



FAIR SHARED GREEN AND RECREATIONAL SPACES GUIDELINES FOR GENDER-RESPONSIVE AND INCLUSIVE DESIGN

Tbilisi Municipality

DECEMBER 2021



თბილისის მერია
TBILISI CITY HALL

ADB

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ABBREVIATIONS

ADB	Asian Development Bank
cm	centimeter
CPRD	Convention on the Rights of Persons with Disabilities
CRC	Convention on the Rights of the Child
GIS	geographic information system
ha	hectare
m	meter
mm	millimeter
m ²	square meter
PUE	power usage effectiveness
SDCC	Sustainable Development and Climate Change Department
SDG	Sustainable Development Goal
TCH	Tbilisi City Hall
TOR	terms of reference
UN	United Nations

FOREWORD

Making cities more livable is one of the seven operational priorities under Strategy 2030 of the Asian Development Bank (ADB). ADB supports municipalities to make cities safe, inclusive, and sustainable urban centers. It does so by helping cities adopt a holistic approach that includes, among other things, improving services and making them gender-responsive, inclusive, and sustainable; strengthening urban planning by promoting inclusive and participatory processes; and improving urban environments. ADB was pleased to support the Tbilisi City Hall in the preparation of these guidelines as part of this commitment.

Gender-responsive and inclusive design in cities contribute toward three of the Sustainable Development Goals (SDGs): SDG 5 on achieving gender equality and empowering all women and girls; SDG 11 on making cities and human settlements inclusive, safe, resilient, and sustainable; and SDG 16 on promoting peaceful and inclusive societies for sustainable development. Preparation of practical and applicable tools such as this *Fair Shared Green and Recreational Spaces: Guidelines for Gender-Responsive and Inclusive Design* helps to build the institutional capacity of municipalities to localize the SDGs to the city level. The Tbilisi City Hall was supported in these efforts by drawing from the depth and breadth of experience of Vienna City Hall in mainstreaming gender in urban planning. Gender-responsive design makes women feel safe in the city and enables them to carry out their daily activities and enjoy its amenities. A woman-friendly city is, by default, a city that is friendly to children and the elderly.

Support for the preparation of these guidelines through ADB Trust Funds builds on several years of partnership with Tbilisi City administration in urban planning, and urban transport initiatives. The partnership continues to flourish through the Livable Cities Investment Program to improve planning and infrastructure in major cities and regional clusters in Georgia, including in the capital city of Tbilisi. These guidelines will contribute to ensuring the promotion in gender-responsiveness and inclusiveness of initiatives under this program.

I hope the insights this publication offers will provide cross-regional learning to foster innovative urban development across Asia and the Pacific, to meet the evolving needs and interests of all.

Bruno Carrasco

Director General

Sustainable Development and Climate Change Department

Asian Development Bank

MESSAGE

Green and recreational spaces play a crucial role in people's lives as a place for physical activity, social interactions, and recreation. There are significant health and well-being benefits for communities with access to parks and recreational areas for exercise and relaxation. Neighborhoods that incorporate green spaces attract people to live in them. This is recognized in the planning strategy documents and national planning guidelines around the developed world that prioritize access to high-quality open spaces.

Sustainable development and environmental protection strategies are crucial to enable Tbilisi to meet the public space needs of different users and to become a more attractive and livable city. The Tbilisi City Hall vision described in the Green City Action Plan for 2017–2030, defines the principles for the provision of residents' access to fair shared green spaces and parks that meet their recreational needs and contribute to making Tbilisi an attractive place for all—women and men, young and old, and people with disabilities—to live, work, and invest.

The Fair Shared Green and Recreational Spaces: Guidelines for Gender-Responsive and Inclusive Design recommends development features and design specifications for green space provision. They also identify priorities for improvements and for ensuring that limited resources are targeted at areas of most need. This document will contribute to the sustainable development of Tbilisi city.

The guidelines are an essential tool to guide decisions that will give Tbilisi new life while protecting its valuable heritage, and creating a culture of high standards in development and conservation that preserves the green landscape for successive generations.

Andria Basilaia

Deputy Mayor
Tbilisi City Hall

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1

INTRODUCTION

Green Spaces in Tbilisi

Green areas are fundamental elements of the urban fabric that help define spaces and contribute to the quality of the environment, as well as social and economic aspects of sustainability. Green spaces have the potential to accentuate the visual image of a country, creating places where people want to live, work, and visit. They enable different groups to mix and integrate and encourage social exchanges.

Since it is in limited supply, there are competing demands for the space for different purposes. Gender-responsive planning and design contribute to decisions on how space can be allocated to different functions. It prioritizes the needs of people of all ages and abilities, and in their different work, family, and care-giving roles. The responsibility for parks and recreation areas lies with the Department of Environment and Green Spaces of the Tbilisi City Hall (Box 1) who prepared these guidelines supported by a trust fund from the Asian Development Bank (ADB).

