishment across whole country, which caused also an environmental crisis, as many of forests and public green spaces were damaged and lost (Boudjikianian, 2006); (Ter-Ghazaryan, 2013).

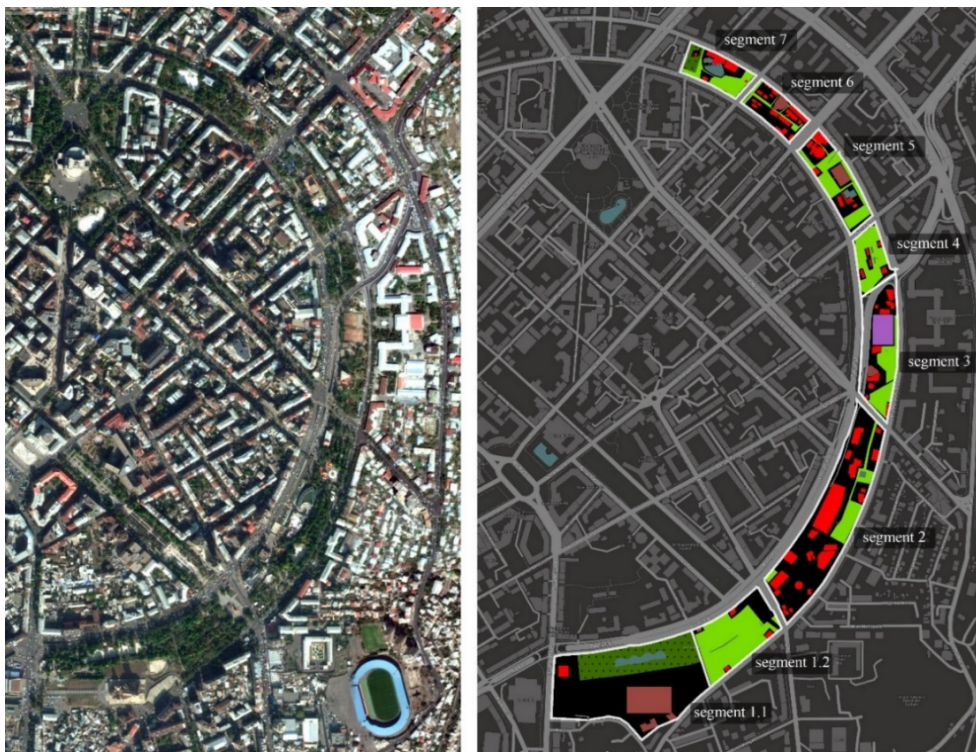


As a result of deforestation, several segments of Circular Park also became vacant, which later made the plots unimpeded for large constructions and consequently more vulnerable for transformations. This theory was confirmed by 9 experts during the interviews. Moreover, the co-occurrence table analysed through ATLAS.ti also demonstrated linkages between transformation processes and deforestation of 1990s.

**Figure 11: Case Study 1: Circular Park before transformations (left): Satellite view 2000, Source: Google Earth, (right): zoning map before the collapse of USSR, Source: Author, 2017**



**Figure 12: Case Study 1: Circular Park after transformations, (left): Satellite view 2016, Source: Google Earth, (right): zoning map of transformations, Source: Author, 2017**





The zoning map of transformations was generated to illustrate the findings of the case study based on content analysis and observations. It is visible that the area of case study is mainly transformed into commercial uses (See Figure 12). Two out of seven segments (1.2 and 4) are preserved and not affected by large constructions. However, the zoning map cannot show the qualitative outcome of these transformations. Hence, in order to generate more detailed micro-level research, additional observations are done in the case study areas.

Photographs are done and archive images of the case study areas are collected in order to analyse the quality of space based on several physical characteristics. In parallel with observations, notes were taken to capture particular features of the space per each segment. This increases the reliability of the study, as the findings are based on human experience. It is important to note that only physical characteristics were taken into account, while the perceptive characteristics, such as safety or urban vibrancy were not analysed, as it requires more in-depth research.

### **Segment 1.1**

In 1997 a festive ground-breaking for the construction of Gregory Illuminate Church was announced in the segment 1.1 of the Circular Park. The budget for the construction of such a giant building (\$2million) was donated by Armenian American philanthropist Louise Manougian-Simone and her brother Richard Manougian, who represent the Armenian diaspora in the USA (Asbarez.com, 2000). The construction was completed in 2003, and despite of several critics, the church became one of the important touristic attractions and religious amenities of Yerevan. Referring back to the archive photographs of late 1980s, before the dissolution of Soviet Union this plot was allocated for the park, which was a typical example of modern public green spaces. It included water surfaces, fountains and benches, well maintained green lawns, and was providing variety of outdoor activities for the residents of the city (See Figure 13).

From the master plan and Google Earth satellite map it can be observed that the urban built-up area of the church covers less than 10% of the segment: 6000 m<sup>2</sup> out of 83000 m<sup>2</sup> (checked by AutoCAD). However, the remaining vacant area cannot be considered as a public green space, since it does not provide essential facilities for that function. Thus, micro-level observations were done during the field walk for more detailed findings. It was confirmed that the surrounding area of the church (yellow perimeter on Figure 14) is not used as a public green space due to total absence of trees, pathways, benches and other necessary facilities.



**Figure 13: Case study 1 segment 1.1, Circular Park in 1980s, Source: unknown author**

The photographs done at the site show that the surrounding area near the church is comprised of empty lawns, which are maintained exclusively along 1-2 metre perimeter of the main entrance of the church. This perimeter provides sufficient lighting facilities, well-maintained greenery and bushes planted along the pedestrian pathways and ramps to the church. However, it is clear that the surrounding area (yellow border in Figure 14) represents neither public space, nor a green space. The other part of this plot is used as a parking area for the Court of National Jurisdiction of Centre district constructed in the beginning of 2000s.

**Figure 14: Observations at Case Study 1, Segment 1.1, Source: Author, 2017**

## Segment 1.2

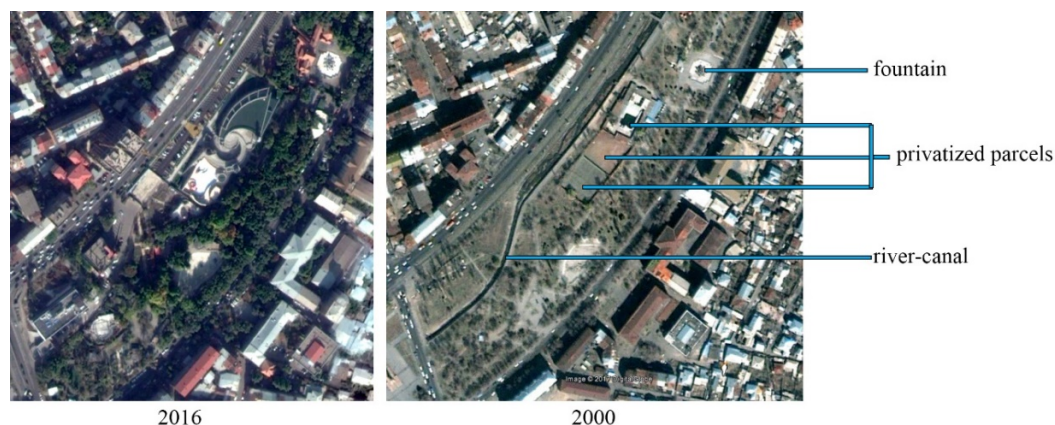
During the field walk it was observed that the area of playground has sufficient facilities such as benches, pavement, lighting and playground equipment. However, in general the level of maintenance in this segment is very poor. The shabby concrete pavements does not provide adequate pathways and ramps for full accessibility, the greenery is lacking of regular maintenance, only a few garbage bins are provided along the pedestrian roads, plastic bottles and other garbage can be noticed in the green areas, the lighting of the area is relatively poor. Particularly the surrounding areas of cafes are clean, well-maintained and landscape beautification is provided. Additionally, the area around the statue of Vardan Mamikonyan has relatively good quality regarding the availability of benches, garbage bins, lighting, and cleanliness of the area.



[illegible]

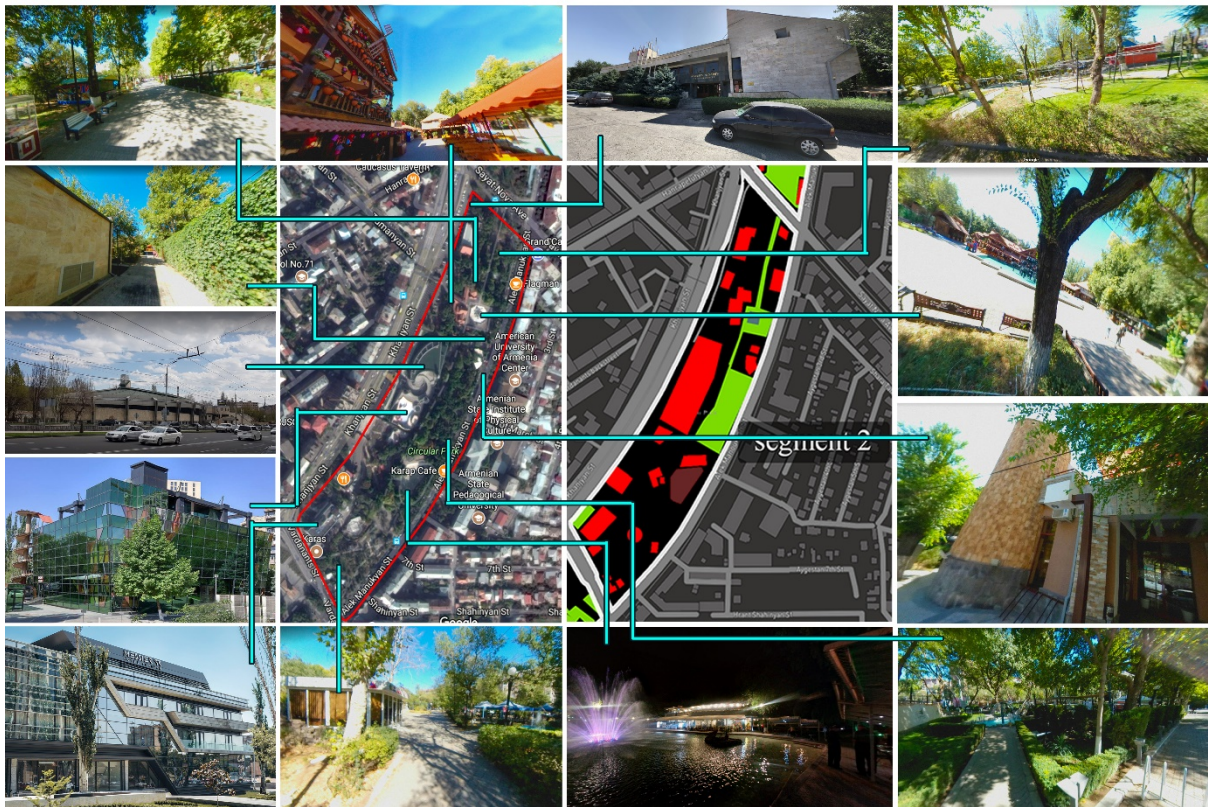
From the Google satellite map in 2000, it can be seen that the segment 2 was partially vacant and several gated parcels were already formed in 2000 (See Figure 16). It could have been a speculation as the buildings were constructed more than a decade later than the parcels were originated.

**Figure 16: Satellite view of Segment 2 in 2000 and 2016, Source: Google maps, Author, 2017**



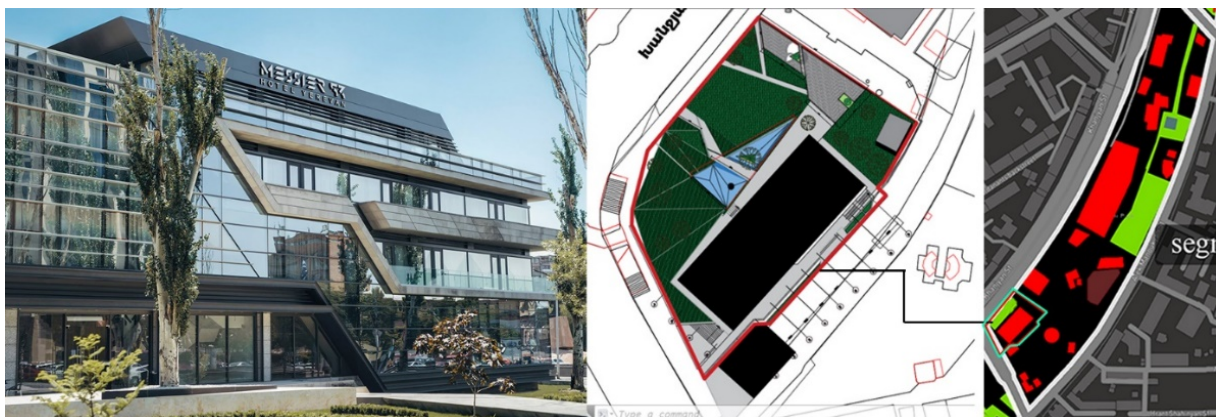


**Figure 17: Observations at Case Study 1, Segment 2, Source: Google maps, Author, 2017**



During the field walk one of the latest architectural master plans was gathered from the architectural firm involved in the construction of a hotel at the this segment area. Through AutoCAD it was checked that the urban built-up area of the hotel is 1050 m<sup>2</sup> complimented with 500 m<sup>2</sup> additional amenities, which in total is 40% of the 3960 m<sup>2</sup> privatized area. During the interview, the architect highlighted several times that the construction covers nearly 40% of the privatized (leased for maximum 99 years) plot, and besides, in the project they provided a modern public green space with water surfaces and a high level of maintenance (See Figure 18b). Nevertheless, not all the constructions in this plot are corresponding to the regulations of maximum construction density of 40%.

**Figure 18: Hotel constructed in the case study area 1 (segment 2). From left to right: a) view of the hotel b) the master plan of the hotel site c) situation of the hotel in the segment 2, Source: architect A, Author, 2017**





### Segment N3

University tennis courts, as well as the House of Chesses were constructed in this segment during the Soviet Union period. Later, several one-storey restaurants and cafes were constructed in the inner perimeter of this segment. The surrounding areas of cafes (approximately 3-6 meters) are clean and have relatively high level of maintenance regarding the quality of greenery, pavements, lighting and additional facilities.

Several green spaces with old trees are preserved in this part. The quality of space in these remained open spaces is in a poor condition: old broken benches, low-maintained greenery and shabby pavements (see Figure 19). The surrounding area of the Charents statue, which is located in the northern corner of this segment, is featured by relatively well-maintained greenery.

Figure 19: Observations at Segment 3, Source: Author, 2017



### Segment N4

Considerable amount of woods is preserved in the smallest segment of the Circular Park. Several small parcels are being constructed into one-storey cafes, small shop and a zoo zone. Although the latter was closed 10 years ago, the empty amenities are remained until nowadays. This segment is featured by poor maintenance of greenery and shabby pavement. The fountains of Soviet modernism located in the central part of the segment are not working. Nevertheless, the surrounding area of statue of “Ayvazovski” is well maintained and represents a good example of public green space preserved and maintained by the municipality (see Figure 20).

Figure 20: Observations at Case Study 1, Segment 4, Source: Author, 2017



### Segment N5

The National Centre of Chamber Music is one of the iconic buildings of Soviet modernism constructed in this segment in 1977. It is perceived as an indispensable element of the park. During the transitional period a two-storey supermarket, one-storey shops and several cafes

were constructed in this area (See Figure 21). The surrounding space of commercial amenities is well-maintained: landscape beautification, lighting, greenery and pavement is implemented in a good quality. A small part of the park is remained as a public green space. The quality of this area is relatively good, especially in the areas around Assyrian Genocide Memorial statue (2012) and monument of Russian-Armenian friendship (2013).

**Figure 21: Observations at Case Study 1: Segment 5, Source: Author, 2017**



## Segment 6

The iconic entrance of the metro station “Yeritasardakan” is also considered as an integrated element of the Circular Park. During the transitional period several one-story cafes and shops were constructed in this segment (See Figure 22). Considerable amount of old trees are preserved in this plot. The quality of the remained public green spaces is relatively high, although benches and greenery are not in a good condition. Partially the area is lacking of regular cleaning. Similar to the previous segments, the areas around memorial statues and cafes are featured with well-maintained space.

**Figure 22: Observations at Case Study 1: Segment 6, Source: Author, 2017**





## Segment N7

One of the most popular cafes' of Soviet times named “Poplavok” was situated in this segment. From the archive photographs collected during the field walk, it was revealed that the open air café was providing a high-quality public space and it was integrated into the design of the artificial lake (See Figure 23).

During the last decade, this café was upgraded several times and was transformed into three-storey large-scale building. The surrounding perimeter of this plot was also developed into two-storey cafes and restaurants (See Figure 24). Currently the remaining public space is leased to a private company and is developed into an Attraction Park for children. Benches are old but sufficient, the pavement, lighting and greenery is in a relatively good quality. The park is also equipped with cameras, which, to some extent increase the level of safety.

Figure 23: “Poplavok” café in early 1980s. Source: MediaMax



Figure 24: Observations at Case Study 1: Segment 7, Source: Author, 2017



### Conclusive remarks on Case Study 1 (Content Analysis and Observations)

In conclusion it can be stated that during the transition, Circular Park was partially transformed into commercial uses. While most of the segments are constructed into one or two-storey cafes, the most affected segment 2 is constructed into multi-storey large-scale buildings, difficult to demolish in the future. Moreover, the continuous connectivity of segments of the park through public green spaces is lost. The majority of water surfaces is not working or is leased to cafes. The public green spaces, which are not commercialized are characterized by low-quality of space. It is important to mention that the public green spaces located around the commercial amenities and memorial statues are featured by high quality of greenery, regular maintenance, modern lighting and landscape design.

#### 4.2.4 Case study 2

According to the proposed master plan by architect Alexander Tamanian in 1924 the areas of segment 2.1 and segment 2.2 were intended to be developed into a recreational and cultural park and serve as an important greenbelt for the city centre (See Annex 1). The construction of the park called “Urban Park in Arabkir” started in 1930s. Later, in 1950s it was dedicated to



the victory against fascism during the World War 2, and the park was renamed into “Victory Park” (segment 2.1).