Box 1: Organization and Mission of the Department of Environment and Green Spaces

Our Work

To ensure the protection of the environment, development of green infrastructure, planning of landscape and recreational spaces, and municipal forest management.

Our Team

- Environmental protection division
- Forest policy division
- Permit and monitoring division
- Green landscape planning division

Our Service

- Development of forest management strategy and action plan, maintenance of forest and green space inventory, study of forest conditions, and the planning, management and coordination of forest recovery and renewal measures.
- Making decisions on carrying out plant cutting and replacement
- Development of Waste Management Strategy and Action Plan, identification of illegal landfills and planning for their closure and recultivation determines municipal climate change resilience programs, and assesses the risks of climate change on urban environment.
- Identification of uniform policies for urban ecosystems, provision of green infrastructure development strategy, implementation of green landscape development standards, and integrating environmental issues in the city planning process.

Vision

We envision a gender-sensitive, inclusive, and interconnected system of green spaces and recreation services that promotes recreation, health, and environmental conservation as integral to a livable community.

continued on next page

Box 1 *continued***Mission**

- Develop and upgrade green spaces in response to community priorities and needs by understanding and reflecting the role that recreational areas play in the community.
- Provide recommendations and expertise on opportunities regarding consolidation and use of public green spaces through land acquisition, land disposal, and/or land exchanges.
- Provide distributed green space within easy walking distance. Improve community health, wellbeing, and security.

Goal

- Expand the area of environmentally sustainable open spaces.
- Bring all public green spaces up to a consistent level of service and provision.
- Develop and monitor the implementation of a prioritized programs of park upgrades.

Source: Translated and adapted by the authors from Department of Environmental Protection. <https://tbilisi.gov.ge/page/69?lang=ge> (accessed 6/2021).

A Fair Shared City

A fair shared city is a city for everybody; following the human scale, it is a city where, in the development and planning processes, the user patterns of all the different user groups are considered in a holistic manner. This means identifying different user groups and their different needs and translating these needs into technical criteria that guide the planning process. A fair shared city is both gender-responsive and inclusive.¹ A gender-responsive city takes into account the different gender roles, behaviors, opportunities, and consequences of power differences between women and men, and girls and boys. An inclusive city ensures that the needs of the most economically disadvantaged and vulnerable groups are identified and met. (Box 2). Parks and recreational spaces are an important part of urban areas and of the fair shared city concept.

¹ More information on inclusive design in urban areas of Georgia can be found in ADB and the Government of Georgia, Ministry of Regional Development and Infrastructure. Forthcoming. Inclusive Urban Area Guidelines.

Box 2: Principles of an Inclusive City

An inclusive city is built on the following:

- (i) joint strategic visions of all stakeholders through a participatory planning and decision-making process incorporating universal design, integrated urban planning, transparent accountability mechanisms, and the use of the city's inherent assets;
- (ii) knowledge and information sharing;
- (iii) public participation and contribution;
- (iv) mechanisms such as cross-subsidies, social protection, and gender balance, to ensure an adequate standard of living to the most economically disadvantaged and vulnerable population;
- (v) geographical and social mobility;
- (vi) business environment and pro-poor financing services that attract capital investment and allow everybody the possibility to undertake economic activities;
- (vii) resilience to global environmental and socioeconomic shocks and threats; and
- (viii) mechanisms to ensure the sustainable use of its resources.

Source: R. Naik Singru and M. Lindfield. 2017. *Enabling Inclusive Cities: Toolkit for Inclusive Urban Development*. Manila: Asian Development Bank. <http://dx.doi.org/10.22617/TIM157428>.

The Goal and Purpose of Fair Shared Green and Recreational Spaces Guidelines

The goal of this document is to provide local municipal bodies, developers, and landscape architects the practical insights to ensure desirable green space development standards that will serve as a strong foundation for the establishment of good planning practice to support the everyday life situation of the residents.

The guidelines and standards will serve for both new recreation and green space developments in the city as well as existing urban green areas that require minor or sufficient improvements such as updating of facilities, adding amenities, and enhancing the landscaping. They can provide an equitable basis for the reservation of land for parks and recreation facilities, and guide the planning, distribution, and design of these facilities. The guidelines play an important role in addressing a diverse range of community needs in harmony with various planning aspects and urban design considerations.

The purpose of the document is to:

- recommend a set of guidelines and standards for each type of open space and use these local standards to identify and maintain the changes in relevant legally binding documents (if needed);
- assist in the provision of a network of accessible and good quality spaces for play, recreation, and sports activities that meet the needs of Tbilisi's communities;

- identify priority areas for improvement, ensuring that any accessible funding is invested in the places where there is most need;
- encourage the involvement of communities, individual volunteers, and the business sector in the management and funding of Tbilisi's green spaces; and
- contribute to implementing the Green City Action Plan.²

Unified and flexible standards that meet these needs and match the vision of the city authorities to reach the high standard livable environment for the residents will help ensure that future development of Tbilisi can be on par with developed cities.

Key Resources Informing the Preparation of the Guidelines

The following are the key resources that formed the basis of these guidelines and were drawn on in their preparation:

- previous experiences and challenges of the department in project design and implementation, and analysis and assessments carried out to date;
- other relevant masterplans, action plans, and guidelines produced by Tbilisi City Hall to which these guidelines conform;
- qualitative and quantitative analyses and assessments of the existing availability and accessibility of green space provision and recreational facilities, which found that in general, the quantity of city park provision is acceptable, but quality standards at existing sites have to better meet the needs of different social groups;
- examination of the best international practice and standard guidelines;
- a review of the City of Vienna Landscape Planning Department policy documents, working practice, and city development documents; and
- consultation with community-based social strategy planners and field specialists in Vienna to learn from their experience.

A full list of the Tbilisi City Hall, and City of Vienna documents drawn on in this guideline, as well as other documents consulted are presented in the References section at the end of this document.

² Tbilisi City Hall and the European Bank for Reconstruction and Development. 2017. *Green City Action Plan: Tbilisi 2017–2030*. September. <https://tbilisi.gov.ge/page/green-city>.

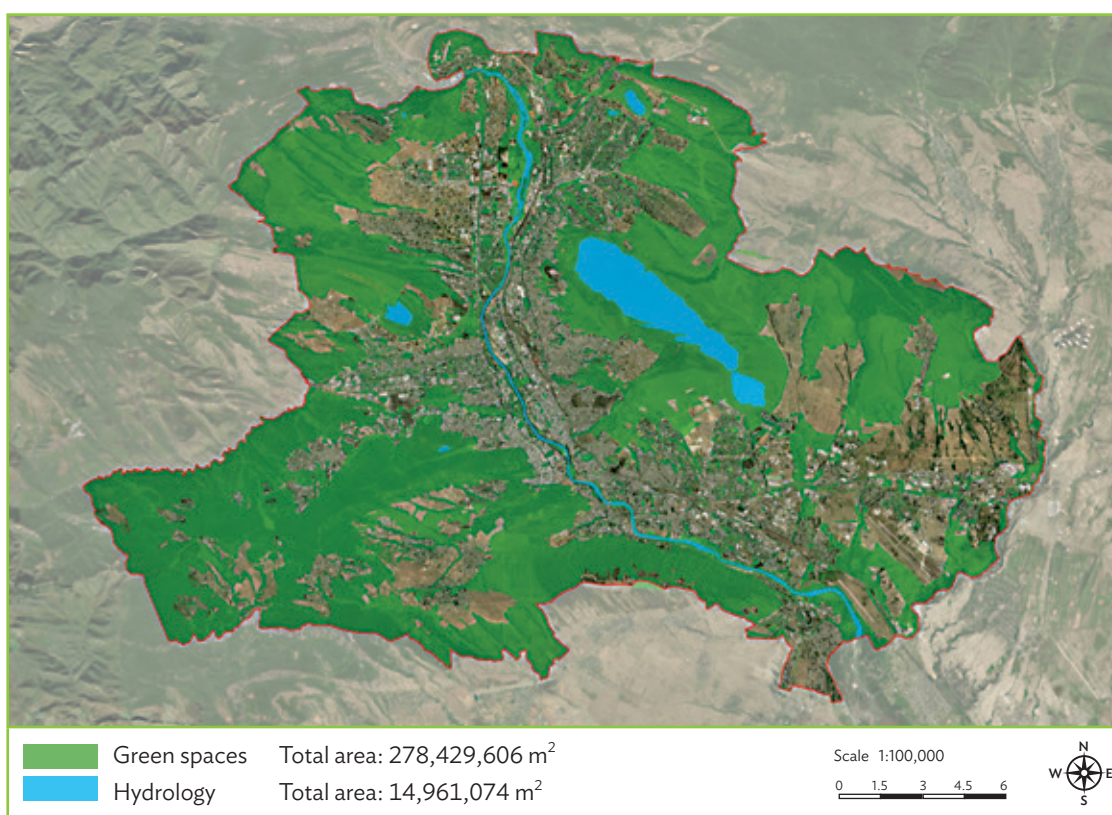


**URBAN GREEN SPACES
AND GARDENS
IN TBILISI**

Typology of Parks in Tbilisi

Situated in the ravine of River Mtkvari, Tbilisi is an ancient historic city that is a living legacy for all citizens of Georgia. Some of the main amenities of the city are its public spaces with diversified structural and thematic features. The green and recreational spaces are among the main reasons that City Hall is committed to preserve, develop, and provide the relevant maintenance so that they continue to serve as lungs for the city.