According to the archive photographs this park was providing diverse attractions and variety of activities for the society (See Pictures 1-5 in the Annex 2). The amusement park, which was constructed in this segment in early 1960s continues to keep its function until nowadays. The park also includes an artificial “Areni” lake (See Picture 1 in Annex 2), and a large parcel was allocated for the giant monument of Stalin. Latter was dismantled in 1960s and replaced by the monument of “Mother Armenia” (See Picture 2 in Annex 2).

**Figure 25:** Case study 2 area before transformations, left: Google Earth Satellite view 2000, right zoning map of are before transformations, Source: Author, 2017



**Figure 26:** Case study 2 area after transformations, left: Google Earth Satellite view 2016, right: zoning map of transformations, Source: Author, 2017



The Victory Park (segment 2.1) is mostly constructed along the perimeter of the main roads: Azatutyan Street and Babayan Street (See Figure 26). A five star hotel is constructed in this plot in 2005, and expanded into Radisson Blu hotel in 2016. Several small one-storey restaurants and cafes are developed around the main road and the lake. Part of the remaining public green spaces is allocated for the amusement park (See Figure 27).

The other part of the green belt (segment 2.2) was serving an urban forest and recreational zone. During the field walk it was found that only a few records exist regarding this plot. Several archive photographs were collected, however more detailed materials, and even the name of the former-forest were not found. Nevertheless, all the interviewers confirmed that during the Soviet times, this segment was intended to serve as a green zone. The location of this case study area is quit central and it is bordering with important traffic routes. Thus, due to its centrality it is evidently an attractive plot for investors with high ability to pay.

Referring to the Google Earth satellite maps from 2000-2016 and analysing the master plan of this district, it can be stated that the entire area of this segment was privatized and constructed into dwelling houses (See Figure 27). Moreover, the majority of the houses was realized in the period of 2006-2016. One of the houses is allocated for the Embassy of Ukraine in Armenia. The corner of this segment is developed into a petrol station. In this part, within the radius of 30 metres the old trees are preserved. This is the last remaining public green space of this segment, which however is not used as a public green space, due to absence of necessary

facilities and lack of maintenance. It is important to highlight the fact that eastern part of this segment was considered as a green zone in the master plan of Yerevan established for 2005-2020 period.

From the zoning map of transformations it is visible that the plot 2.2 is completely transformed into housing zone, and plot 2.1 is partially transformed into commercial uses. The observations done in the site helped to analyse the quality of space in particular areas and to generate detailed micro-level findings.

**Figure 27: Observations at Case Study 2 area, Source: Author, 2017**



It was revealed that the quality of space is relatively poor in segment 2.1 (Victory Park) compared to the case study 1 (Circular Park), where a few parcels were maintained and equipped with new benches, lighting system, garbage bins and new pavement. The remaining public green space in segment 2.1 is equipped with old benches and garbage bins, the pavement is in a poor condition and the greenery is not maintained. It is lacking of up-to-date facilities such as public toilets and ramps. The areas around the hotel and cafes are featured by high level of maintenance and landscape beautification. Landscape beautification with flower decorations, lighting design and pavements in almost all cases are well maintained within the radius of 5-10 metres from the commercial amenities.

In the beginning of 2000s segment 2.2 was constructed with a few private houses and entirely transformed into housing district during 2004-2016. Through the content analysis of the master plan and analysis of observations it was revealed that the secondary streets developed during the last decade are equipped with barriers and the accessibility is limited for the public use. The new streets are exclusively used by the house owners of this neighbourhood. Observations showed that luxury houses with large private gardens are gated by high solid walls. According to media, which is refereeing to city register, in majority the housing is owned by politicians and the rich elite of the country.

### **Conclusive remarks on Case Study 2 (Content analysis and observations)**

In conclusion, it was calculated that approximately 10 % of the 33 hectares of the segment 2.1 is occupied by commercial developments, specifically by large-scale hotel (Radison Blu) and one- storey restaurants constructed along the main roads. The remaining public space in this segment is featured by lack of maintenance and poor quality of space with the exception of the areas around the commercial amenities. Segment 2.2 is entirely transformed into gated residential neighbourhood comprised of luxury private housing. The constructed secondary streets in this segment are exclusively used by the private owners of the neighbourhood.

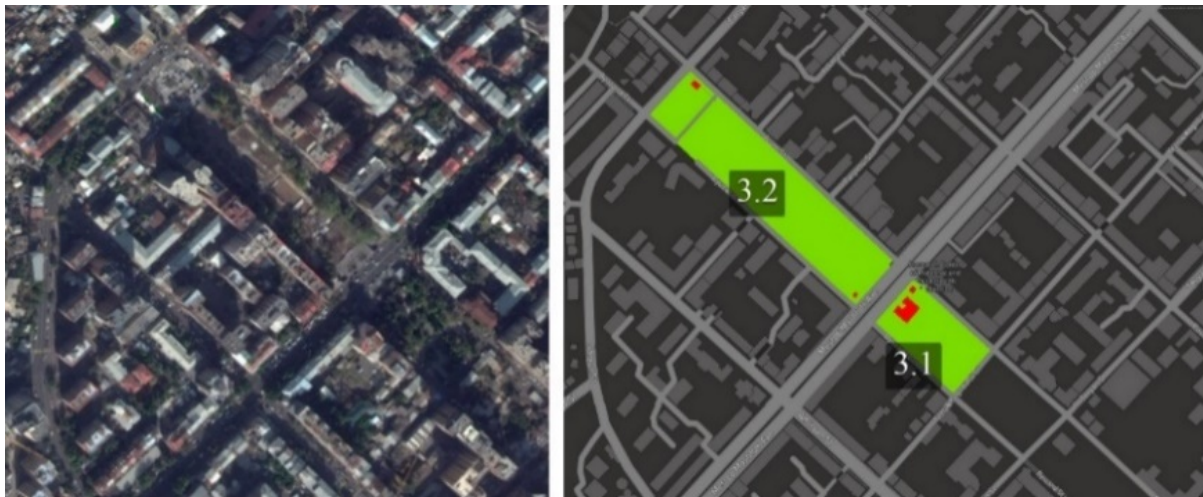


### 4.2.5 Case study 3

The Mashtots Park (segment 3.1) and Main Avenue's Park (segment 3.2) are forming the main green axis crossing the small Centre. This axis is discontinued by the future project of "Old Yerevan" (previously historical houses) and the building of National Gallery. Further, this green axis sprawls till the Circular Park (See Annex 4).

The Mashtots Park (3.1) which was renamed after Missak Manouchian in 2012 passed through various transformations during the transition, but until nowadays it keeps the function of a public green space. In 2011 it was intended to temporarily allocate several plots for one-storey shopping pavilions. The intervention was cancelled by the municipality after social movements and massive protests by urban activists. After the cancelation of the project, the park was maintained by the municipality and public spaces were improved. The other segment 3.2 also kept its function as a public green space. Currently the park is under reconstruction, and according to the municipality experts, the preservation of existing trees is a key priority during design and implementation of the reconstruction project.

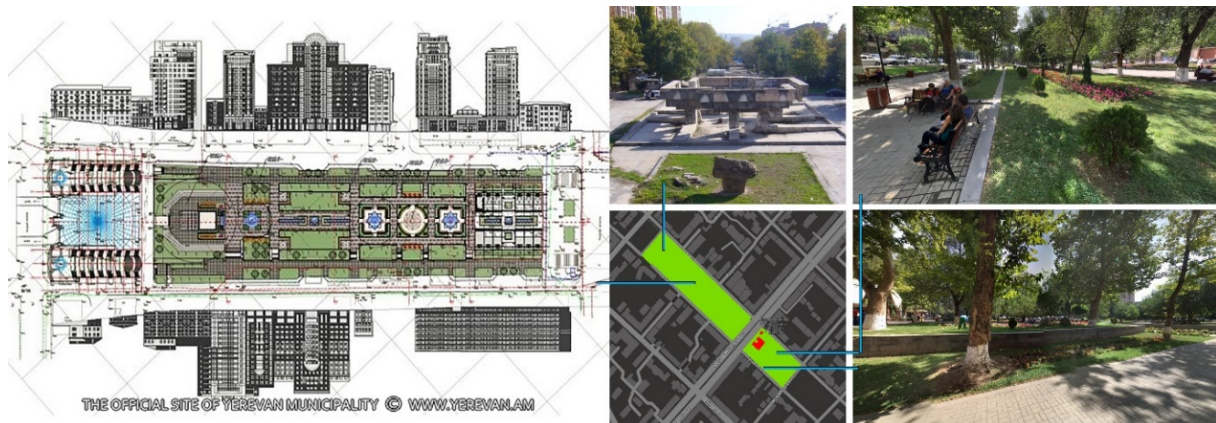
Figure 28: Case Study 3 area: left: Google Satellite view 2016, right: preserved public green space area, Source: Author, 2017



Based on observations and notes taken during the field walk, it was revealed that the segment 3.1 is equipped with new benches and garbage bins, pavement and lighting is in a good condition, regularly maintained greenery and landscape beautification is notable. Several old trees are preserved in this segment. The visualizations for the reconstruction project of the segment 3.2 illustrate that variety of facilities and activities will be provided in the park: new benches, lighting, pavement and water surfaces will be implemented and maintained. According to interviewers and referring to archive photographs it can be highlighted that before the last reconstruction the segments 3.1 and 3.2 were not in a good condition regarding the poor quality of maintenance. Both parks were characterized by shabby pavements, old benches and fountains, which had cultural value were damaged and were not working.

It is also important to mention that the surrounding neighbourhood of the park is mainly constructed by residential buildings with multifunctional activities at ground floors. After 2008 the neighbourhood was upgraded through several high-rise residential buildings. The park is used as a recreational zone and includes a few outdoor cafes. Similar to the case studies 1 and 2, the surrounding space around the cafes and memorial statues has obviously better level of maintenance regarding the greenery, landscape design, pavement, benches and additional facilities.

**Figure 29: Observations at Case Study 3 area, Source: Author, 2017, left: master plan of reconstruction of Segment 3.2, Source: Yerevan Municipality**

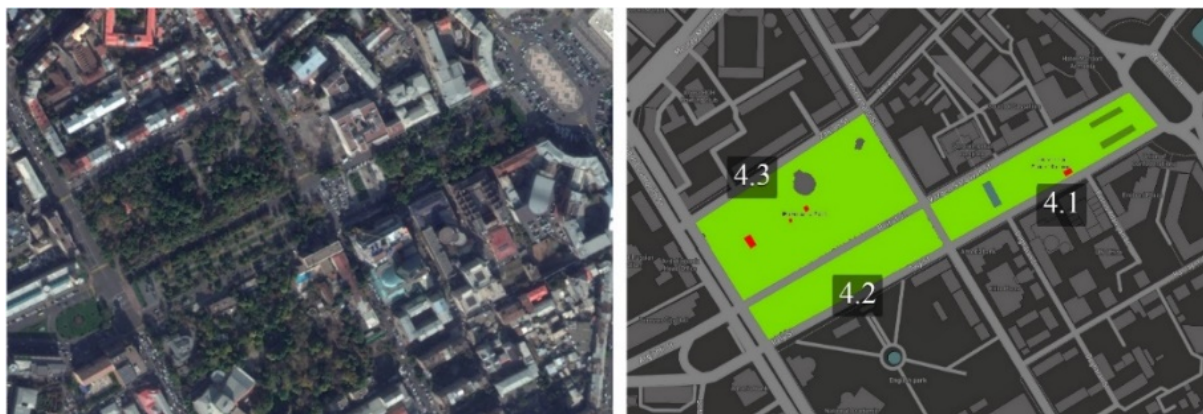


#### 4.2.6 Case study 4

The Children's park (4.3) and Shahumyan's Park (4.1, 4.2) are important zones forming one of the green axis of the city centre. These parks were preserved during the period of transition and are currently functioning as public green spaces. The case study area is surrounded by multifunctional complexes, hotels and governmental buildings including the Yerevan Municipality.

Several outdoor cafes are located along the fountains in the segment 4.1. These cafes are functioning during the warm seasons and are not disrupting the function of the park. Modern benches, garbage bins and lighting are provided in different parts of this segment. The greenery and the landscape is in a good quality, with special landscape beautification around cafes and memorial statues. The fountains, which are forming the water surface of the park are maintained and functioning during the warm season.

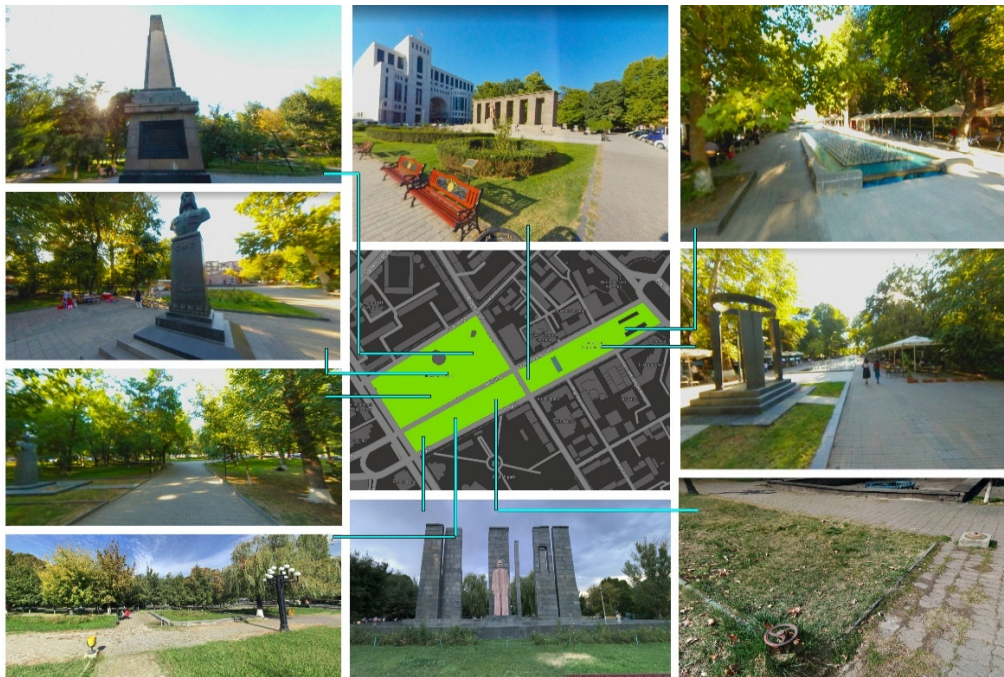
**Figure 30: Case Study 4 area: left: Google Satellite view, 2016, right: preserved public green space area, Source: Author, 2017**



The segment 4.2 has relatively poor environment regarding the physical characteristics of the space. This plot is featured by absence of any constructions. The space is equipped by old benches, and shabby pavement. Lack of maintained greenery and absence of landscape beautification is notable. Nevertheless, the lighting facilities are in good quality. Including green spaces with pedestrian pathways, the segments 4.1 and 4.2 are providing sufficient facilities as a public green space, however are mainly functioning as a public passage connecting the Republic Square with the Shahumyan and Myasnikyan Squares.



**Figure 31: Observations at Case Study 4, Source: Author, 2017**



A few one-storey cafes are developed in segment 4.3 Children' park (previously Kirov's Park). This green zone was constructed in 1930s. Currently the park has a dense forestry saved from massive deforestation in the period of blockade in 1990s. The quality of space is not at high-level, but it is sufficient for utilization of the area as a public green space. The park is partially under reconstruction by the municipality (See Annex 6). According to the new project, it is intended to provide the park with modern benches, lighting and platforms for various activities. Currently the park includes a few activities for children. Additionally, it is significant to highlight the existence of several memorial statues in each segment of the case study area. Similar to other case studies, the spaces are well-maintained especially in the areas around memorial statues and outdoor cafes.

#### **4.2.7 Conclusions on content analysis and observations**

Based on secondary data analysis of maps, master plans and archive images, and primary data analysis of observations in the form of photographs on site, several major trends were revealed and linked with the research question. First of all, the types of transformations were discovered: public green spaces were dominantly converted into commercial uses. The majority of commercial amenities are comprised of one or two-storey restaurants and multi-storey hotels and entertainment amenities. In the periphery several parks and green zones were partially transformed into private housing, and with the proximity to the city centre the transformations include residential high-rise buildings.

#### **Differences**

Differences in quality of space are captured between preserved and transformed plots of case study areas. Particularly, the areas around the commercial amenities are featured by high level of maintenance. On the contrary, the preserved parks are characterized by low maintenance, poor quality of greenery, pavement and facilities. Moreover, the preserved public green spaces are covered with dense wooded areas, opposite to transformed parcels, where according to archive images and Google maps, the areas were affected by deforestation in 1990s and converted into vacant land. Finally, different to Case study 1 where all the transformations had commercial function, the case study 2 was fully transformed into private housing zone in the segment 2.2.

## **Similarities**

All 4 case studies are characterised by better quality of space near the commercial amenities and open air cafes. Moreover, the surrounding space of the memorial statues are also featured by high level of maintenance. On the contrary, in both preserved and transformed parks, the green spaces, which are serving as an open space and do not contain art objects, memorial statues or commercial activities are characterised by low maintenance quality. Additionally, in both case studies of preserved parks which previously were featured by poor quality of space, the site was reconstructed by the municipality during the last years.

Concluding, this part of the chapter was aimed to discover what transformations happened to public green spaces in Yerevan during the transition. Further analysis of interviews revealed the explanations of these transformations based on research questions, and also several theories based on literature review were confirmed.

## **4.3 Interview analysis and findings**

### **4.3.1 Introduction**

Primary data through interviews with 15 key informants was collected during the field-walk. The interviewers were distinguished into three groups: public sector representatives, private sector representatives and civil society representatives. The first group is composed of 4 experts from Yerevan Municipality, 3 experts from Ministry of Urban Development (currently State Urban Development Committee of Armenia), 1 expert from Department of Urban Development at NUACA University. The private sector is represented by a private investor (owner of the private building constructed in the case study area) and an architect worked on one of the projects in case study area. It is important to mention that it was difficult to find private developers for interviews because of the sensitivity of the topic. Hence, this might result in a limitation of the study due to limited information collected from the private sector. Finally, the civic society representatives are composed of 2 experts from Department of Urban Development at NUACA University, 3 representatives from 2 different NGOs focused on preservation of parks in Yerevan.