Figure 1: Tbilisi Green Space Map



m² = square meter.

Source: Tbilisi City Hall, 2021.

The master plan for the Green City Concept, the City Hall Environmental Protection Strategy plan, and Tbilisi Green City Action Plan are elaborated to ensure a future of these spaces allowing the next generations to use these places in ways both old and new.³

³ Tbilisi City Hall. 2018. *Tbilisi Land Use Master Plan*. <http://tas.ge/?p=content&type=3&news=92403>; Tbilisi City Council. 2015. Tbilisi City Municipality Environmental Protection Strategy. http://tbsakrebulo.gov.ge/uploads/dadgenileba_seqtemberi_/23-93.pdf; and Tbilisi City Hall and the European Bank for Reconstruction and Development. 2017. *Green City Action Plan: Tbilisi 2017–2030*. September. <https://tbilisi.gov.ge/page/green-city>.

Categories of Parks in Tbilisi

For the classification and the provision of urban green spaces in Tbilisi, the study conducted a detailed research of various international standards and guidelines. The layout of the city and the distribution of green zones using geographic information system tools applied to the general master plan of Tbilisi were also analyzed. A close look at the thematic maps (green maps) of the Tbilisi Land Use Master Plan, which is the main obligatory document to be referred to during the evaluation of green and recreational space provision in the city, provides relevant statistical data for analysis and serves as the basis for elaborate recommendations for the fair distribution of these spaces in all urban districts of Tbilisi. The relevant reference sources and case studies were reviewed, and the best international practice applicable to the local context was identified.

The geographic information system and spatial data analysis revealed the current representation status of green areas and unveiled the solutions for the better distribution of these areas. Recommendations for the expansion and fair delivery of these zones in communities were developed and the classification roadmap as well as progressive distribution guideline strategy have been elaborated.

Tbilisi has a number of different types of parks, including city parks, around a quarter of which are privately owned (Mushtaidi, Mtatsminda), forest parks, pocket parks, linear parks, gardens, and small green spaces. The municipal government-owned recreational and green spaces around the city include 10 city parks, almost 300 pocket parks, and several hundreds of green areas. These serve to enhance the quality of life of the city residents no matter the social, gender, or age group in which they belong. The green areas also promote health and wellness as well as culture and social interaction by providing residents access to sports and recreation facilities, cultural and education spaces, and the like.

This is based on a classification of categories within which the full range of different types of urban green space fall. Together, these form the green fabric of urban areas, including those that are publicly or privately owned and managed. The typology divides all urban recreation and green spaces into four main categories:

- urban recreational areas that include pocket parks, community parks, neighborhood parks, large urban or residential district parks, and city parks;
- thematic parks that include historical parks and botanical gardens;
- non-urban recreational parks around lakes or forests on the city outskirts; and
- linear parks and tree alleys between roads and along roads and paths.

The green spaces are divided according to their size, function, landscape, and thematic features, which are further subdivided into subcategories. Parks are classified based on how far they are from residential areas, how they are located within their communities, their size, and the types of amenities they offer and activities they cater for. Each classification of green space is accompanied by standards that describe their characteristics and desired level of service.

Recreational green space needs to be provided for a wide range of purposes including casual walking, children's play, fitness, organized team sports, and cultural and educational amenity areas.

A more detailed description of the different types of parks in Tbilisi is provided in Appendix 1.

Cultural and Historical Context

Recognizing the history related to a place is an essential first step to good conservation practice. Tbilisi has several historic parks inherited from its rich cultural heritage within its unique landscape and architectural features. These need special protection when planning upgrades. This document defines the principles for the development intervention that recommends the ways to meet the desirable standards both in new developments and preservation of heritage in the development of historic parks.

Planning and design approaches need to be integrated and combine heritage conservation with other planning and project goals. It should be based on a comprehensive understanding of an historic place, factors affecting its future, including the needs of the owners and users, community interests, and the potential for environmental impacts. Interventions in an historic place, that is, any action or process that results in a physical change to its character-defining elements, must respect and protect its heritage value. Interventions might include preservation as part of ongoing maintenance of an historic place, activities related to new use or upgrades, and restoration activities associated with the depiction of an historic place at a specific period in its history.

Initial research and investigation are needed to collect information that will be used throughout the conservation decision-making process and should remain accessible. It is important to know where the heritage value of historic places lie, along with their condition, evolution over time, and past and current importance to the community. The traditional practices associated with the historic place and the interrelationship between the historic place, its environment, and its communities should also be considered. The different partners and stakeholders need to be consulted early in and throughout the process.