Ten out of fifteen interviewers agreed to be recorded during the interview. The rest of the respondents disagreed to be recorded and nine interviewers preferred to be presented as “anonymous”, which however contributed to more unbending responses and revival of new findings due to more openness and intimacy of the interview. Eight interviews were done in English, and seven recorded interviews, which held in Armenian, were translated in English for further analysis.

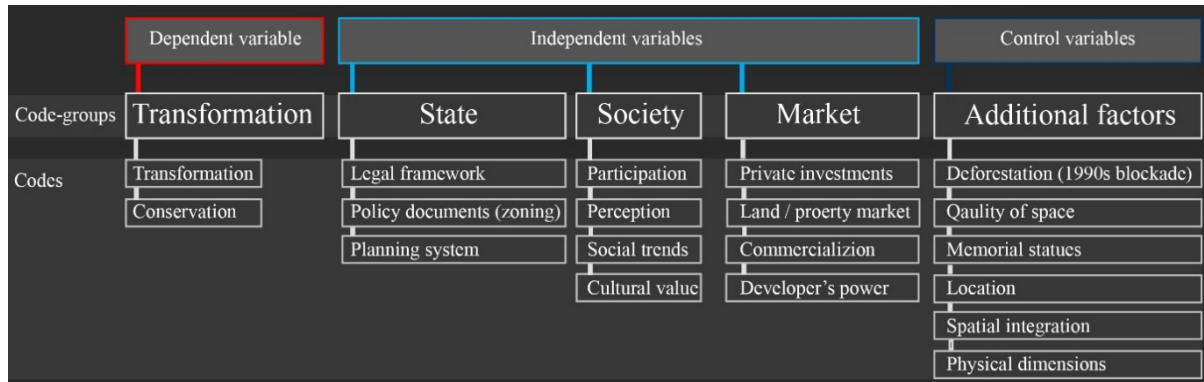
The “anonymous” preference can be explained by local mentality and cultural characteristics: having conservative views, active media, constant criticism by the society, and dependency of especially governmental employees’ opinion on the state’s ideologies, interviewers usually prefer not to disclose their names. They might express different opinions regarding the purpose of the interview. For instance, responses given to media or wide range of audience might contain drastically different message, than anonymous interviews, which have higher reliability and usually reveal more detailed and in-depth findings.

Moreover, the internal validity of the findings was enhanced through source triangulation: responses from different sources (institutions) were compared and analysed. Finally, the methodological triangulation also contributed to high internal validity of the research. Diverse data collection and analysis methods, such as content analysis, observations and interviews enabled to compare and cross-validate the findings.

### 4.3.2 ATLAS.ti Analysis: Coding and Co-occurrence table

The co-occurrence analysis through ATLAS.ti was used to compliment the manual analysis of the interviews and for methodological triangulation. This led to more reliable results and revival of new patterns. The transcripts of interviews were generated and coded in ATLAS.ti. The co-occurrence table was generated using the transcripts and the main codes, which were identified based on the content of interviews, operationalization of the concepts and the conceptual framework. The codes were bundled into the code-groups, which represent the main concepts of dependant and independent variables. The arrangement of codes within the code-groups is presented in the Figure 32.

Figure 32: Coding for ATLAS.ti analysis, Source: Author, 2017



The results of the co-occurrence analysis is presented in the Table 4. The latter was used as an analytical tool to reveal linkages between different codes (indicators). The vertical and horizontal panels accordingly include dependent and independent variables, consequently the numbers in the table show the causal relations between those codes. Additionally, several revealed factors are considered as control variables and also are used for co-occurrence analysis.

Table 4: General co-occurrence table, Source: Author, 2017

			Dependent variable	
Code-Groups			Transformation	
Codes			Transformation	Conservation
Independent variables	State	Legal framework	17	2
		Policy documents (zoning)	12	1
		Planning system	7	3
	Society	Participation	1	5
		Perception	11	6
		Social trends	14	0
		Cultural value	4	20
	Market	Private Investments	23	0
		Land/property market	18	0
		Commercialization	18	4
		Developer's power	42	0
Control variables	Additional factors	Quality of space	20	2
		Deforestation (1990s blockade)	18	0
		Memorial statues	0	18
		Spatial integration	1	14
		Location	9	0
		Physical dimensions	3	6

### 4.3.3 Interview analysis and findings: General part

As it was explained in the Chapter 3, the interviews were comprised of general part and case study part. The general part enabled to discuss the phenomenon at city level and case study part leaded to more detailed and explanatory findings.



All 15 respondents expressed negative attitude regarding the transformations of public green spaces happened in Yerevan during the transition. Adviser to the Chairman of State Urban Development Committee of Armenia A. Minassian highlighted ***“There is no achievement from that processes, comparing what we have lost and what we have gained from those transformations”***. To the argument that the public green spaces are being constructed due to absence of vacant plots in the city, he replied ***“In the society there is an inaccurate perception regarding the unavailability of vacant plots for urban development in the city, which contradicts to the reality...there is more than enough vacant land with good potential for development”*** and he showed potential vacant parcels on the master plan of Yerevan.

A. Tarkhanyan, another expert and adviser at the same institution, who specializes on construction investment projects in Armenia, mentioned ***“we can say that many private investments have been contributed to the economic development of the city, however, this investments could have been done in a right locations”***. To the question ***“Who is controlling and deciding the locations for urban development?”*** he mentioned that it depends on the project, however in case of private investments, developers already own the private land or lease public land from the municipality, which is managing the public land within the administrative boundaries of Yerevan.

Several positive externalities were mentioned by 2 experts and the private developer. They argued that beside of contribution to the local economy, developers maintain the surrounding areas of remained green spaces, providing up-to-date facilities and high level of maintenance, which is lacking in many public green spaces. N. Chilingaryan (who represents the civil society), professor at Department of Urban Development at NUACA university and ENSAL university in Lyon mentioned ***“Yes, there are some positive externalities: For instance, the better maintained public green spaces, new commercial and attraction zones, but the development of property market could have been achieved without such sacrifices”***.

G. Babajanyan, an expert from Yerevan municipality, involved in projects of public spaces in Yerevan, stated ***“...although these developments have positive impact on surrounding public spaces, in general these transformations negatively affected the green space in the city, but I would add, that I read a governmental report that this year we finally achieved the same amount of green spaces that we had before the independence. This shows that the municipality is working on this issue and the number of green spaces is increasing yearly, although, I am not sure if the amount of public green spaces is increasing”***.

Another expert from Municipality specialized on land governance, hereinafter referred to as expert X, highlighted ***“Investments done in the city, including these transformations, in majority have positive impact on the quality of the urban space”***. It can be also stated that all respondents mentioned the better quality of space as a positive externality.

### **Changes in State**

In the debate on changes in the responsibilities and role of the state in the researched phenomenon, professor at Department of Urban Development at NUACA University and ENSAL University in Lyon N. Chilingaryan highlighted ***“The most important thing is to ensure the unconditional execution of current legal framework”***. Additionally, G. Babajanyan, an expert from the Municipality specified the role of their institution: ***“The role of municipality is very important... for example we cannot allow investor to do whatever they want, there are strict regulations and requirements (...) they cannot construct the whole plot without providing green zones, well maintained public spaces (...) municipality and supporting institutions also control and inspect the accordance of construction permissions and realization processes”***.

Specialized on management and control of urban development projects in Armenia, expert F from State Urban Development Committee explained: ***“During the Soviet Union, the state was the only developer and the manager. It was possible to control the urban development processes for 100% as there was no conflict of interests. After the dissolution, it changed, as the state was left with management functions, and due to lack of financial resources and rapid land privatization processes, it could not realize constructions. The developer functions were transferred to the private investor, who has a personal interest...Thus, nowadays urban development is majorly a profit-driven process, where state and society tries to get at least some benefits ...”***

A. Minassian, an adviser to the Chairman of State Urban Development Committee of Armenia explained that during the transition, the state lost its power, due to scarcity of financial resources, as well as lack of knowledge and management skills. 2 representatives from NGO 1, specialized on preservation of public parks in Yerevan, were convinced that the state is responsible for the management of resources, and that the contrast transitional changes in the governmental system also affected the transformations. They also highlighted the fact that those constructions in public green spaces were possible due to flexible legal framework and lack of long-term vision by the government. The last statement was also mentioned by the representative of NGO 2, the expertise of which is the protection of historical buildings through raising public awareness and social movements.

### **Legal framework**

The co-occurrence table demonstrates high dependency between the legal framework and transformations. However, radically diverse viewpoints regarding the legal framework were introduced by the experts. Z.Mamian, the Dean of the Department of Urban Development at NUACA University, who also worked on the latest zoning map of the city (approved in 2005) stated ***“we have an adequate legal framework, norms and regulations for conservation of public green spaces in cities, however everyone has to follow the law”***.

The expert S from the same university, worked on urban projects of parks and public spaces, highlighted that the legal framework enables to lease the public land, including the green spaces. However there are pre-requirements for investors, such as limited construction density and provision and maintenance of public spaces.

Professor N. Chilingaryan (professor at Department of Urban Development at NUACA University and ENSAL University in Lyon) mentioned ***“There are not many serious gaps in the legal framework. For the next few decades, it could be enough to keep at least what we have, in case if the legal framework would work unconditionally (...) the basis is the unconditional execution of the current laws”***. Expert X (expert from Municipality specialized on land governance) also argued that the legal framework is sufficient for the conservation and development of public green spaces.

G. Babajanyan, an expert at municipality involved in projects of public spaces in Yerevan mentioned ***“we have sufficient legal framework for conservations and development of public green spaces, however, during the transitional stages we need to adapt the urban planning to the conditions of open market economy”***.

Opposite viewpoints were introduced by representatives of urban NGO's. They argued that the legal framework needs drastic reforms in terms of limitations of usage of public green spaces and accountabilities of the governmental bodies. Two representatives from NGO 1 which is active in protection of parks, stated ***“many European countries achieved their current state***

*of public spaces through strict legal policies, putting serious responsibilities on local authorities”.*

Expert and adviser at State Urban Development Committee A. Minassian mentioned *“We definitely need reforms in our legal framework (...) it is important to limit developer’s power in urban development decisions through appropriate legislations. Nowadays the power relations between the state, society and developers is not leading to win-win results”.*

Being involved in various local and regional urban projects, expert F from the State Urban Development Committee was convinced that the scarcity of financial resources during the period of transition decreased the power of the state and shifted it to private developers, who are seeking for profit maximization. He mentioned the urgency of strict legal framework limiting the scope of developer’s activities.

In order to reveal the mechanisms enabling the transformations of public green spaces, additional collection of secondary data and content analysis was generated during the field walk. Several municipal and national acts and land codes were gathered through “arlis.am”, a governmental online platform, which provides full access to all legal documents, laws and acts adopted in Armenia.

As a result of content analysis of collected legal documents, it was revealed that the transformation of public green spaces into private uses is possible through leasing option. According to the Land Code of Republic of Armenia, Chapter 13, Article 48 (Right to Land Lease), the “Land owned by the state and community may not be leased for more than 99 years, with the exception of agricultural land whose lease term is set to 25 years”. Hence, because of the long-term lease possibility, the constructions which are assumed to be temporary, in reality are becoming large-scale permanent buildings.

However, the rights of leaseholders are restricted, for example “Prohibition of certain types of activities” or “the prohibition on the change of the targeted use of the land (Article 49-Restrictions on the Right to Land). Additionally the Land code provides several obligations, for instance; preservation of environmental requirements, including the animal world, soil, rare plants, natural, historical and cultural monuments and archaeological objects. Moreover, rules on “Protection and Use of Green territories of general use of Yerevan” adopted by Yerevan city Council also provide several restrictions and requirements for usage of public green spaces, as well as it establishes the conditions for usage, protection of land, compensations and compulsory exactions for damage caused to green spaces.

During the interview with developer and his architect, it was confirmed that several limitations and requirements were introduced by the municipality: for example, regular maintenance of surrounding public green zones, provision of non-excludable open space, limitation on construction density (maximum 40%).

### **Urban Planning Documents**

All experts argued that the zoning, as an urban regulatory document is very important tool for controlling the functions of the land. G. Babajanyan (expert at municipality, involved in projects of public spaces in Yerevan) explained: *“The zoning document certainly has power, but as we have dependency on investments driven by market economy, the urban planning adapts to the existing investment opportunities”.* Expert Y from Municipality, responsible for issuing construction permissions and approving municipal projects, also argued that zoning map and city’s master plans are important urban development documents, nevertheless, urban planning has a great dependency on foreign investments. Thus, in majority of cases, the master plans are being modified according the particular investment project”.

Regarding the urban development regulatory documents, Z. Mamyán (the Dean of the Department of Urban Development at NUACA University) mentioned that the “zoning” is an important urban management document to regulate the infrastructure and urban development of the city. Particularly zoning plan regulates the land uses, however at its scale it generalizes large zones, thus more detailed zoning is needed, which will help to regulate the land uses at smaller scales.

It is important to mention that analysis of secondary data revealed that similar to Soviet times, the zoning map provides generalized zones. For example, the public green spaces within the residential districts are included in the “residential” zone, thus the construction in particular green spaces is unimpeded, as it does not require a change in zoning map at particular plot. It can be stated that during the period of transition the principles of design of urban development documents did not changed, while a detailed zoning stating the boundaries of all types of public green spaces at micro-level could play a decisive role in prevention of degradation of public green spaces.

With expertise of 35 years in urban planning, former expert Z from municipality explained that nowadays developers know better where and what type of building to construct, as they are more familiar with business tendencies and property markets than the architects and governmental employees. He mentioned that if during the Soviet times the urban development was socially-driven, during the period of transition it became profit-driven, and thus it is impossible to manage the urban development processes without taking into account the developer’s private-interest.

### **Planning system**

In the discussion on changes in planning system, an expert from Yerevan municipality, involved in projects of public spaces G. Babajanyan noted: *“The changes in planning and management system in general were complex...nobody could predict such a drastic shift from communism to capitalism, from socialism to democracy, and as the land was owned by the state, they did not take into account the possible consequences of the privatization while designing large green courtyards and open spaces in-between urban blocks”*.

Expert Z, a former urban planner at Municipality with 35 years of experience explained that particularly the emergence of private developers decreased the role of planning system. In Soviet times, the state was regulating everything: the land, urban planning processes, markets and even the social perceptions. During the transitional changes private investors strengthen their dominance through financial resources and also up-to-date knowledge regarding the businesses and markets. As urban planners and the state were not ready for such a drastic change, sometimes what they plan and design does not correspond to the current market demands. Thus, due to lack of knowledge and scarcity of financial resources, the urban planning is mostly driven by the developers’ desires.

Expert Y from Municipality, responsible for issuing construction permissions and approving municipal projects, also explained the developer-driven planning system by arguing that professionals responsible for policy making and urban management are lacking of experience and knowledge corresponding to current market economy. Moreover, centralized governmental system of USSR was also reflected in planning system, while the decentralization of power in governmental system resulted in lack of coordination and cooperation between different bodies and institutions, which in its turn led to uncontrolled urban development.

## Role of urban planners

Several experts highlighted the significant role of urban planners in the processes of preservation and transformations of public green spaces. Specialized on management and control of urban development projects in Armenia, Expert F from State Urban Development Committee stated that one of the factors resulting the transformation of public green spaces is the poor management of resources both by the state and by professionals such as urban planners, architects. Adviser to the Chairman of State Urban Development Committee A. Minassian presented similar statement: ***“It is important to have educated, smart and responsible professionals, in order to manage the resources and implement smart and reasonable urban development projects (...) especially during the transition period it was important to educate and update the knowledge, which is lacking nowadays”.***

Expert Y from Municipality, responsible for issuing construction permissions and approving municipal projects, also confirmed the above-mentioned opinion stating that the role of urban planners and architects is irreplaceable and it is important to have a good education, and international experience in order to avoid irrevocable errors in terms of utilization of remaining public spaces. Expert F from State Urban Development Committee also argued that during the transition, it was needed a regeneration of professionals, who in majority are still acting according Soviet ideologies and norms.

However, all representatives of NGOs expressed opposite opinions, arguing that currently the state has well-educated and experienced professionals in the field of urban planning, however they do not have power, as everything is guided by a few politicians and private investors. A. Tarkhanyan, an expert and adviser at the same institution, who specializes on construction investment projects in Armenia also highlighted ***“urban planners and responsible professionals have enough knowledge and experience, however, in the conditions of current market economy and unequal power distribution, sometimes urban planning does not play the required role”.***

## Changes in market: Role of private developer

Co-occurrence table illustrates the greatest linkage between the “developer’s power” and “transformation” variables (See Table 4). All respondents stated that the emergence of a new stakeholder - the private developer was crucial in terms of transitional spatial transformations in the city. N. Chilingaryan (professor at Department of Urban Development at NUACA University and ENSAL University in Lyon) stated ***“The developer yet has a negative impact on this transformations. Seeking for profit maximization with less investments. The developer is not yet been putted under municipal policy frames”.***

To the question “Do investors have power over the state and society?” expert from Yerevan municipality G. Babajanyan replied ***“In almost all post-communist countries investors became the dominant actors in urban development processes, a lot of economies are dependent on private investors, and as they have personal interest, sometimes the state and society have to accept it, as they gain new jobs, new spaces and revenues from investments”.*** Expert Y from Municipality (responsible for issuing construction permissions and approving municipal projects) from the municipality argued that the economy of the country nowadays depends on FDIs, and the state is giving incentives to encourage more investments, strengthening the developer’s dominance in the economy.

All three experts from urban NGO’s specialized on protection of parks and historical buildings introduced similar views that after the dissolution of Soviet Union the developer has the greatest power and influence on urban development processes. ***“There is a conflict of interests,***

***but in majority of cases the one who has the financial advantages, he wins***” said one of the representatives of urban NGO.

Expert X from Municipality specialized on land governance and responsible for issuing construction permissions and approving municipal projects in Yerevan, mentioned that after the dissolution of the Soviet Union the appearance of private investors in the field of urban planning was new and unexpected for the country governed by the totalitarian state at least for 70 years. Expert and adviser at State Urban Development Committee of Armenia A. Tarkhanyan complimented this idea with a strong argument that ***“during the first decade of transition, it was essential to establish clear distribution of roles and powers between stakeholders: developer, state and society. This needed to be supported by legal framework. Currently the State Urban Development Committee and supporting responsible institutions are working on related laws, such as for example: “Law about Architectural activity” and “Law about the Small Centre” which meant to empower architects and urban planners in decision making processes, as well as to fix several limitations for developers”***.

Adviser to the Chairman of State Urban Development Committee of Armenia A. Minassian however, was convinced that the dominant power of developers is not the major cause for uncontrolled urban transformations. He stated that with a reasonable solutions and justified business plans, the state, specifically the urban planners and architects could prevent the destruction of public green spaces and many other urban planning errors.

Within the discussion on investments’, specifically FDI’s impact, all experts mentioned the significance of Armenian diaspora, which being an active investor has an indispensable input in the development of the country. N. Chilingaryan (who represents the civil society), professor at Department of Urban Development at NUACA University and ENSAL University in Lyon mentioned ***“I think it has an important role, especially during the last years the role is increasing quite positive in a constructive sense”***. G. Babajanyan, an expert from Yerevan municipality, involved in projects of public spaces in Yerevan, also stated ***“The impact of investments from diaspora is more positive than negative, because they invest in the country, create new jobs and businesses (...) Their impact on building environment is more visible in residential constructions, as despite of decrease in population, the residential buildings are being built and sold to diaspora”***.

However, there is another side of the coin: Expert S from NUACA University, worked on urban projects of parks, as well as residential complexes, argued that having high ability to pay, the diaspora creates a new demand on housing and commercial amenities. They seek for elite housing especially in the central neighbourhoods of Yerevan, where the property and land value is higher. Consequently, developers are willing to pay high amount and exactions for vacant plots, which are lacking in the central neighbourhoods. And thus, they build in public spaces.

Following the discussion, Expert Z, a former urban planner and expert at municipality with 35 years of expertise, explained that after independence of the country more and more Armenians are visiting Armenia for vacation, for businesses. They buy housing for children, but they never live there. He revealed that he worked on a project of residential building in central neighbourhood of Yerevan ***“all the apartments are sold out, but the building is empty, as all owners are living abroad”*** he said. Furthermore, he showed several new residential buildings built on former-green spaces and courtyards of residential complexes, arguing that the construction of housing is not reasonable due to continuous decrease of population.

## Participation | Changes in society

Opposite responses were recorded during the discussion on societal changes and the role of civil society in the conservation and transformation processes of public green spaces in Yerevan. Several experts, expressed an opinion that the society is active and influential stakeholder in this processes. While the majority of experts argued that during the transition society was fragmented and currently it does not have power to influence the decision-making processes regarding this topic.

All three representatives of NGOs expressed a vision that the protection of public green spaces depends on the social participation. The representative from NGO 1 focused on preservation of parks and green spaces mentioned that they are not able to stop the privatization and transformation of public green spaces, due to lack of awareness and untimely information. ***“In many cases, we knew about particular privatization of the public green spaces in the phase when the concrete basement of the building is already on the site, and there is no chance to prevent the construction”***

Representative of NGO 2 specialized on preservation of historical buildings and public spaces in Yerevan explained that during the Soviet times, the state was developing the city exclusively for the society according to existing demands. This relation was changed with the shift to capitalism, when private developers emerged in the market. According to the respondent, as the developer firstly thinks about self-benefit and it is supported by the state, the society has to propound their demands and to strengthen their power in decision-making processes regarding the urban interventions in the city.

A professor at Department of Urban Development at NUACA University and ENSAL University in Lyon N. Chilingaryan (who represents the civil society) highlighted the importance of NGOs in the processes of protection of architectural heritage and public green spaces and also explained: ***“(...) from the current conditions we can conclude that there is not a real social movement by society, but it is not true. There is a movement and it is quite active in the conditions of free media and affordable / accessible press. There are not any obstacles, or there are very small. The “Armenian” phenomenon is that the movement and the real processes are proceeding in parallel with each other: Both are active and fiery, are aware of each other, with varying positions on the same subject, but do not hurt each other very tactfully. And so everyone is on their own ways”.***

The latter statement was explained by an expert from Yerevan municipality, involved in projects of public spaces in Yerevan G. Babajanyan, who argued ***“There is an active group of society creating social movement for preservation of public spaces and historical buildings, however, sometimes these movements are politically-driven actions”***. A. Minassian from the State Urban Development Committee was also convinced that social movements in majority of cases are politically motivated: ***“I always see the same faces, the same group of people participating in protests for various issues. I would say, that this is more politically-driven than socially-driven actions (...)”***

Expert X from Municipality (specialized on land governance) mentioned that in his experience in many cases the activists of the movements even do not have sufficient understanding of the purpose of particular protest. He explained that the society have to be more educated, to be aware of their rights, legal framework and modern issues in order to be more socially-driven, rather than politically-driven. The expert S from the NUACA University, who worked on urban projects of parks and was involved in many civil movements for protection of parks, argued the opposite idea, and he was convinced that all civil movements are exclusively socially-driven.



Expert Y from Municipality, responsible for issuing construction permissions, stated ***“I know many people, who criticize the government for the transformation of public green spaces into private uses, but the same people never go to parks, even though we have a lot of well-maintained parks nowadays. They prefer indoor activities and even visit those commercial amenities constructed in the former public parks. Hence, the question arises: Do we really need this amount of public parks? The social trends have changed a lot, nowadays people have different lifestyle than during the Soviet times (...)”***

### **Social trends, Perceptions**

Following the discussion on changes of social trends an expert from Yerevan Municipality, involved in projects of public spaces G. Babajanyan mentioned ***“This is our culture. It changed a lot. Compared to communist times, nowadays people don’t need this kind of “empty” public spaces that much. If you go out, you go to café, bar or do commercial activities. People don’t run outside no more, because they go to the gym and sport centres. This is a trend, maybe it will change again, but nowadays there is a demand on commercial amenities. This is one of the reasons why public spaces and green zones are being commercialized”***.

Expert X from Municipality specialized on land governance also confirmed the statement that social trends are changed and the period of transition was accompanied with the trend of consumerism. He explained that while during the Soviet Union, people were frequently using parks, nowadays there are so many commercial activities in the city that the “park-ing” culture have been lost in transition, and it was directly reflected in urban transformations of the city. Representative 1 from NGO 1 specialized on protection of parks also argued that the social perception and the preferences of society are drastically changed. He brought an example: in past people preferred to have property near parks, green zones. Nowadays, everyone wants property near shopping malls, cafes and sport centres. However, it is noticeable that more and more people are spending time in parks during the last years.

Regarding the social perception, a professor at Department of Urban Development at NUACA University and ENSAL University in Lyon N. Chiligaryan stated that majority considers the poor legal framework as the main factor impacting the transformation of public parks, however the changed cultural and social perceptions are the starting point for this phenomenon. ***“Our mind and psychology has more gaps than the legal framework.”*** she said.

In the debate on influence on changing social trends and perceptions, representative 2 from NGO 1 argued that more people could use parks, if they had a good quality of space. Additionally he stated that the fact of greater commercial activity by the post-communist society does not change the vital need of public parks. He argued that even if people use parks less than in past, the city needs green spaces for ecological purpose. Representative from NGO 2 specialized on protection of historical buildings and public spaces was convinced that there is a huge demand on public green spaces and that the young generation prefers to spend time in parks. ***“There are a lot of well-maintained parks during the last decade, however, it does not mean that we can sacrifice other green spaces and create new ones”***.

Several experts also mention the fact of commercialization of public green spaces. An expert and adviser at the State Urban Development Committee, who specializes on construction investment projects, A.Tarkhanyan also stated ***“The public spaces were commercialized during the period of transition, because consumerism became our lifestyle. However, despite of changed trends, there is always a need for public green spaces for social and ecological reasons first of all”***.

#### 4.3.4 Case study 1

The general part of interviews revealed several contradicting and consentient explanations behind the transformation of public green spaces. The “case study” part enables to find out more detailed explanations regarding the transformations in case study areas. Additionally, individual co-occurrence tables were generated for each case study through analysing the case study part of the interviews’ transcripts separately. This enabled to double-check the findings of the general co-occurrence table and to reveal new patterns for each case study.

The interviews were held based on the main objective of the research, which is to reveal and to explain the factors impacting these transformations. Referring to the findings based on observations and content analysis, it was captured that the case study 1 Circular Park was partially transformed into commercial uses. The co-occurrence table shows high linkages between the private investments and developer’s power, commercialization trends, as well as cultural value and deforestation (See Table 5). The detailed explanation will be presented referring to the experts’ statements.

Table 5: Co-occurrence table: Case Study 1, Source: Author, 2017

			Dependent variable	
Code-Groups			Transformation	
Codes			Transformation	Conservation
Independent variables	State	Legal framework	4	0
		Policy documents (zoning)	0	0
		Planning system	1	0
	Society	Participation	0	0
		Perception	2	0
		Social trends	6	0
		Cultural value	1	8
	Market	Private Investments	12	0
		Land/property market	10	0
		Commercialization	8	0
		Developer's power	18	0
Control variables	Additional factors	Quality of space	6	1
		Deforestation (1990s blockade)	7	0
		Memorial statues	0	2
		Spatial integration	1	3
		Location	3	0
		Physical dimensions	1	0

The Dean of the Department of Urban Development at NUACA University Z. Mamian mentioned “*As I know part of the land privatization of this part was done before 2000s*”. This statement was confirmed through content analysis of Google Earth maps from 2000 (See Figure 16). Expert also explained that each parcel has fixed construction density limitation, which are followed in most of the cases. Following the same statement, expert F added “*We cannot state that the park was totally transformed into urban-built up area, however it was commercialized a lot due to profitable location of the park*”.

G. Babajanyan, an expert from Yerevan municipality, involved in projects of public spaces in Yerevan stated that although the Circular Park is commercialized to a great extent, a few positive aspects can be visible. He mentioned “*The “Poplavok” part for example (segment 6) is partially commercialized and leased to “Nushikyan” company as I know. There are a few cafes and an attraction zone for kids. However, the surrounding area is well-maintained, the park is clean and safe. So we have to realize that the quality of the space around the leased plots is very high*”. Discussing about the influential factors G. Babajanyan mentioned “*Location is the key factor. Because of that this is very profitable land for private developers*”.

*(...) Also the greater demand on commercial activities has its particular role in this case study”.*

An adviser to the Chairman of State Urban Development Committee A. Minassian also explained that this part was transformed into commercial uses because of its profitable geographical location. *“The park is situated close to universities, business centres and commercial activities. There are many human flows across this axis, making this plot very profitable for commercial activities”.*

During the interview with the developer of one of the plots in Circular Park, the location of the plot was again mentioned as one of the motivations to construct there. *“The land has a good location, students, tourists and locals are passing here frequently, and it is close to many touristic attractions. Consequently it is a profitable land for commercial activities”.* He also mentioned that the area was vacant, free of big trees, which made easier to make construction at particular plot. The developer highlighted that they have a positive impact on that land, arguing that 60% of their leased plot was provided for public green space with water surfaces and well-maintained facilities. *“This park is very important, and we tried to keep the continuation of green space, through providing a park in front of the building and setting the amenity back from the red line”* (See Figure 18 ).

The architect A working on the abovementioned project explained *“It would be better to keep the Park in its former shape without massive constructions, however the reality is that the developers have power, they do investments, create new jobs and maintain the surrounding public spaces...”*

The Expert S from NUACA University, who worked on urban projects of parks and public spaces also argued *“This investments are very profitable for the developers, who have the greatest power. However, for the state it is beneficiary, as they got more revenues from the lease and various taxes, and additionally, less expenses are being spent on the maintenance of the surrounding landscape. For the society, I would say the transformation of Circular Park is the least beneficiary, as they lose public spaces and green zones, although they gain jobs and new commercial activities”.*

Although the majority of experts mentioned several positive externalities such as well-maintained green spaces around the amenities, the disruption of the Circular Park and its cultural importance was highlighted by all interviewers, including the private developer. Professor at Department of Urban Development at NUACA University and ENSAL University in Lyon N. Chilingaryan stated that the Circular Park had an exclusive importance for the city. Additionally she mentioned *“I do not see any positive externalities from the constructions in the Circular Park. There is a misinterpretation that the tourists like that place and it is attractive for them. Several times I met tourists, who expressed their regret over the transformation of this park into stone jungles. The exceptional ecological and urban value of this park has been lost ...”*

Many experts were convinced that the Circular Park was the most significant green axis for the city, as it is a unique symbol of the Yerevan. Expert F from the State Urban Development Committee explained *“Many parks have been fragmented and transformed into private uses during the period of transition in all post-communist cities. However, the Yerevan case, specifically the case of Circular Park is different, as beside of social and ecological aspects it has a historical and cultural value (...) Various factors influenced this transformations, however the great power of investors nowadays plays a huge role. The master plan and the law could be adjusted for them, as private investments were crucial for economic situation of the city”.*

A.Tarkhanyan expert and adviser at the State Urban Development Committee, who specializes on construction investment projects, expresses his opinion regarding the current condition of the Circular Park ***“This Park is very important for the city structure. It has a significant role in the forming the layout of the Small Centre (...) Part of the Park was affected by the massive deforestation during the period of blockade in early 1990s. The vacant plots became affordable investments for the developers, and those investments were possible because of the poor economic conditions of the transitional country...”***

The factors of deforestation as one of the influential variable in this case study, was mentioned by several experts during the interviews. The maps from year of 2000 gathered through the Google Earth satellite show the absence of trees in many plots of the Circular Park (See Annex 5). In order to increase the reliability of the source, the satellite views of different years were gathered from spring and summer seasons, when the images show the amount of trees in more accurate scale and shape.

Expert F from State Urban Development Committee explained the case of transformations in Circular Park arguing that country's major urban development projects are implemented by private investors, who, in most cases are seeking to build in the city centre due to its high profitability. As there are no more vacant plots in central neighbourhoods, and the upgrading of buildings in many cases is prohibited due to historical architectural structure or seismic hazard limitations, they construct in the public spaces and open green zones, such as the case of the Circular Park. He concluded that country's economic dependency on private investments strengthen the power of developer.

### **Conclusive remarks on Case Study 1**

One of the statements from the interview of the developer entirely represents the conclusions of this case study: ***“... This location is very profitable. Hence I have constructed a five-storey hotel on the plot where there were no trees. But 60% of my plot I developed as a public park. For instance, there is one huge construction in this park, the [developer] is so financially and politically powerful, that he did not provide even a piece of plot for the public use...”***

It can be concluded that the main transitional change impacting the transformations in this plot was the appearance of private developer as the most powerful stakeholder in the market. This dominance of power in its turn is a result of scarcity of financial and knowledge resources by the state after the collapse of USSR, lack of adaptability of urban management and development expertise to the new market economy, and fragmented society incapable to influence the state's and developer's decisions. It can be also mentioned that drastically changed social trends reflected in formation of consumerist-minded society and commercialization of public spaces. Moreover, the deforestation in 1990s made the park more vulnerable for privatization, thus it is considered as one of the influential factors impacting the transformation of public green spaces in Circular Park. Additionally, the central location of the park has also an impact on the transformations, which, however is out of the scope of the research.

### **4.3.5 Case study 2**

The observations and content analysis revealed that the case study 2 was entirely transformed into housing zone in segment 2.2 and partially constructed with commercial amenities in segment 2.1 Victory Park. The separate co-occurrence table based on the interviews for case study 2 shows the main linkages between revealed factors (See Table 6). Due to different outcomes of transformations, the interviewers were held separately for each segment.

**Table 6: Co-occurrence table: Case Study 2, Source: Author, 2017**

	Code-Groups	Codes	Dependent variable	
			Transformation	
			Transformation	Conservation
Independent variables	State	Legal framework	6	0
		Policy documents (zoning)	0	0
		Planning system	1	0
	Society	Participation	0	0
		Perception	2	0
		Social trends	8	0
		Cultural value	1	6
	Market	Private Investments	9	0
		Land/property market	10	0
		Commercialization	4	0
		Developer's power	12	0
Control variables	Additional factors	Quality of space	6	1
		Deforestation (1990s blockade)	5	0
		Memorial statues	0	1
		Spatial integration	1	0
		Location	4	0
		Physical dimensions	1	0

The expert S from NUACA University, worked on urban projects of parks and public spaces, explained that according to Tamanian's master plan in 1924 this part (segment 2.1 and 2.2) was intended to serve as a green belt and a recreational space (See Annex 1). He mentioned that although it was affected by deforestation during 1990s, several old trees were preserved especially in the perimeter of the Azatutyan Street. From the Google Earth satellite views, it is visible that in 2000 the case study area was covered by sparse woods. The comparison between satellite maps from different years from 2000-2016 shows that the segment 2.2 was totally privatized and constructed. A few trees were preserved in this plot (See Annex 3).

Following the discussion regarding the segment 2.1, Expert S stated that it is not privatized to a great extent: The largest construction is the Radisson Blu Hotel, which previously was a 5 star hotel. The respondent was convinced that investment of such a scale in 2000s was very important for the city in terms of economic benefits, and that the great dependency on investments from private sector was the reason why this kind of transformations happened in this plot.

According to the latter, segment 2.2 is a different case: This part was totally constructed by luxury housing, owned by politicians and the rich elite.” *If in case of commercial uses I can find justifications, that the state gets revenues, the surrounding areas are being maintained, the society gets jobs and new commercial activities, in case of this transformation I would argue that the society lost an urban forest, which might have a good potential as a public park. The main winner is the developer: the property owner. Thus, I would argue that this transformations are result of dominant power of developers and lack of long-term vision by the state*”. Regarding the segment 2.2 G. Babajanyan, an expert at Yerevan Municipality, also mentioned *“It is also impacted by the factor of power of private investments”*.

To the question *“what factors impacted these transformations in case study 2?”* the professor at Department of Urban Development at NUACA University and ENSAL University in Lyon N. Chilingaryan responded *“The same reasons and factors that we discussed for the case study 1: the market, the developer's power, the changed social perceptions”*.