3

**PRINCIPLES AND STEPS
IN GENDER-RESPONSIVE
AND INCLUSIVE
DESIGN OF GREEN AND
RECREATIONAL SPACES**

Parks are recreational and open spaces that provide people with a place to exercise, socialize, and enjoy. For this purpose, quality standards and the provision of relevant facilities in recreational spaces ensure the satisfaction and comfort of all the different communities of users. Recreational spaces must respond to the needs and priorities of all user groups by incorporating special amenities and park facilities that provide adequate and inclusive recreational infrastructure. A gender-responsive and inclusive approach helps to identify the different needs and design appropriate and inclusive interventions.

The Rationale for Gender-Responsive Design of Recreational Spaces

Gender relations, social norms, and values influence how men and women, boys and girls, of all ages and abilities, access and use parks and green spaces differently. There needs to be a deep understanding of these differences in designing public spaces to ensure that the different needs and priorities of each social group are met, and that gendered inequalities and stereotypes are not reinforced, or manifested in differential negative impacts. Gender relations that underpin women's and men's access to and use of public spaces needs to be mapped through an assessment process early in the planning and design stages.⁴

Park design can expand or constrain the opportunities of different social groups to communicate with each other and enjoy the activities offered. Case studies and research from all over the developed world show that age, sex, and ability all influence how and how much time is spent in recreational spaces. Some of these findings that demonstrate the importance of gender-responsive design include the following:

- **Safety and security.** Women and girls are especially at risk from gender-based violence and harassment. Careful design of parks and recreation spaces to reduce the risks for women and girls and provide them with a sense of security encourages them to make more use of the space. Mitigating the risks that women face might involve, for example, ensuring sufficient lighting of public spaces and safe public transport.
- **Needs of carers.** Free access to public parks is important for the development and health of children, elderly people, and people with disabilities. These groups of park users are often accompanied by those that care for them. Women still tend to make up the majority of those providing unpaid care and will spend time in the parks in this role. As carers, they are important users of and contributors to public spaces, parks, and recreation spots. The development of these spaces, the design elements and infrastructure assets must therefore include gender considerations.⁵ For example, providing seating close to children's play areas and adequate toilet and refreshment facilities can help extend the time that carers and those they are caring for can stay in the parks.

⁴ M. L. Martínez Sola et al. 2018. *Mainstreaming Gender Equality to Improve Infrastructure Development Impact*. Private Infrastructure Development Group. February.
https://www.pidg.org/wp-content/uploads/2019/01/PIDG-KIT-gender-report-final_published.pdf.

⁵ Organisation for Economic Co-operation and Development. 2019. *Gender Equality and Sustainable Infrastructure*.
<http://www.oecd.org/gov/gender-mainstreaming/gender-equality-and-sustainable-infrastructure-7-march-2019.pdf>.

- **Different use of parks by girls and boys.** Several studies have shown that 9- to 13-year-old girls, or adolescent girls (14–18 years), use public parks differently from how boys of the same age do. Children are socialized into gender norms, roles, and behaviors from an early age and the problem is exacerbated in places that lack space for play and exercise. Boys more often turn out in bigger groups and tend to assert their claims and interests more successfully than girls. Girls find it difficult sharing spaces already occupied by older boys. Girls and boys should have equal opportunities in the use of public spaces. To enable this and to increase the presence of girls and their range of activities in the parks, park design efforts have to give equal consideration to the different behavior patterns of girls and boys as well as to the different strategies they pursue to take possession of space. The aim is not to create parks for girls and/or parks for boys, but to make public spaces equally attractive to girls and boys. In so doing, different gender-specific interests and needs concerning facilities for exercise, activity, and recreation will be considered. In this context, particular emphasis has to be placed on the needs and requirements of girls, which, in many cases, have been inadequately considered in conventionally designed parks thus far.⁶

Gender-Responsive Design Approaches

Gender-responsive solutions incorporate design elements and infrastructure technologies for physical and social activities that enable people of all sexes, ages, and abilities to utilize recreational spaces and parks safely. The basic idea of designing and/or redesigning new and existing recreational spaces and parks in gender-sensitive ways is to provide people of all sexes, ages, and abilities better accessibility, security, and use of spaces.

Gender-responsive planning is an approach used in urban design that refers to the provision of access to city spaces that benefit people of all sexes, ages, and abilities equally, and ensures their safety. Gender responsiveness in planning requires integrating a gender perspective into development projects. Some of the tools that can be used in gender-responsive planning include the following:

- **Integrating a gender perspective into policy.** This can be done so that non-discrimination and gender equality are the overarching principles and should be considered in all decisions throughout the policy-making process by everyone involved.
- **Gender-based statistics, research, and studies of recreational use by different groups.** These need to be conducted to contribute to equitable and inclusive design and provide a safe and secure environment for all.
- **Collection of good practice examples of things that have worked.** This will provide examples of proven approaches, policies, and practices that have been effective in the implementation of gender mainstreaming strategies throughout the development projects.

⁶ United Nations Human Settlements Programme. 2012. *Gender Issue Guide: Urban Planning and Design*. <https://unhabitat.org/sites/default/files/download-manager-files/Gender%20Responsive%20Urban%20Planning%20and%20Design.pdf>

- **Consultation and participation.** These are a necessary part of planning and design of recreational spaces or parks to identify and respond to the needs and priorities of people of all sexes, ages, and abilities. Careful preparation of the consultation and participation includes identifying all of the different stakeholders of all sexes, ages, and abilities, and ensuring that they can all participate in ways that are gender-responsive, inclusive, and culturally appropriate.

Universal Design for a Fair Shared Park

Universal design is the design of an environment so that it can be accessed and used by people with diverse abilities, affording them dignity and respect, regardless of their age or other factors. Designs should be easy to use, simple to understand, and easily accessible with the minimum of effort.

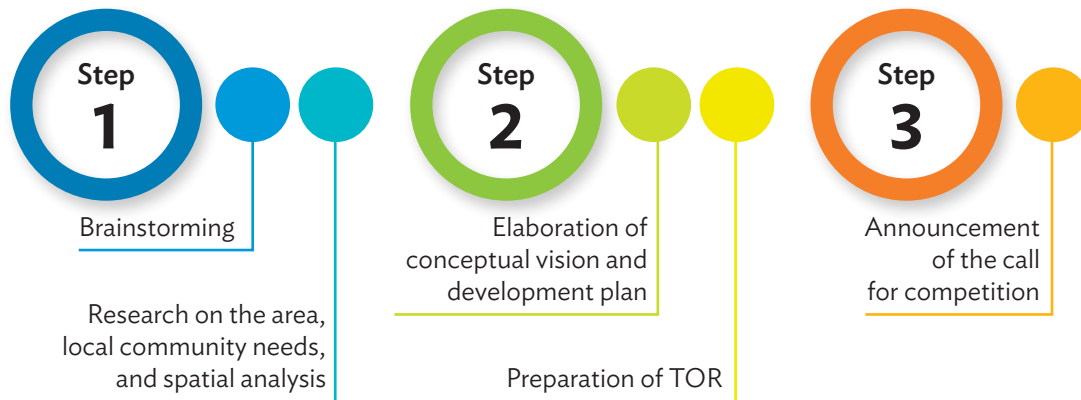
Integrating a Gender and Inclusion Dimension in the Design Stage of Recreational Space Development and/or Rehabilitation

Gender-responsive planning and design is a multi-stage process. The following sections detail the steps that need to be taken in each phase of the project cycle to ensure that the designs are gender-responsive.

Phase I: Procurement and Competition

The steps in this phase are shown in Figure 2, and Figure 3 shows how gender is integrated in each step.

- **Step 1.** Initiate park development process and carry out gender-sensitive research of the area and community needs and priorities.
- **Step 2.** Define overall goal for the park development: park theme zones, design features, etc. Prepare terms of reference, technical specifications, and requirements for the assignment. Each includes specific requirements for integrating gender. Prepare the gender-responsive design brief.
- **Step 3.** Announce official architectural design competition.

Figure 2: Current Planning Procedure

TOR = terms of reference.
Source: ADB and Tbilisi City Hall.