Expert Y from Municipality, who is responsible for issuing construction permissions, also mentioned that these transformations are a result of exclusively profit-driven interventions. He argued that after the dissolution of Soviet Union, the urban development activities were shifted from state to the private developer, hence during the period of transition, the city had a real dependency on private investments. On the other hand, an adviser to the Chairman of State Urban Development Committee A. Minassian mentioned that in any political, economic and social conditions, it is possible to find the win-win solution. ***“The developer, the market has a dominant power, however, in this case it was possible to keep this plot (segment 2.2) in case if there would be responsible and experienced professionals in this field...”***

A. Tarkhanyan, an expert from State Urban Development Committee highlighted that although a few commercial buildings were built in the segment 2.1, Victory Park has a good potential and there are business plans for reconstruction of the park. ***“This is an important park for the city, it has several monuments and is one of the best-loved places of the citizens”*** he added.

With expertise of 30 years in urban planning, former Expert Z from municipality argued that with its tremendous monument of “Mother Armenia”, memorial statues and the amusement park, the Victory Park (segment 2.1) is indispensable part of the city. On the other hand, the segment 2.2 which is currently constructed into housing zone, was not perceived as a public park by the residents. It was not comprised of memorial monuments, statues or water surfaces, thus was not perceived as a cultural value for the society. He argued that the developers know this, and they construct in the areas, that usually have less perceptive importance for the citizens. ***“If residents are attached to one place, they would make protests. In this particular case, you can see that the Victory Park is a recognized part of the city, thus it is not constructed heavily. The segment 2.2 was not integrated in the city’s livelihoods, I even do not remember if this park-forest had a name... I would say, it is good that society values the cultural heritage, but the importance of green surfaces is still unevaluated. Society, which lived dramatic changes, period of blockade, poverty and socio-economic instability needs a regeneration, in order to start to recognize environmental risks and importance of green surfaces and natural resources in general...”***

Talking about civic perception of this case study all interviewers mentioned that the segment 2.1 is recognized and integrated park, while emphasizing the lack of perceptive importance none of respondents could remember if the segment 2.2 had any particular name.

The representatives of the NGO 1 and 2 were convinced that the main factor for the transformations in segment 2.2 is that the developers are majorly the politicians, who had decision-making power. One of representatives from NGO 1 specialized on protection of parks in Yerevan stated ***“This case shows that the personal-interest of a few political actors takes over the public-interest, while this land could be an important green belt for the city.”*** He concluded that after the collapse of USSR, the socially-motivated urban interventions became exclusively profit-driven actions.

## **Conclusive remarks on Case Study 2**

From the interviews and co-occurrence table generated by ATLAS.ti it can be seen that the most influential factor is the developer’s power, which is again a result of several pre-conditions and transitional changes explained in conclusion of the case study 1. Moreover, in particular case of segment 2.2, it was argued that many of developers, being influential politicians used their power for self-interest resulting in transformation of the entire green area into gated housing zone.

Furthermore, it is important to note that being dedicated to the victory in World War 2 segment 2.1 has a cultural importance for the city, which explains partial preservation of the park.



Opposite to the segment 2.1, the former forest in segment 2.2 was not perceived as social or cultural value by the society, as it was serving as a green belt and was not integrated into daily lives of citizens, which might influence the total privatization of the space. Additionally, similar to the case study 1, the deforestation, especially in the segment 2.2 had particular impact on vulnerability of the space. Similar to the case study 2, the quality of space in remained green areas was relatively poor compared to the areas around commercial amenities and memorial statues.

### 4.3.6 Case study 3

The case study 3 and 4, representing preserved parks in central district, are examined in order to capture the main factors enabling the conservation of the parks during the transition, and to compare the results with the case study 1 and 2. The co-occurrence table generated for case study 3 reveals several patterns, which will be explained based on interviews and observations (See Table 7).

Table 7: Co-occurrence table: Case Study 3, Source: Author, 2017

			Dependent variable	
Independent variables	Code-Groups		Transformation	
		Codes	Transformation	Conservation
	State	Legal framework	1	2
		Policy documents (zoning)	0	0
		Planning system	0	7
	Society	Participation	0	10
		Perception	0	8
		Social trends	0	0
		Cultural value	0	11
	Market	Private Investments	0	0
		Land/property market	0	0
Commercialization		0	4	
Developer's power		0	4	
Control variables	Additional factors	Quality of space	1	6
		Deforestation (1990s blockade)	0	2
		Memorial statues	0	7
		Spatial integration	0	9
		Location	0	10
		Physical dimensions	0	8

According to A. Tarkhanyan, an expert at State Urban Development Committee the Park of Main Avenue and the green belt designed till the Circular Park is an important axis for the Small Centre of Yerevan, as it serves as a recreational zone and provides variety of outdoor activities. *“This is a well-integrated green axis, which continues to keep the function of a public space. It is important to keep this axis not only in terms of environmental, but also in terms of urban values, as it has an important role in shaping the unique Tamanian master plan. After the collapse of the Soviet Union, the area was lacking of proper maintenance. Nevertheless, during the last years it was maintained and currently it has a good quality of space”*

Expert X from Municipality specialized on land governance also highlighted the importance of this case study as an urban value for the city. He argued that although there are several outdoor cafes, this area is not commercialized. A few years ago there was a project to allocate a few parcels for temporary shopping pavilions in the Mashtots Park (segment 3.1). The active protests by the society resulted in cancelation of that project, and after, the park was maintained by the municipality. He was convinced that this is a rare example where the civic society has

its influence on urban development process. According to the respondent, the other Part (segment 3.2) was always used as a recreational zone. Moreover, a fountain designed in Soviet modernism style has a cultural value. Being a significant green axis in the city's spatial structure, this park is currently being reconstructed by the municipality.

G. Babajanyan, another expert from Municipality involved in the projects of public parks, stated ***“This one is an important green axis for the city. I think it was intended to be continued till the Circular Park, but as in-between we already have the National gallery and a project of “Old Yerevan” the green axis is fragmented (...) the municipality is currently working on renovation of this park. I worked on a reconstruction and implementation of one public park in Yerevan and I would say, the maintenance and reconstruction of parks requires huge investments...”***

Regarding the preservation of the Park, expert mentioned the importance of the Park as a recreational zone and a cultural value for the city. During the debate on influence of the social movement towards the conservation of the Park, he mentioned ***“I doubt if this movements were politically-motivated or socially-driven, however I think that the temporary one-story shopping pavilions could not affect the park, as it was intended to serve a public space and to preserve the trees. You can demolish this flexible constructions easily. But generally talking, it is better to have the area as open public green space”***.

On the contrary, regarding the preconditions for the conservations of the public green spaces in case study 3 professor at Department of Urban Development at NUACA University and ENSAL University in Lyon N. Chilingaryan highlighted the role of civic movements ***“I think these are just the exceptions that, as you know, confirm the regularity ... It is about social movement (...) Public protest affected reality, not allowing transformation”***.

In the debate on the factors enabling the conservation of the (case study 3) the dean of the Department of Urban Development at NUACA University Z. Mamyan stated ***“there is no purpose to observe this case study as a unique case, as there are a lot of parks conserved and maintained during the period of transition.”*** It is important to highlight that the case study was selected based on the fact that the public green spaces were mostly affected in the city Centre, which also has a cultural importance. Moreover, the selected 2 case studies (3 and 4) represent the few large parks preserved in the Centre. Following the discussion, the she also mentioned ***“The modernist fountains of the Park (case study 3.2) are providing a unique urban value to this space. Nowadays the park is under reconstruction by the municipality, and being aware of the construction processes, I would mention that particular importance is given to the preservation of the trees in this area”***.

Additional factor was mentioned by the adviser to the Chairman of State Urban Development Committee of Armenia A. Minassian, who explained that the park has also limitations regarding its spatial characteristics: ***“This part and also the Circular Park are the main respiratory arteries for the city centre. In case of Circular Park, the constructions were also possible due to the large width of the Park. In case study 3 it would be impossible to construct large buildings due to narrow width of the Park”***. It can be stated that the physical parameters had a particular role in preservation of the Park. Following this statement, the Expert Y from Municipality, responsible for issuing construction permissions, similarly highlighted the dimensions of the park as one of the factors disabling the construction of large-scale amenities in the Park. He also added ***“...besides, it is not permitted to have a permanent building in this sites. It is identified as public green space, and the temporary cafes or facilities cannot affect the function of the Park”***.

The representative of the NGO 1 specialized on protection of parks in Yerevan was convinced that in particular case of segment 3.1, the civic society had a crucial role in preservation of the Park as a public space. *“This area was under the danger of transformation into commercial space. The massive protests by active citizens enabled the government to hear the voice of society and preserve the park (...) Our organization is focused on the preservation of parks and from my experience, it is essential to have more active citizens in order to empower the society, to have more participation in decision-making processes regarding the public spaces and urban transformations in general. Lack of awareness and timely actions also are crucial in this “game”. In this particular case we started the protests parallel with the implementation of pavilion constructions, however we achieved our final goal”.*

The other representative from NGO 2 specialized on protection of historical buildings and public spaces was also convinced that the society had its impact on preservation of this Park, particularly segment (3.1). Regarding the Segment 3.2 both NGO representatives mentioned that this Park was always used as public green space, even in the condition of low-maintenance, thus, being integrated into the neighbourhood, it would be impossible to have any large-scale interventions here.

### **Conclusive remarks on Case Study 3**

Through the observations and content analysis it was reconfirmed that the public green spaces are fully integrated into the neighbourhood with large amount of residential high-rise buildings. The latter did not have any playgrounds or green spaces in the courtyards, which were totally allocated for open parking and garages. Thus, the case study 3 (segment 3.1 and 3.2) is an important green space serving as a playground and recreational zone for the whole neighbourhood. This might have particular impact on preservation of the public green spaces in this area. In addition, similar to previous case studies, it was found that the quality of space around open-air cafes was also featured by higher level of maintenance.

Co-occurrence analysis of interviews through ATLAS.ti (See Table 7) revealed that the cultural importance, civic participation and physical dimensions were the most influential factors in the particular case study. First of all, this green axis has an urban value and a cultural importance in structuring the historical master plan of the Centre. Additionally, several cultural and memorial statues are located in this park. Secondly, civic participation in the actions towards conservation of the segment 3.1 enabled to avoid this part from commercialization of the space. Furthermore, this plot is well integrated public space within the residential neighbourhood. Finally, physical dimensions of the park, as well as dense wooded areas had special role in limiting the possibilities for large-scale construction at the site.

#### **4.3.7 Case study 4**

The result of separate co-occurrence analysis through ATLAS.ti had several similarities with the case study 3, and a few differences (See Table 8). The importance of this case study area as a green zone forming the Small Centre master plan was identified as one of the main factors for the preservation of these segments. Furthermore, similar to case study 3, the cultural value, the physical conditions (dense wooded area) and spatial dimensions also were identified as motive forces. Moreover, the social perception and integration into the neighbourhood was also mentioned several time. Opposite to the case study 3, where the civic participation had particular positive impact, the positive role of state (municipality) was considered as a significant factor in conservation of this case study area.

Table 8: Co-occurrence table: Case Study 4, Source: Author, 2017

			Dependent variable	
Independent variables	Code-Groups		Transformation	
		Codes	Transformation	Conservation
	State	Legal framework	0	3
		Policy documents (zoning)	0	4
		Planning system	0	10
	Society	Participation	0	0
		Perception	0	4
		Social trends	0	0
		Cultural value	0	12
	Market	Private Investments	0	0
		Land/property market	0	0
Commercialization		0	4	
Developer's power		0	0	
Control variables	Additional factors	Quality of space	0	5
		Deforestation (1990s blockade)	0	6
		Memorial statues	0	9
		Spatial integration	0	11
		Location	0	10
		Physical dimensions	0	8

A. Tarkhanyan, an expert at State Urban Development Committee mentioned *“Similar to the case study 3, this Part also has an important role in forming the Small Centre’s spatial structure. There are several memorial statues and cultural monuments located in these plots. It has a cultural value for the city. Additionally, Kirov’s Park is covered by dense woods, which can be considered as a city’s natural heritage. Besides, it is prohibited to implement permanent constructions in this plot”*.

A.Minassian an expert and adviser to Chairman of the State Urban Development Committee highlighted the fact that the case study 4 analogically to case study 3 has a specific spatial dimensions, which is not sufficient to realize large-scale constructions, such as in Circular Park (case study 1). Additionally he explained *“The Kirov’s Park (segment 4.3) is one of the last large green spaces entirely preserved from transformations. The massive forestry, existence of big old trees can be one of the explanations why this part was saved from transformations during the transitional period. The other segments 4.1 and 4.2 have the same explanation as the case study 3: The narrow width of this green axis hopefully does not provide sufficient space for large-scale constructions”*.

Within the discussion on the factors impacting the preservation of the case study 4, the Dean of the Department of Urban Development at NUACA University Z. Mamyanyan said *“Why should it be constructed? The state always thinks about the public green spaces, there are a lot of parks preserved and maintained. There is sometimes a wrong perception about the government, but the state is accountable for the city’s public green spaces...we have Saryan Park, Komitas Park and also many new parks in the city. I agree that several green spaces were affected by commercialization and have been lost their functions as public green spaces, however this case study 4 is a good example of the green zone preserved and maintained by the government (...) Moreover, there are important local monuments in this space and also the presence of big trees could have its role in preservation of specifically Kirov’s Park (segment 4.3).”*

Similar explanations were presented by an expert from Municipality G. Babajanyan *“I think one of the main factors was that there is a rich forestry in this plots, a lot of old big trees are preserved and it is an important value for the city. Also it is located so close to the municipality’s building, that the transformation of such zone, could affect the status of*



*municipality. As well, I would like to mention that this part, as a public space has a good perception and recognition by the citizens... lot of business centres, hotels and governmental buildings are surrounding this green zone. Residents, citizens like to use this axis as recreational zone”.*

Representatives from NGO 1 and NGO 2, as well as Professor at NUACA University and ENSAL University in Lion N. Chilingaryan and expert X from Municipality stated that these parks (case study 4) are exceptions and one of the last entirely preserved parks of the city centre. *“Although several cafes are partially commercializing the area [segment 4.1] it is obvious that this Park continues to serve as a public green space”* said representative from NGO 1. *“This is an old park with big trees [segment 4.3]”* was explained by the Expert X *“It would be difficult to implement large urban operations here”*.

On the other hand, expert Y from Municipality, responsible for issuing construction permissions, was convinced that the appearance of cafes in segment 4.1 and 4.3 has apposite impact on the area, as it brings vibrancy and better quality of space. He highlighted that the social trends are changed: People prefer to go to the public space where they can seat in café in the nature, or buy an ice-cream. They are consumer-minded, thus a few open air cafes are a good incentive for citizens to use the public parks. Moreover, being in constant competition, these cafes are trying to provide cleaner, well-maintained environment, thus impacting positively on the quality of surrounding greener lighting, pavement. Expert also added that the location of this case study is very essential, as it is situated in the part of the city, which has administrative function. Many governmental buildings, including the Municipality are located in the parameter of these parks, thus, any visible transformations could be negatively reflected in the status of the state.

#### **Conclusive remarks on Case study 4**

It can be concluded that the case study area is well-integrated into the CBD and the administrative neighbourhood, thus the space is being used as a recreational zone by the society. Furthermore, similarly to case study 3, the importance as a cultural value for the spatial structure of the city, as well as existence of memorial statues is identified as a significant factor for the preservation of the public green space. Additionally the dense wooded area and the physical dimensions are considered as crucial factors enabling the preservation of this area during the transition period. It was also revealed that similar to all case studies, the quality of space around cafes and memorial statues is characterised by high level of maintenance and landscape beautifications.

Opposite to the case study 3, where the role of society was recognized as one of the significant factors enabling the conservation of the area, in case study 4 the state, particularly the Municipality was revealed as an active actor in preservation of this space. First of all, it maintains the green spaces providing sufficient facilities. Secondly, a possible explanation could be the fact that the area is partially bordered by the Municipality building, hence it pays special attention on the conservation of this green zone.

#### **4.3.8 Representativeness of case studies**

In the Chapter 3 “Selection of case studies” the choices of case studies were argued and the importance of the Yerevan case was explained. However, it is essential to mention the drastic differences between the selected city and other Armenian cities, and to reveal the representativeness of the case studies in order to enhance the external validity of the study.

All respondents confirmed that the case of Yerevan is totally different to other Armenian cities. Being the major and the dominant city in Armenia, Yerevan concentrates the biggest portion of investments. Expert from Yerevan Municipality, involved in projects of public parks G.

Babajanyan stated *“There can be some similarities, but you can never compare this issue to other cities, they have other problems. First we have to solve issues here in Centre, in capital”*.

Z. Mamyan, the Dean of the Department of Urban Development at NUACA University noted *“Yerevan cannot be even compared to other cities... is very dominant by all factors. Even our second city Gyumri cannot be compared. There is lack of investments and construction activities in other cities, which is the opposite situation of the Yerevan case. For example the main public park in Gyumri (second largest city) is functioning very well, regarding the urban vibrancy and the general quality of space”*.

Being selected in the Central district of Yerevan, the case studies might have an external validity issue. However, the content analysis and observations done in other districts revealed the general trends, which strengthened the validity. Moreover, during the interviews all respondents confirmed that there are similar transformations in other districts, however the central part of Yerevan was affected to great extent due to its location, the high amount of touristic and local flows, as well as high attractiveness for investors.

Expert S, a professor from the NUACA University explained *“The selected cases represent the transformations of public green spaces happened during the transition. But they cannot show the whole picture (...) the case of Yerevan is very unique due to its exclusive principles of master plan. Especially the Small Centre shaped by the Circular Park is very essential for the formation of the capital city’s image. The green belts of the city centre were intended to be integrated in the daily flows of surrounding livelihoods. And because of their good integration into downtown layout, the transformations are visible for the society”*.

Experts from both NGO’s argued that the transformations of public green spaces during the period of transition are perfectly demonstrated in the central parts of the city. Representative 1 stated *“everyone wants to go to centre (Yerevan Centre): tourists and locals, thus for investors it is profitable to construct in the Centre which on the other hand is lacking of vacant plots. I would say the Centre demonstrates these transformation in the most notable way”*.

Experts and advisor at State Urban Development Committee A. Tarkhanyan and A. Minassian also highlighted the fact that the city centre is the most affected part by the transformations, and it is a representative case study, taking into account the importance of the master plan of Small Centre. It can be stated that the case studies are enough representative for the investigated phenomenon, and due to central location have particular significance for the spatial structure of Yerevan.

#### **4.3.9 Conclusions**

Interviews were implemented based on literature review, content analysis and observations. As a result of the interview analysis several theories were confirmed and new findings were discovered. Conclusions are drawn based on the final findings of case studies and the comparison of the co-occurrence tables, which helped to reveal the main patterns, and the differences and similarities between the case study findings (See Table 9).

In both case studies of transformed public green spaces the power of the developer was revealed as the most influential factor resulting the transformations of the public green spaces. The co-occurrence tables demonstrated the high interdependency of this factor and the transformation. The dominant power of private investor was mentioned several times for explaining transformations at general and case study level. Moreover, for both case studies (1 and 2) the co-occurrence table illustrates high causality between the land market, private investments and transformations, which compliments the abovementioned theory.

Table 9: Co-occurrence tables: Case Study 1,2,3,4, Source: Author, 2017

Transformed

Case Study 1

		Dependent variable		
Code-Groups	Codes	Transformation		
		Transformation	Conservation	
Independent variables	State	Legal framework	4	0
		Policy documents (zoning)	0	0
		Planning system	1	0
	Society	Participation	0	0
		Perception	2	0
		Social trends	6	0
		Cultural value	1	8
	Market	Private Investments	12	0
		Land/property market	10	0
		Commercialization	8	0
Control variables		Developer's power	18	0
Additional factors	Quality of space	6	1	
	Deforestation (1990s blockade)	7	0	
	Memorial statues	0	2	
	Spatial integration	1	3	
	Location	3	0	
	Physical dimensions	1	0	

Case Study 2

		Dependent variable		
Code-Groups	Codes	Transformation		
		Transformation	Conservation	
Independent variables	State	Legal framework	6	0
		Policy documents (zoning)	0	0
		Planning system	1	0
	Society	Participation	0	0
		Perception	2	0
		Social trends	8	0
		Cultural value	1	6
	Market	Private Investments	9	0
		Land/property market	10	0
		Commercialization	4	0
Control variables		Developer's power	12	0
Additional factors	Quality of space	6	1	
	Deforestation (1990s blockade)	5	0	
	Memorial statues	0	1	
	Spatial integration	1	0	
	Location	4	0	
	Physical dimensions	1	0	

Preserved

Case Study 3

		Dependent variable		
Code-Groups	Codes	Transformation		
		Transformation	Conservation	
Independent variables	State	Legal framework	1	2
		Policy documents (zoning)	0	0
		Planning system	0	7
	Society	Participation	0	10
		Perception	0	8
		Social trends	0	0
		Cultural value	0	11
	Market	Private Investments	0	0
		Land/property market	0	0
		Commercialization	0	4
Control variables		Developer's power	0	4
Additional factors	Quality of space	1	6	
	Deforestation (1990s blockade)	0	2	
	Memorial statues	0	7	
	Spatial integration	0	9	
	Location	0	10	
	Physical dimensions	0	8	

Case Study 4

		Dependent variable		
Code-Groups	Codes	Transformation		
		Transformation	Conservation	
Independent variables	State	Legal framework	0	3
		Policy documents (zoning)	0	4
		Planning system	0	10
	Society	Participation	0	0
		Perception	0	4
		Social trends	0	0
		Cultural value	0	12
	Market	Private Investments	0	0
		Land/property market	0	0
		Commercialization	0	4
Control variables		Developer's power	0	0
Additional factors	Quality of space	0	5	
	Deforestation (1990s blockade)	0	6	
	Memorial statues	0	9	
	Spatial integration	0	11	
	Location	0	10	
	Physical dimensions	0	8	

It is important to mention the supporting factors, such as decentralization of the state and planning system, flexible legal framework, and lack of competency of responsible bodies and professionals, which had particular role in empowering the developer as a dominant stakeholder. Additionally, it was revealed that the civic society is not fully formed after the collapse of USSR: their actions are fragmented and in most of the cases does not hold power against the state's decisions and developer's private interest. The transformations in both case studies (1 and 2) were also explained through changes in social trends and perceptions of society: shift of preferences from outdoor to indoor activities, emergence of commercialization and consumerism as a lifestyle.

Moreover, several additional factors and explanations revealed through content analysis and observations were confirmed during the interviews. Particularly, the impact of deforestation during the 1990s blockade resulted in vulnerability of public green spaces. The observations and content analysis revealed that the parks with dense wooded areas were preserved, while the segments affected by deforestation, were converted into private uses. The interviews confirmed this theory.

The main difference between the case studies 1 and 2 was the transformation outcome. While in case study 1 the whole Circular Park including all segments was transformed exclusively into commercial uses, the case study 2 was transformed into private housing zone in the entire segment 2.2 and partially converted into commercial amenities in the segment 2.1 Victory Park. Additionally, the general analysis of transformations already revealed the main type of transformation, which dominantly is comprised of commercial amenities, including multi-storey restaurants, cafes and hotels. In the neighbourhoods with a proximity to the Centre, massive transformations of public green spaces into high-rise residential buildings are notable.

Finally, it was found that in the periphery, the public green spaces were transformed into private housings, occupying the perimeters of the parks which are close to the main traffic roads.

Comparing the case studies 3 and 4 which were preserved and remained their function as public green space, it is notable from the co-occurrence table, that both cases demonstrate similar findings. Firstly, the existence of memorial statues and sculptures had particular role in the perception of the space as a cultural value. Moreover, the physical dimensions (the parameters: in this case the short width of the parks) were recognized as one of the obstacles for the transformation into large-scale amenities. Additionally, the location and spatial integration of parks into the residential neighbourhoods and CBD also were revealed as influential variables enabling the preservation of the public green spaces.

Despite of many similarities, a contrast difference between these case studies was captured regarding the civic participation. In case study 3, the civil society was revealed as a driving actor of the process of preservation of the area, while in case study 4, the planning system and municipality was considered as an influential stakeholder in the process of conservation of the space.

Regarding the quality of the space, all the 4 case studies had particular similarities. Firstly, the surrounding areas of the cafes and commercial amenities were characterised by high level of maintenance, including the quality of greenery, landscape design, cleanness, lighting, pavement and additional facilities. On the contrary, the non-commercial spaces, which remained their functions as public green spaces, were characterized by poor quality of space and lack of regular maintenance.

Furthermore, all the areas across the memorial statues in both preserved and transformed case studies were similarly featured by high level of maintenance. This confirms the significance of the social perception and recognition of the public green spaces as cultural value. Additionally, it is important to highlight the findings through the content analysis at a city-scale, which revealed that the majority of preserved parks were named and dedicated to Armenian national heroes, famous figures and artists, and many memorial statues were located in those parks, while with some exceptions, the transformed public green spaces had function of an open green spaces and did not contain memorial statues or names of national importance. This theory was confirmed by several experts and was revealed through the content analysis of maps and observations at city-level, including the case study areas.



## **Chapter 5: Conclusions and recommendations**

### **5.1 Introduction**

This chapter presents conclusions based on the research findings supported with the literature review examined in the second chapter, which revealed the major factors impacting the transformation of public green spaces in post-communist cities. The research findings were generated regarding the research questions, and methodological and source triangulations enhanced the validity and reliability of the study. The first part presents the findings of the research questions, linking the answers with the concept of “tragedy of common”. Finally, based on the study and secondary data, recommendations are drawn for further research and for possible solutions of the investigated issue.

### **5.2 Conclusions: Yerevan’s tragedy of the commons**

The main research question was meant to discover the factors impacting the transformation of public green spaces into private uses in Yerevan during the period of transition. The literature review based on literature on post-communist countries revealed the major transitional changes and the main factors influencing the transformation of public green spaces in post-communist cities including Yerevan. Several general paths discussed by Hirt and Stanilov (2007), (2009), (2013) and Sýkora (1999), (2012) were similarly revealed in Yerevan context.

The private developer (market), state and society were recognized as the main stakeholders, which have conflict of interests and different power relations, impacting the transformations of public green spaces. The changes in planning and management system, lack of adaptability of knowledge and expertise in the related fields were also revealed as significant variables in the process of transformation of public green spaces. Emergence of a new influential stakeholder-the private developer was crucial, as the state was the only stakeholder controlling and developing urban constructions during the Soviet times.

The great dependency of the country’s economy on private investments, consequently on the private developers, weakened the role of the planning system and society in the decision making processes. Having greatest power through financial resources, private developers established their place in the urban planning field and in market economy of the country. While all urban development projects were exclusively socially-driven during the Society Union period, the new era of capitalism and democracy featured with an emergence of private investor turned the field of urban development and construction into profit-driven intervention resulting into unsparing exploitation of the common resources including the public green space.

The research confirms the general path of “tragedy of the commons” theory, which will be explained further by answering the research sub-questions. Furthermore, the study also captured similarities between the transitional changes and outcomes in Yerevan and other post-communist cities. Transformation of public green spaces dominantly into commercial uses was one of the main characteristics of post-communist urban transformations, and based on the research it can be stated that Yerevan was not an exception. However, differently to the major trend of transformations into commercial uses, the content analysis and observations revealed that there is also a trend of transformation into private and residential housing in Yerevan, such as the case study 2.

It is significant to mention that the role of civil society, changing social trends and perceptions were underestimated and ignored in many studies on transitional transformations in post-communist countries, while the research revealed the relevance of those factors to the investigated issue. The lack of social participation in decision making processes and fragmentation of the society was revealed as an important factor strengthening the power of

private developers and enabling the transformations of public green spaces. Moreover, the shift of preferences by the society from outdoor activities to indoor activities, the changing social trends such as consumerism and commercialisation were also revealed as major factors impacting the transformation of public green spaces in Yerevan. While the literature review shows that many post-communist and post-socialist countries already started to develop public green spaces and parks through accessing international funds especially from European organizations, Armenia still continues to have a great dependency on private investors, due to scarcity of local financial resources and lack of possibility to access international funds.

Although the tragedy of the commons is relevant to the case of Yerevan, there are always two sides of the coin. One of the theories discussed in the literature review was that despite of the negative impact on public green spaces, positive externalities can be found in particular cases. Several positive externalities, such as better level of maintenance of public green spaces in surrounding areas of the constructed commercial amenities, provision of modern indoor spaces and activities, economic benefits and revenues through private investments were revealed in the context of Yerevan. Many studies on transformations of public green spaces in transitional cities ignored the possible positive externalities, which requires specifically micro-level study through observations and content analysis.

However, despite of similarities of urban transformations with other post-communist cities in transition, several local factors influencing the transformations were discovered during the research. One of them was the massive deforestation during the blockade and energy crisis of 1990s, which resulted in transformation of public green spaces and parks into vacant plots, and in its turn resulted in vulnerability of the spaces for the privatization and construction. Additionally, the factor of cultural importance of the memorial statues in the parks resulting in higher level of maintenance and preservation of that sites was also revealed as influential factor enabling the preservation of the public green spaces.

One of the objectives of the research was to reveal what transformations happened with public green spaces in Yerevan during the period of transition. Based on observations and high-level of content analysis, several trends and patterns regarding the transformations were captured.

- 1) What transformations did take place regarding the public green spaces after the independence of Armenia from the USSR?

The generated zoning maps of transformations revealed that the public green spaces were converted into commercial uses in most of the cases. Research revealed that several parks in the periphery are transformed into private housing, and with proximity to small centre the public green spaces in the neighbourhoods are converted into high-rise residential buildings. Based on the content analysis, observations and interviews these patterns were explained by the land market conditions: while the land value in the periphery is low and it enables private developers to construct dwelling houses which does not generate any profit, with the proximity to the centre the prices are rising, which requires higher investments, thus multi-storey residential buildings and commercial amenities are being built. It can be also seen that in the Centre district which has the highest value and taxes on the land, the transformations are exclusively commercial, which enables the private owners to have continuous profit compared to the multi-storey residential buildings, where the largest portion of the profit is usually generated once the apartments are being sold out.

The zoning maps of transformations generated separately for each case study area enabled to capture the main types of transformations, and complimented with observations in case study areas to generate qualitative analysis and to explain the phenomenon at micro-level. It was found that public green spaces are exceedingly transformed into commercial uses. The majority

of commercial amenities are one or two-storey cafes and restaurants, although several parcels in case study 1 and 2 are constructed by large-scale buildings: hotels and sport centre. In particular case of segment 2.2 the area is entirely transformed into luxury housing zone.

Based on collected primary data through observations, it is revealed that the quality of space in the remaining public green spaces in all 4 case studies has several repeating patterns. Although it is observed that municipality maintained and reconstructed several parks during the last years, it was captured that the preserved public green spaces are featured by low-maintained greenery, shabby pavement, lack of maintained facilities such as benches, garbage bins, and lack of facilities for non-commercial activities.

On the contrary, the spaces around commercial amenities are characterized by high quality of space: well-maintained greenery, landscape beautification, new benches and garbage bins, sufficient lighting, well-designed pavements and additional facilities such as bicycle parking and ramps. This trend is explained by a competition between commercial businesses, as well as a recent rules by the municipality, which require commercial businesses to regularly provide maintenance of the surrounding public space. Similarly to the surrounding spaces of commercial amenities, the areas are well-maintained around the memorial statues, which as was mentioned earlier, have a perception of cultural value by the society. It is also important to highlight the fact that all preserved public green spaces have considerable amount of big and old trees, which might limit the possibility to implement large scale constructions.

Furthermore, the research aimed to reveal what changes did happen regarding the state and the market during the period of transition, and to explain how and to what extent those changes impacted the transformation of public green spaces.

- 2) What changes did happen regarding the state and land market during the period of transition?
- 4) How and to what extent did those factors impact the transformation of public green spaces in Yerevan?

Coming back to the Hardy's "tragedy of commons" the Yerevan's own tragedy of commons was revealed. Being simultaneously the land owner and the developer, the totalitarian communist state was managing and developing the public green spaces to a great extent. Numerous parks and public green spaces were designed and regularly maintained by the government in the Soviet Armenia. The land, including the public green spaces was owned by the government, and the society was the main user. Dissolution of the Soviet Union and a drastic shift to capitalism and democracy resulted in several major economic, social and political changes, which in their turn impacted the transformation of public green spaces.

The emergence of the market economy was characterized with rapid privatization of land and properties. As a result, the government, in this case the municipality was left with small piece of public land, which, as a source of revenue was not presenting any interest and had negative profitability, as it required expenditures for the regular maintenance of the public space and green zones.

The appearance of a new stakeholder - the private developer was essential. Country became vitally dependent on the private investments, due to absence of own financial resources, especially during the first decade of transition. Establishing power in the economy of the country, the private investor became the major stakeholder influencing the urban development processes of the country. Confirming the pattern of the tragedy of commons, the public land became a shared resource for investors, who acted independently and due to dominance of power, were using the common good for a self-interest.

The public green spaces being affordable and easy investments started to be privatized and leased already in the early years of transition. Individually taken, the private developer could not affect the public green spaces to a great extent, however, seeking for profit maximization, the private developers collectively impacted on depletion of the common good: the public green spaces.

It can be stated, that at a short-term the transformations helped to provide new commercial activities, well-maintained open space and new jobs to the society. However at a long-term, the environmental, social and in case of Centre district the cultural damage caused by the transformations could lead to the “point of no return”.

- 3) What changes did happen regarding the trends and perceptions of civil society?
- 4) How and to what extent did those factors impact the transformation of public green spaces in Yerevan?

One of the research sub-questions aimed to reveal the changes of social trends and perceptions and to explain its impact on transformations. Based on literature review and interviews it was revealed that with the innovation and technological development, the demand on commercial activities increased to great extent. Driven by the market economy, the consumerism became the main feature of the modern society, shifting preferences from outdoor activities to indoor activities. This was reflected in the urban transformations affecting also the public green spaces.

Additionally, it was revealed that civic society is fragmented in terms of ideologies and collective actions, and does not have sufficient power in influencing the decision-making processes regarding the urban transformations. However, it is important to mention that the role of society in preservation of public green spaces is increasing especially during the last decade, which can be explained through regeneration of the society and establishment of democracy after the stages of transition.

Content analysis of various maps, observations at case study areas, and analysis of interviews with key-informants captured additional factors influencing the transformations of public green spaces during the transition. First of all, the dissolution of Soviet Union was accompanied with a harmful blockade of the country and energy crisis, which resulted in massive deforestations in many regions of the country including the capital. As a result, public green spaces which were transformed into vacant plots and lost the majority of wooded areas, became more vulnerable for privatizations, due to unimpeded physical conditions and low investment requirements for construction of the area. Several experts confirmed this theory, which was cross-validated with observations and content analysis of maps and archive images. It was revealed that particularly the parks which kept a dense forestry in the area, were preserved and maintained during the time.

Another factor, which does not fully explain the causes on transformations, but provides an explanation behind the conservations of public green spaces is the perception of the space as a cultural value. Content analysis of maps, observations and interviews revealed a trend, stating that the parks and public green spaces which include memorial monuments and are dedicated to a national heroes and cultural figures, in majority are preserved. Moreover, the observations revealed that surrounding areas of cultural monuments are featured by higher level of maintenance and good quality of space. The areas which does not have a perception of cultural importance, and specifically does not contain memorial monuments, have tendency to be transformed and constructed.

In conclusion, the drastic transitional changes resulting in unequal distribution of power relations between the major stakeholders: the state, society and developer were explained. The

research revealed the dominance of power of private developer, empowered by the flexible legal framework, incompetency of state, fragmented and consumerist society. Based on content analysis, observations and interviews generated during the filed-walk, the causality of those factors on transformation of public green spaces was explained. Finally, the recommendations for further research and for solutions of the investigated phenomenon are presented.

### **5.3 Recommendations**

Based on the limitations of the study, research findings and conclusions the recommendations are presented for further research. This will help to improve the quality of research, to bring more insight to the investigated topic, and to reveal new findings in the future studies.