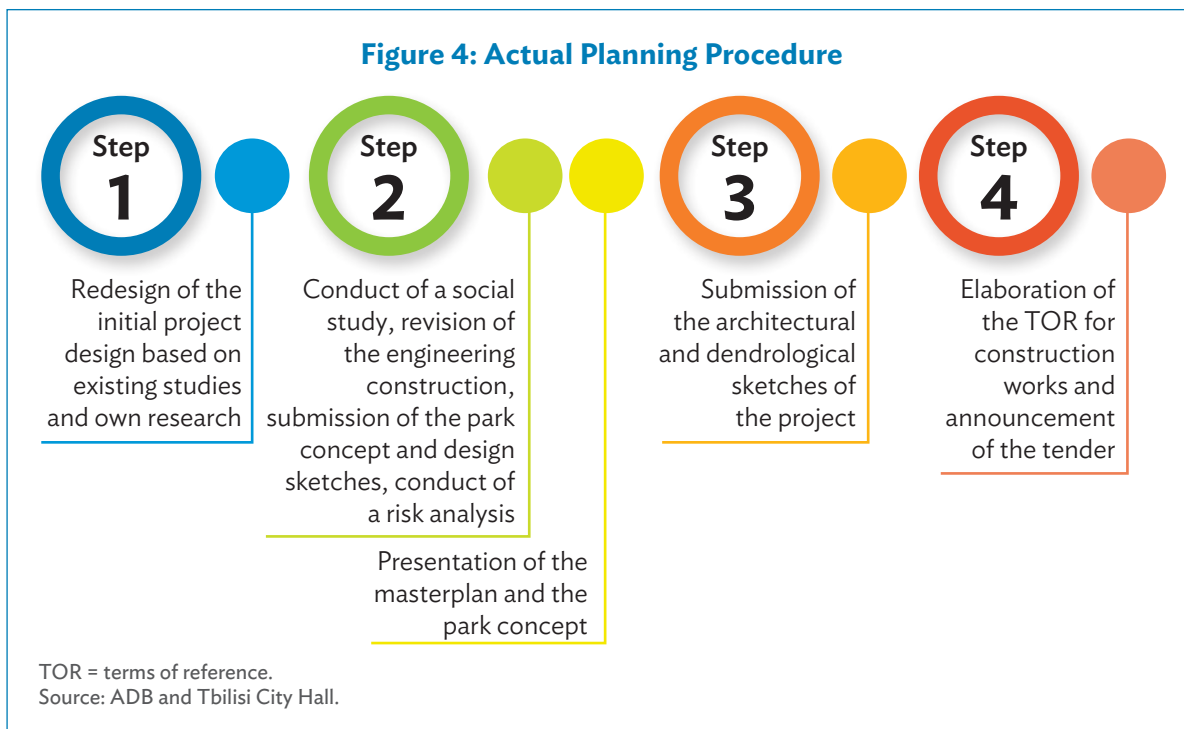
Figure 3: Integration of a Gender Perspective in Procurement and Competition Process

Source: ADB and Tbilisi City Hall.

Phase II: Planning Process After the Competition

During the planning and design phase, the planners and designers must consult the relevant specialists of various social disciplines; seek the cooperation of interested parties, gender experts, and sociologists; and pay attention to the interests of all the user groups present in the community (Figures 4 and 5). Appropriate design elements, including lighting systems, facilities, and open common areas for sports or other social activities, contribute to responsive and inclusive infrastructure for the visitors.

- **Step 1.** Design the architectural project (conceptual design sketches, 3D renders, overall layout of the master plan, and zoning) based on existing studies and/or own research. Conduct a risk analysis.
- **Step 2.** Submit the architectural drawings, engineering project, and dendrological project.
- **Step 3.** Submit the final architectural development or rehabilitation project.
- **Step 4.** Elaborate the terms of reference for construction works and announce the tender.



Phase III: Construction

Steps for the construction works are defined specifically for each park. Construction phases are supervised by the green landscape development unit.

4

**CONSIDERATIONS IN
GENDER-RESPONSIVE
AND INCLUSIVE
DESIGN OF GREEN AND
RECREATIONAL SPACES**

The design of gender responsive and inclusive green and recreational spaces needs to take several things into consideration:

- the legal framework of the country and international conventions to which it is signatory;
- the views, needs, and priorities of all groups of potential users collected through consultations and a participatory process; and
- general criteria for park design based on international experience.

Legal Framework

The access and inclusion of all persons and age groups are covered by Georgian local laws and international conventions. Local government organizations and community administration bodies must meet the requirements of all the laws and international treaties that ensure equal opportunity for people with disabilities and accessibility of the recreational spaces and their inclusive nature, and the elimination of any kind of discrimination.

Georgian laws prohibit discrimination on the basis of disability. These laws apply to green and recreation spaces, and to events and activities operated by the local government. Recreational areas with its facilities, events, and programs taking place in these spaces play an important role in the life of the communities and citizens in general. People with disabilities need to have an equal opportunity to enjoy and participate in the opportunities provided. Good design needs to be disability inclusive as well as gender-responsive and consider the specific needs of people with disabilities.