One of the limitations of the study is that interviews were predominantly held with public sector, while the importance of the private sector (private developers) was revealed as a major factor. During the research it was difficult to find private developers for interview because of the sensitivity of the investigated study. Thus, considering the limited information about the private developers, it is recommended to ensure the equal involvement of the public and private sectors in the interviews and data collection processes. It can be noted, that architects working with the private developers usually own enough data and information, hence, they can be also interviewed as representatives of private sector.

Furthermore, it was revealed that many related studies ignored the significance of the civil society, thus, a particular attention was paid on civic society sector. Due to time limitation during the research the civil society was represented by the NGOs' representatives and a few professors, which is also recognized as a limitation of the study, as still not too much is known about the motivations, trends and perceptions of different groups of society. It is recommended to generate more interviews with citizens from different groups of society in order to bring new insight to this topic.

Additionally, the study focuses only on large public parks and green zones, while the literature review, as well as the observations revealed that small parcels of public green spaces, courtyard areas and green lawns were also transformed into private uses. Moreover, this trend continues to proceed in Yerevan until nowadays. Hence, it is recommended to generate observations and content analysis in different types and scales of public green spaces, and to compare the outcome of the transformations, which will help to generate more findings regarding the transformations and their positive and negative externalities.

Finally, recommendations for the solutions of the investigated issue are made. Although the amount of green spaces was dramatically decreased during the first decade of transition, the content analysis and interviews revealed that there is an increase in the amount of green spaces in Yerevan. However, the share of public green spaces per capita remains below the international standards. Moreover, considering the importance of public green spaces in the formation of the spatial structure of the city centre and its cultural value at a national level, the urgency of the investigated issue continues to remain on the urban agenda.

First of all, the preservation of public green spaces requires supporting strict zoning rules and land-use limitations. Furthermore, it is significant to strengthen the institutional capacity and to empower urban planners and related professionals through the legal framework. Currently a few acts and laws are being developed by responsible institutions including the State Urban Development Committee, which initiated the establishment of the Law on "Construction of the Small Centre" meant to limit the possible constructions in the Small Centre, control the scope of the activities of private developers, as well as establish the Small Centre as a zone of national importance and cultural heritage. Moreover, a few new initiatives, such as the Law on



“Architectural activities” are developed in order to specify the scope of activities and empower architects and urban planners in decision-making processes.

Referring to the case of Skopje, which had similar dynamics of transformations, several recommendations are drawn for the problem of privatization and construction of public green spaces. It is important to ensure the efficiency of the projects implemented in the public green spaces through providing transparency to other solutions, as well as strengthening civic participation (The SkopjeRaste project, 2014). On the case of Skopje, a proposal of involvement of the citizens in the design and implementation of the project demonstrated the necessity of multi-stakeholder participation in the urban transformations related to land of common use. Nevertheless, it is important to have educated and well-informed civic society, in order to achieve a co-benefit solution through adequate and collaborative actions. Additionally, several policies such as environmental governance and ecological modernization developed after 1990s provide a possibility of win-win solutions in the conditions of market economy and commercialization of green spaces (Stewart, 2001).

Finally, the equal distribution of power relations and interests between all stakeholders has to be achieved through adequate legal framework, civic participation and sustainable management of common resources, as well as complimented with long-term vision by the state and society in order to avoid the tragedy of the commons.

## Bibliography

- Armstat.am, 2013. The market average price changes of multiple residential buildings and individual dwellings of Yerevan city and Marzes in 2012-2013. Available at: [http://www.armstat.am/file/article/gner\\_14\\_10.pdf](http://www.armstat.am/file/article/gner_14_10.pdf) [Accessed 2017].
- Asbarez.com, 2000. Louise Simone and Richard Manougian Donate \$2 Million to Yerevan Cathedral Project. Available at: <http://asbarez.com/42657/louise-simone-and-richard-manougian-donate-2-million-to-yerevan-cathedral-project/> [Accessed 2017].
- Bengston, D. N., Fletcher, J. O. and Nelson, K. C., 2004. Public policies for managing urban growth and protecting open space: policy instruments and lessons learned in the United States. *Landscape and Urban Planning*, 69 (2), pp. 271-286.
- Boudjikanian, D. O., 2006. Armenian Independence and Deforestation. Case Study No. 179, Inventory of Conflict and Environment, American University, Washington, DC, September 2010. Available at: <http://mandalaprospects.com/ice/ice-cases/armenia-forest.htm> [Accessed 26.05.2017].
- Cohen, D., 2006. Qualitative Research Guidelines Project: Semi-structured interviews, New Jersey: Robert Wood Johnson Foundation.
- Coolen, H. and Meesters, J., 2012. Private and public green spaces: meaningful but different settings. *Journal of Housing and the Built Environment*, 27 (1), pp. 49-67. Available at: <https://link.springer.com/article/10.1007/s10901-011-9246-5> [Accessed 06.06.2017].
- Creswell, J. W., Fetters, M. D. and Ivankova, N. V., 2004. Designing a mixed methods study in primary care. *Annals of Family Medicine*, 2 (1), pp. 7-12. Available at: <http://www.annfammed.org/content/2/1/7.short> [Accessed 26.05.2017].
- Crompton, J. L., 2005. Forces underlying the emergence of privatization in parks and recreation (executive summary), The George Wright Forum, pp. 59-60.
- Darieva, T. and Kaschuba, W., 2011. Sights and signs of postsocialist urbanism in Eurasia: an introduction. Available at: [http://www.newbooks-services.de/MediaFiles/Texts/1/9783593393841\\_Excerpt\\_001.pdf](http://www.newbooks-services.de/MediaFiles/Texts/1/9783593393841_Excerpt_001.pdf) [Accessed 05.06.2017].
- Darieva, T., Kaschuba, W. and Krebs, M., 2011. Urban spaces after socialism: Ethnographies of public places in Eurasian cities. Campus Verlag.
- Driscoll, D. L., Appiah-Yeboah, A., Salib, P. and Rupert, D. J., 2007. Merging qualitative and quantitative data in mixed methods research: How to and why not. *Ecological and Environmental Anthropology (University of Georgia)*, pp. 18.
- Flyvbjerg, B., 2006. Five misunderstandings about case-study research. *Qualitative Inquiry*, 12 (2), pp. 219-245. Available at: <http://journals.sagepub.com/doi/abs/10.1177/1077800405284363> [Accessed 27.05.2017].

- Foster, S., 2012. Collective Action and the Urban Commons, *Notre Dame Law Review*, Vol. 87, 2011; Fordham Law Legal Studies Research Paper No. 1791767. Available at SSRN: <https://ssrn.com/abstract=1791767> [Accessed 29.05.2017].
- Garnett, R. and Kanaroglou, P., 2016. Qualitative GIS: An Open Framework Using Spatialite and Open Source GIS. *Transactions in GIS*, 20 (1), pp. 144-159. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/tgis.12163/full> [Accessed 24.05.2017].
- globalpropertyguide.com, 2013. Armenia's property market at a standstill. Available at: <http://www.globalpropertyguide.com/Asia/Armenia/Price-History-Archive/Armenias-property-market-at-a-standstill-127217> [Accessed 2017].
- Grigorescu, I., Mitrica, B., Kucsicsa, G., Popovici, E., et al., 2012. Post-communist land use changes related to urban sprawl in the Romanian Metropolitan Areas. *Human Geographies*, 6 (1), pp. 35. Available at: <http://search.proquest.com/docview/1287032046?pq-origsite=gscholar> [Accessed 06.06.2017].
- Hardin, G., 1968. The tragedy of the commons. The population problem has no technical solution; it requires a fundamental extension in morality. *Science (New York, N.Y.)*, 162 (3859), pp. 1243-1248.
- Hirt, S., 2013b. Whatever happened to the (post) socialist city? *Cities*, 32 pp. S29-S38.
- Hirt, S. and Kovachev, A., 2006. The changing spatial structure of post-socialist Sofia. Springer.
- Hirt, S. and Stanilov, K. 2009a. Revisiting urban planning in the transitional countries. *Unpublished Regional Study Prepared for the Global Report on Human Settlements*.
- Hirt, S. and Stanilov, K., 2009b. Twenty years of transition: The evolution of urban planning in Eastern Europe and the former Soviet Union, 1989-2009. UN HABITAT.
- Ioan, A., 2007. The peculiar history of (post) communist public places and spaces: Bucharest as a case study. *The Post-Socialist City*, pp. 301-312.
- Isaac, D., Balchin, P. N. and Chen, J., 2000. Urban Economics: a global perspective. Palgrave Macmillan.
- Isakhanian, A., 2008. Democracy building and civil society in post-Soviet Armenia, Routledge.
- Karapetyan, A. and Khachatryan, A., 2010. Public Green Space in Armenian Cities: A Legal Analysis. *Caucasus analytical digest*, no. 23, pp. 5-7. Available at: <http://www.css.ethz.ch/content/dam/ethz/special-interest/gess/cis/center-for-securities-studies/pdfs/CAD-23-5-7.pdf> [Accessed 02-03-2017].
- Khatchadourian, R., 2016. A Juxtaposition of Ideological Expressions: Evaluating the Urban Transformations of Yerevan (Armenia) during 1915-2015, University of Liverpool. Available at: <https://www.ribaj.com/culture/roy-khatchadourian> [Accessed 03-03-2017].

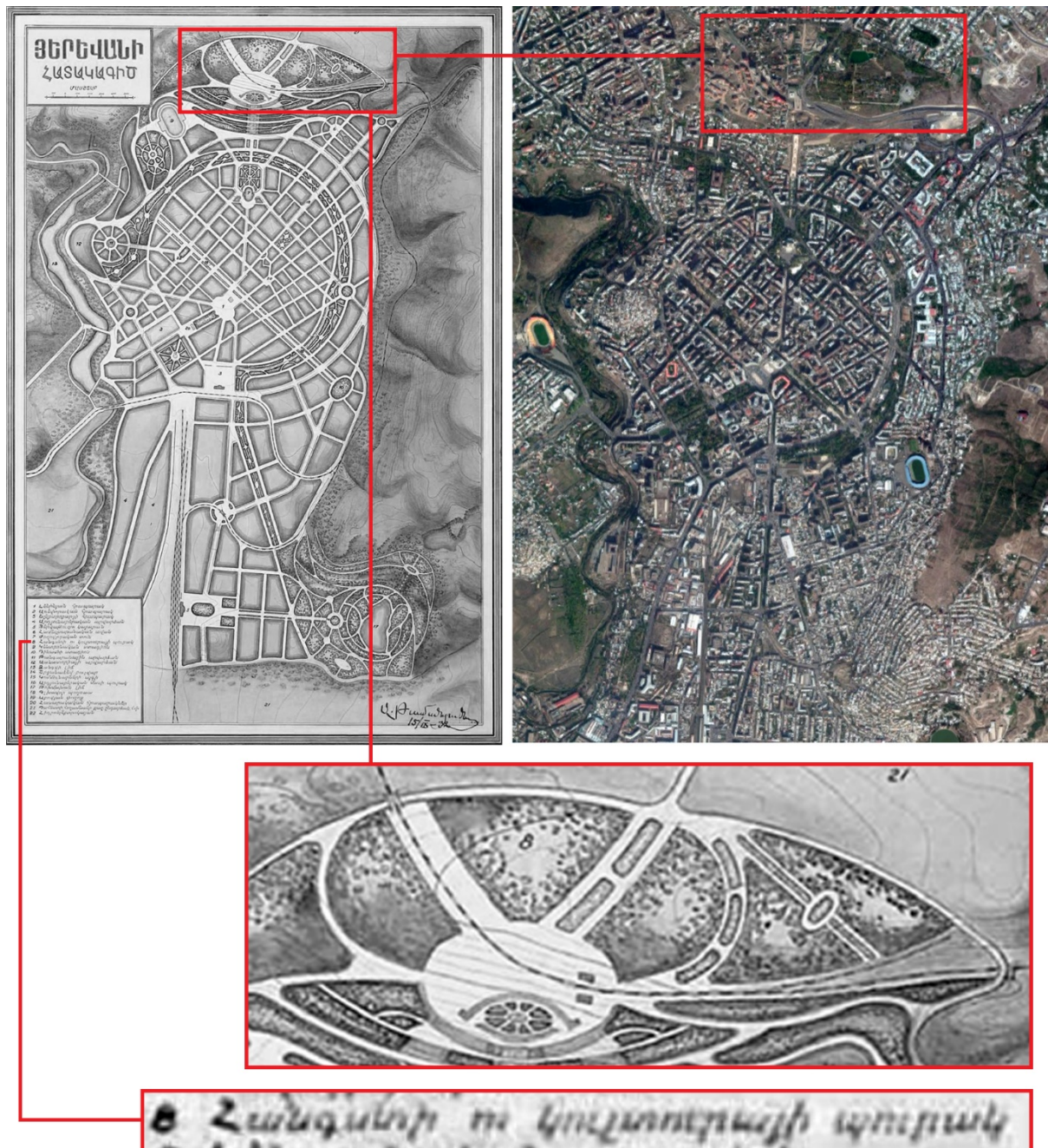
- Koželj, J. and Stefanovska, J. 2012. Urban planning and transitional development issues: The case of Skopje, Macedonia. *Urbani Izziv*, (23 (1)), pp. 91-100.
- LeGoix, R. and Webster, C., 2006. Gated communities, sustainable cities and a tragedy of the urban commons. *Critical Planning*.
- Mamian, Z., 2014. Some Issues of Reconstruction of Public Centers and Conservation of Historical Cultural Heritage in Yerevan, *Advanced Materials Research*, Vol. 1020, pp. 707-710
- Mamyan, Z., Aloyan, A. and Kartashyan, T., et al., 2016. Evolvment of Public Open Spaces in Historical Environments of Yerevan City, MATEC Web of Conferences. EDP Sciences. N 06005.
- Manookian, A., and Tolosa, G., 2013, Armenia's Housing Boom-Bust Cycle: International Monetary Fund (IMF) report. Available at: <http://www.imf.org/external/country/arm/rr/2011/112811.pdf> [Accessed 30-03-2017].
- Martorosyan, A., 2014. Perspectives of restoration of green spaces and sustainable development programmes. Yerevan Municipality. Available at: <https://www.yerevan.am/uploads/media/default/0001/27/3b12c25878d24b06bbf48b2ae3765834bf281264.pdf> [Accessed 03-03-2017].
- Neugebauer, C. S. and Rekhviashvili, L., 2015. Loss and (re-) construction of public space in post-Soviet cities. *International Journal of Sociology and Social Policy*.
- Ngalande, R. C. and Mkwinda, E. 2014. Benefits and challenges of using ATLAS. ti. *ATLAS.Ti User Conference 2013: Fostering Dialog on Qualitative Methods*, ISBN 978-3-7983-2692-7 (TU Berlin), Available at: [https://depositonce.tu-berlin.de/bitstream/11303/5132/1/16\\_ngalande\\_4422.pdf](https://depositonce.tu-berlin.de/bitstream/11303/5132/1/16_ngalande_4422.pdf) [Accessed 15-08-2017].
- Orbelyan, G., 2017. Yerevan in the Context of Garden-City. (Yerevan-4), Available at: <http://yhm.am/archives/8760> [Accessed 07.07.2017].
- Ostrom, E., 2015. The evolution of institutions for Collective Action: Governing the commons. Cambridge, United Kingdom: Cambridge University Press. Available at: <https://books.google.nl/books?hl=en&lr=&id=daKNCgAAQBAJ&oi=fnd&pg=PR11&dq=Ostrom,+E.,+2015.+Governing+the+commons.+Cambridge+university+press.&ots=YdihkCg18D&sig=9Ay1HYIVEnbhXSQ64tfswBuoDgM#v=onepage&q&f=false> [Accessed 21-07-2017].
- Pascariu, G., 2014, Looking for the lost significance of public space. *Buletin AGIR*. 27-32.
- Pichler-Milanović, N., 2004. Inter-urban transformation in Central and Eastern Europe. *Urbani Izziv*, (15 (2)), pp. 105-111.
- Pichler-Milanović, N., 2009. The process and pattern (s) of residential sprawl in post-socialist cities: a story of Leipzig-Ljubljana-Warsaw. *Studia Universitatis Babes-Bolyai-Sociologia*, 54 (1), pp. 31-56.

- Rouwendal, J. and Straaten, W., 2008, The costs and benefits of providing open space in cities, CPB Discussion Paper, no. 98, 2008, The Hague, pp.1-40. Available at <https://www.cpb.nl/sites/default/files/publicaties/download/costs-and-benefits-providing-open-space-cities.pdf> [Accessed 30-03-2017].
- Rouwendal, J., van Marwijk, R. and Levkovich, O., 2014. The value of proximity to water in residential areas.
- Sadeghian, M.M. and Vardanyan, Z., 2013. The Benefits of urban parks, a review of urban research. JNAS Journal-2013, ISSN 2322-5149, pp. 231-237. Available at: <http://jnasci.org/wp-content/uploads/2013/08/231-237.pdf> [Accessed 03-03-2017].
- Sailer-Fliege, U., 1999. Characteristics of post-socialist urban transformation in East Central Europe. *GeoJournal*, 49 (1), pp. 7-16. Available at: <https://link.springer.com/article/10.1023%2FA%3A1006905405818?LI=true> [Accessed 06.06.2017].
- Soto, H. D., 2000. The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else, New York, Basic Books.
- Space, C., 2006. Paying for parks: Eight models for funding urban green spaces.
- Stanilov, K., 2007. Democracy, markets, and public space in the transitional societies of Central and Eastern Europe. Democracy, markets, and public space in the transitional societies of Central and Eastern Europe. 2007. The Post-Socialist City. Springer. pp. 269-283.
- Stewart, K., 2001. Avoiding the tragedy of the commons: Greening governance through the market or the public domain? *The Market or the Public Domain: Global Governance and the Asymmetry of Power*, pp. 202-228.
- Sýkora, L., 1999. Changes in the internal spatial structure of post-communist Prague. *GeoJournal*, 49 (1), pp. 79-89.
- Sýkora, L. and Bouzarovski, S., 2012. Multiple transformations: conceptualizing the post-communist urban transition. *Urban Studies*, 49 (1), pp. 43-60.
- Taylor, L. and Hochuli, D. F., 2017. Defining green space: Multiple uses across multiple disciplines. *Landscape and Urban Planning*, 158 pp. 25-38. Available at: [http://ac.els-cdn.com/S0169204616302146/1-s2.0-S0169204616302146-main.pdf?\\_tid=084a259c-4aa4-11e7-93f6-00000aab0f27&acdnat=1496745583\\_a246890e0e06958fbb9fc197ca387995](http://ac.els-cdn.com/S0169204616302146/1-s2.0-S0169204616302146-main.pdf?_tid=084a259c-4aa4-11e7-93f6-00000aab0f27&acdnat=1496745583_a246890e0e06958fbb9fc197ca387995) [Accessed 06.06.2017].
- Ter-Ghazaryan, D. K., 2013. "Civilizing the city center": symbolic spaces and narratives of the nation in Yerevan's post-Soviet landscape. *Nationalities Papers*, 41 (4), pp. 570-589.



- The SkopjeRaste project, 2014. Transforming the Green Space in Skopje. pp. 1-23. Available at: <http://www.reactor.org.mk/CMS/Files/Publications/Documents/TransformingTheGreenSpacesInSkopje.pdf> [Accessed 25-06-2017].
- Tosics, I., 2006. Spatial restructuring in post-socialist Budapest. Spatial restructuring in post-socialist Budapest. 2006. The Urban Mosaic of Post-Socialist Europe. Springer. pp. 131-150.
- Tsenkova, S. and Nedovic-Budic, Z., 2006. The urban mosaic of post-socialist Europe: space, institutions and policy. Springer Science & Business Media.
- Tuvikene, T., 2016. Strategies for Comparative Urbanism: Post-socialism as a De-territorialized Concept. *International Journal of Urban and Regional Research*, 40 (1), pp. 132-146. Available at: <http://dx.doi.org/10.1111/1468-2427.12333> [Accessed 20-05-2017].
- Van Thiel, S., 2014. Research methods in public administration and public management. Routledge.
- Wegener, B., 2000. Political culture and post-communist transition: A social justice approach: Introduction. *Social Justice Research*, 13 (2), pp. 75-82.
- Wolch, J. R., Byrne, J. and Newell, J. P., 2014. Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough'. *Landscape and Urban Planning*, 125 pp. 234-244.
- Woolley, H. H. E., 2004. The value of public space: how high quality parks and public spaces create economic, social and environmental value.
- WHO Regional Office for Europe, 2016. Urban green spaces and health: A review of evidence, Copenhagen, pp. 1-80. Available at: [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0005/321971/Urban-green-spaces-and-health-review-evidence.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0005/321971/Urban-green-spaces-and-health-review-evidence.pdf?ua=1) [Accessed 20-05-2017].
- Yerevan City Council, 2009, Decision no. 36-N (36-Ն). Rules on protection and use of public green spaces in Yerevan. Available at: <http://www.arlis.am/DocumentView.aspx?DocID=82305> [Accessed 03-03-2017].
- Yerevan Municipality, 2015. Yerevan Development Program 2016. Decree N 432-N), Available at: <https://www.yerevan.am/uploads/media/default/0001/41/fbc4fccc71d0e09a9b1d24155d0d84c1606be725.pdf> [Accessed 17-07-2017].
- Zheltnina, A., 2013. Learning to use 'public space': urban space in post-Soviet St. Petersburg. *The Open Urban Studies Journal*, 6 (1).
- Zhvanina, I., Karapetyan, A. and Khachatryan, A., 2010. Urban spaces-public and private.

## Annex 1: Case Study 2 area in 1924 master plan of Yerevan



8. Հանգստի ու կուլտուրայի պուրակ (Recreational and Cultural Park)

Source: Roy Khatchadourian, University of Liverpool, 2016

## **Annex 2: Case Study 2: Archive photographs**



**Picture 1: Lake Areni in the Victory Park, Source: Mediamax.am**



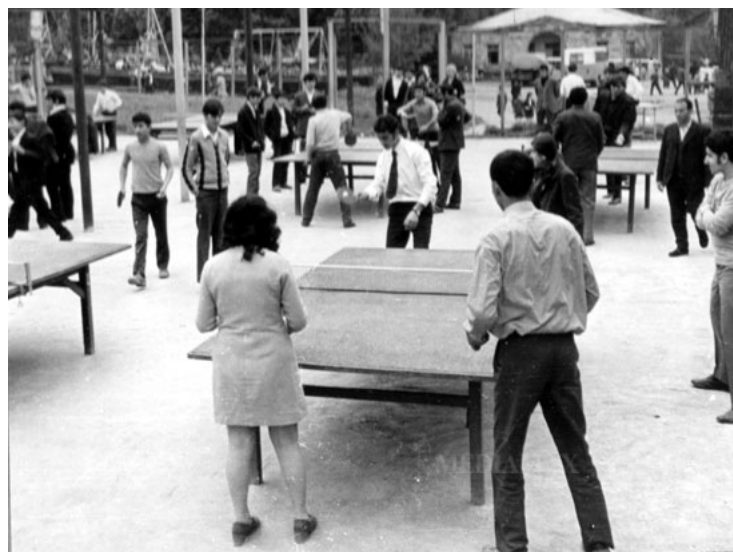
**Picture 2: Statue of Stalin in Victory Park (later replaces by Statue of “Mother Armenia”), Source Mediamax.am**



**Picture 3: Carousel at Victory Park, Source Mediamax.am**



**Picture 4: Carousel at Victory Park, Source Mediamax.am**



**Picture 5: Table tennis area at Victory Park, Source Mediamax.am**



### Annex 3: Case Study 2, Segment 2.2 Satellite views



2000



2005

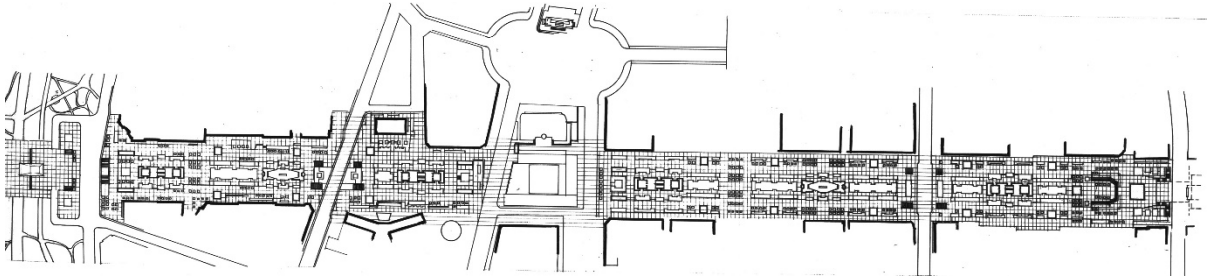


2016

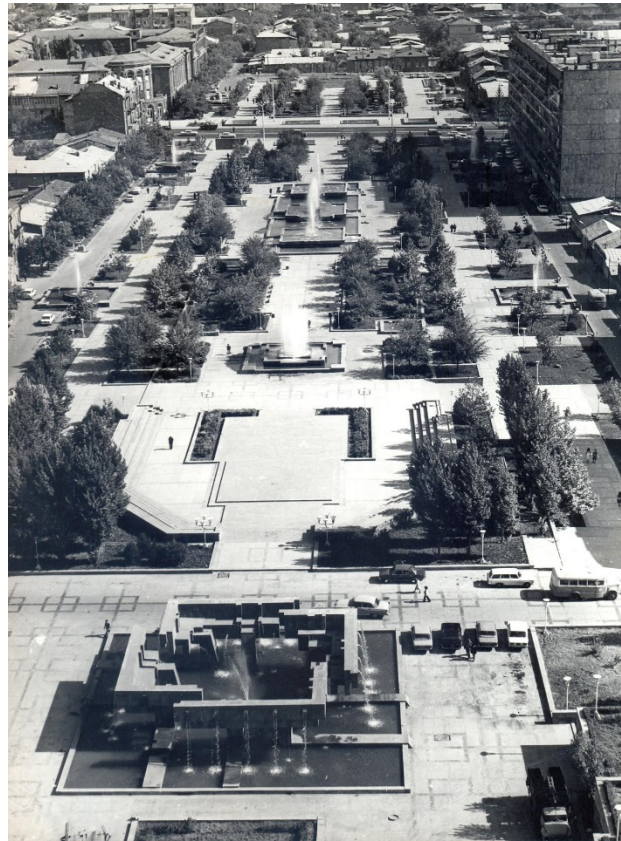
Source: Google Earth



## **Annex 4: Case Study 3: Archive photographs of the area**



**Picture 1: Master plan of the Case Study 3 area (Main Avenue Park), Source Mediamax.am**

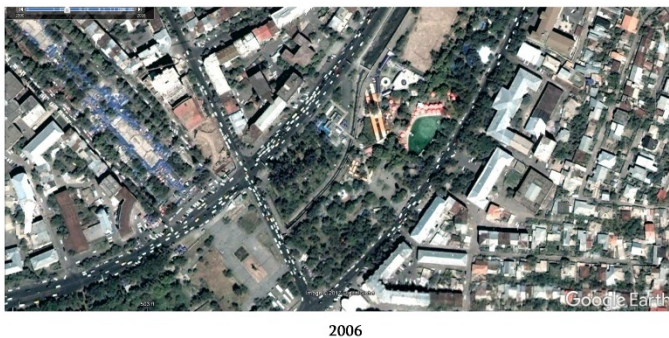


**Picture 2: Fountains at Main Avenue Park (Soviet period), Source Mediamax.am**



## Annex 5: Case Study 1: Satellite views

### Segment 2



Source: Google Earth

## Annex 6: Case Study 4, Segment 4.3

## Municipal proposal for the reconstruction of the Children's Park



**Source: Yerevan Municipality**





## Case Study 4

Segment 4.1

characteristics			
Greenery (the level of maintenance)	poor ✓	sufficient	good
Wooded areas (Availability of trees)	absence	scattered ✓	dense (with old trees)
Water surfaces	absence	low maintenance ✓	well-maintained
Benches	shabby (old) ✓	sufficient	brand-new
Garbage bins	shabby (old) ✓	sufficient	brand-new
Lighting	poor	sufficient ✓	good
Pavement (pedestrian pathways)	shabby (old) ✓	sufficient	good
Ramps	absence	low maintenance	well-maintained
Landscape beautification	absence	low maintenance	well-maintained
Commercialization of the space	commercialized	partially commercialized	not commercialized
Additional characteristics	cameras	Wi-Fi	free telephone booth

Segment 4.2

characteristics			
Greenery (the level of maintenance)	poor ✓	sufficient	good
Wooded areas (Availability of trees)	absence	scattered ✓	dense (with old trees)
Water surfaces	absence	low maintenance ✓	well-maintained
Benches	shabby (old) ✓	sufficient	brand-new
Garbage bins	shabby (old) ✓	sufficient	brand-new
Lighting	poor	sufficient ✓	good
Pavement (pedestrian pathways)	shabby (old) ✓	sufficient	good
Ramps	absence	low maintenance	well-maintained
Landscape beautification	absence	low maintenance	well-maintained
Commercialization of the space	commercialized	partially commercialized	not commercialized
Additional characteristics	cameras	Wi-Fi	free telephone booth

Segment 4.3

characteristics			
Greenery (the level of maintenance)	poor ✓	sufficient	good
Wooded areas (Availability of trees)	absence	scattered	dense (with old trees) ✓
Water surfaces	absence	low maintenance	well-maintained
Benches	shabby (old) ✓	sufficient	brand-new
Garbage bins	shabby (old) ✓	sufficient	brand-new
Lighting	poor	sufficient ✓	good
Pavement (pedestrian pathways)	shabby (old) ✓	sufficient	good
Ramps	absence	low maintenance	well-maintained
Landscape beautification	absence	low maintenance	well-maintained
Commercialization of the space	commercialized	partially commercialized	not commercialized ✓
Additional characteristics	cameras	Wi-Fi	free telephone booth

Source: Author, 2017

## Annex 8: Guiding questions for the semi-structured interviews

### Semi-structured Interviews with key informants

#### General Part

1. What do you think about the transformations of public green spaces into private uses that happened in Yerevan during the period of transition?
2. In your opinion which factors (what kind of transitional changes) have impacted this transformations the most and how?
3. In your opinion, what are the gaps in the legal framework? How did it change after the independence? What kind of reforms do we need in order to prevent such transformations?
4. What is the role of state in this transformations? What did change in the planning and managing system after the dissolution of USSR? How did it impact the transformations of public green spaces in Yerevan?
5. What is the role of the State Urban Development Committee / Municipality of Yerevan / University / NGO regarding the preservation or transformation of public green spaces?
6. What is the role of the market (land-property market)? How did it change during the transition? What was the impact?
7. What is the role of developers in this transformations?
8. How did the society, social perceptions and trends change during the period of transition? What is the role of society in this transformations?
9. What is the role of diaspora, do they have any impact?
10. Do you think there are more actors or factors impacting this transformations?
11. Are there any positive externalities from these transformations?
12. What would you like to add regarding this topic?

#### Case study part (case study 1, 2: transformed parks)

13. What do you know about the transformations of Circular Park / Victory Park and surrounding area? What changed after the years of independence that resulted in current condition?



14. What in your opinion impacted the transformations in Case Study 1/ 2 and how? What is the role of society, state and developers in these cases?
15. In your opinion, are there any positive externalities from these transformations?
16. Would you like to add anything regarding these cases?

#### **Case study part (case study 3, 4: preserved parks)**

17. What is the reason that the Children's Park/Mashtots Park (case study 3/ 4) were preserved from transformations?
18. In your opinion, which factor were influential in enabling the preservation of these public green space?
19. What is the role of society, state and developers in these cases?
20. Would you like to add something related to this topic?

#### **Additional**

21. Are the case studies representative for the investigated topic?
22. Is the case of the Yerevan similar to other cases in other Armenian cities?

#### **Extra questions for experts from public sector**

23. What is the role of public authorities / architects and urban planners in these transformations?
24. What is the role (power) of urban development documents, such as Zoning (I'll bring examples from the literature review)
25. How has the tendency of privatization of public green spaces changed during the period of transition? Are there any related policies or programs developing by the Municipality / Committee?
26. What motivates the Municipality to lease and provide construction permissions in public green spaces? How does the society react for particular cases? Are there protests against these transformations?
27. How would you describe the power relations and the role of private developer?

#### **Extra questions for NGOs**

28. What is the role of your NGO in preservation of public green spaces (case study areas)?
29. How did the civic participation change during the time (Soviet times / Independence period)?
30. How the trends of society changed?
31. What is the role of civil society and how did it impact the transformation of public green spaces? Is there a huge demand on new commercial spaces?
32. Does the society or NGOs have enough power in process of protection of public green spaces in Yerevan?
33. In your experience, are there any positive externalities from these transformation?
34. How would you describe the changes in power relations between the developer, state and society?

#### **Extra questions for private developer**

35. What motivates you to construct a building in the public green space?
36. Why did you choose this location and function for the construction?

37. How would you describe the process of privatization, was that hard to get a construction permission from the Municipality?
38. Where there any obstacles from different parties (municipality, society) for the construction?
39. Why is that profitable to lease land in public green space and develop businesses there?
40. Do you perceive the Circular Park as a cultural value for the city? What is the role of this park for the city?
41. Would you like anything regarding this topic?

#### Extra questions for architect of the developer

42. Can you tell me about the project of the hotel constructed in the Circular Park?
43. How would you describe the motivation of the developer to construct in this area?
44. Did you have any obstacles or limitations from the Municipality during the design and construction stages?
45. How would you describe the roles and power relations between the developer, state and society?
46. In your opinion what is the role of the architect in these transformations?
47. What is the role of this park for the city? Does it have any cultural value for you, for the society?
48. Would you like to add anything regarding this topic?

Thank you.

## Annex 9: Time Schedule

Time Schedule	Months	May				June				July				August				September			
Activities	Weeks	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Secondary data collection of maps, archive photos and documents																					
Searching and connecting to key informants for the interview																					
Preparation of guiding questionnaires for semi-structured interviews																					
Preparation of maps and zoning schemes for the fieldwalk																					
Observations at the field walk																					
Analysis of the observations, photographs and archive images																					
Content analysis and generation of zoning maps of transformations																					
Interviews with key informants																					
Transcription and translation of interviews																					
Coding and analysis of interviews through ATLAS.ti																					
Drafting findings and conclusions																					
Submission of the draft thesis																					
Addressing the comments from supervisor and second reader																					
Final submission of the thesis on 7 September 2017																					

## Annex 10: IHS copyright form

In order to allow the IHS Research Committee to select and publish the best UMD theses, participants need to sign and hand in this copy right form to the course bureau together with their final thesis.

Criteria for publishing:

A summary of 300 to 500 words should be included in the thesis.

The number of pages for the thesis is about 60.

The thesis should be edited.

Please be aware of the length restrictions of the thesis. The Research Committee may choose not to publish very long and badly written theses.

By signing this form you are indicating that you are the sole author(s) of the work and that you have the right to transfer copyright to IHS, except for items cited or quoted in your work that are clearly indicated.

I grant IHS, or its successors, all copyrights to the work listed above, so that IHS may publish the work in *The IHS thesis series*, on the IHS web site, in an electronic publication or in any other medium.

IHS is granted the right to approve reprinting.

The author(s) retain the rights to create derivative works and to distribute the work cited above within the institution that employs the author.

Please note that IHS copyrighted material from *The IHS thesis series* may be reproduced, up to ten copies for educational (excluding course packs purchased by students), non-commercial purposes, providing full acknowledgements and a copyright notice appear on all reproductions.

Thank you for your contribution to IHS.

Date : \_\_\_\_\_07.09.2017\_\_\_\_\_

Your Name(s) : \_\_\_\_\_Anahit Hovhannisyan\_\_\_\_\_

Your Signature(s) : \_\_\_\_\_

Please direct this form and all questions regarding this form or IHS copyright policy to:

The Chairman, IHS Research Committee Burg. Oudlaan 50, T-Building 14 <sup>th</sup> floor, 3062 PA Rotterdam, The Netherlands	j.edelenbos@ihs.nl Tel. +31 10 4089851
------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------