Although basic human rights are protected under many different laws, there are a few especially important pieces of legislation that explicitly discuss gender equality and disability rights. These are the following:

- (i) Law of Georgia on “Social Protection of Persons with Disabilities,” 1995;
- (ii) Law of Georgia on “The Elimination of all Forms of Discrimination,” 2014;
- (iii) Law of Georgia on Gender Equality, 2010;
- (iv) Decree of the Government of Georgia N732 “On Adoption of the National Accessibility Standards,” 2020;
- (v) the United Nations (UN) Convention on the Elimination of All Forms of Discrimination Against Women (ratified in 1994);
- (vi) the UN Convention on the Rights of Persons with Disabilities, which provides the framework to promote, protect, and ensure the rights of all people with disabilities and promotes equal rights in all areas of life;
- (vii) the UN Convention on the Rights of the Child, which is the basis for children’s rights ratified by Georgia in 1999; in particular, its reference to Article 31: “All children have a right to play: ...the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts”; and

- (viii) UN Committee on the Rights of the Child General Comment No 17 (2013) on Article 31 in which girls, and children with disabilities, are specifically identified as children requiring particular attention to realize their rights under Article 31.⁷

Access to information is a fundamental component of a number of the conventions and standards that Georgia has signed to fulfill and are obliged to refer. The Council of Europe's Convention on access to official documents affirms an enforceable right to information.⁸ The Aarhus Convention grants rights, including access to information, in decisions concerning the environment.⁹ The right to access public information is enshrined both in Article 41 of the Constitution of Georgia and in Chapter III of the General Administrative Code of Georgia.¹⁰

In 2014, the Local Self-Government Code set an obligation for municipal public institutions to guarantee citizen participation in the exercise of local self-government as a principle, but also listed forms and tools of engagement.¹¹ Access to public information and the obligation of the municipality to duly inform the public is also stipulated under Article 851 of the same section of the Local Self-Government Code.

Public Participation in Park Planning and Design

Public participation is an important element of participatory democracy. It improves the effectiveness of the planning process and the success of the outcomes. Meaningful participation in the decisions that affect their lives also gives a sense of being empowered to influence things that shape their environment and lives. Providing the opportunities for people to actively debate issues about the quality of the surroundings and environment in their neighborhood contributes to creating livable space and also helps to strengthen civic identity.

Participatory planning is a participatory process that defines, proposes, and implements a management plan on a subject of common interest. Participation can be defined as the process of decision making and problem solving, involving individuals and groups “who represents diverse interests, expertise and point of view and who act for the good of all those affected by the decisions they make and the actions that follows.”¹²

⁷ UN Committee on the Rights of the Child. 2013. General Comment No.17 on the Right of the Child to Rest, Leisure, Play, Recreational Activities, Cultural Life and the Arts (Article 31) <https://www.refworld.org/docid/51ef9bcc4.html>.

⁸ Council of Europe. 2009. Council of Europe Convention on Access to Official Documents (CETS No 205.) <http://www.worldlii.org/int/other/COETSER/2009/2.html>.

⁹ Aarhus Convention. 1998. Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. <https://unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf>.

¹⁰ Government of Georgia. 2002. Constitutional Law of Georgia No 1689 of 10 October. <https://www.refworld.org/pdfid/3ae6b5b10.pdf>.

¹¹ Government of Georgia. 2015. Organic Law of Georgia Local Self-government Code. <https://matsne.gov.ge/en/document/download/2244429/15/en/pdf>.

¹² UN Habitat, Local Government and Public Service Reform Initiative (Budapest), and Partners for Local Development Foundation (Bucharest). 2001. *Building Bridges Between Citizens and Local Governments to Work More Effectively Together Through Participatory Planning: Part 1 Concepts and Strategies*. <https://digitallibrary.un.org/record/502354?ln=en>.

During the initial stages of a park design or redesign project, all social groups in the local population should be involved in the planning process, including people that understand the cultural and historic context and relevance of the area. It is important to meet the expectations of all the park users to the best possible extent, to ensure the highest possible level of satisfaction with the design. Engaging women and girls—from all sectors of the community—as co-designers is crucial for gender-responsive parks. Participatory design together with people of all sexes, ages, abilities, religious affinities, and ethnicities, provides opportunities for them to influence design and propose new solutions. By including local girls in design workshops, for example, it can lead to the inclusion of girls-only retreat spaces, non-male sports and play areas, and calm zones for socialization. The expected result is girls' use of the park spaces will increase.

The participation process is implemented by the park design team together with the relevant city hall planning departments and supported by the local government authorities and other local leaders. Technical support for the participation process helps to ensure it is gender-responsive and inclusive.

Before a project or initiative is started, the different stakeholders and social groups of future park users are identified. These could be affected communities or individuals and their formal and informal representatives, local government authorities, decision-makers, planners, architects, civil society organizations, and groups with special interests and other relevant bodies. The process can include some or all of the following steps:¹³

Step 1: Informative meeting. Invitations are sent out informing people of what is happening and how they can participate. Banners and posters can also be used. An informative meeting is set for relevant stakeholders where the vision and conceptual framework of the project is shared. The aim of the meeting will be the building of a foundation for mutual interests among all the stakeholders.

Step 2: The needs assessment. This can be carried out by using door-to-door or online surveys, and/or a walk-through the area with different focus groups. The questionnaire includes questions to identify and collect data that will serve as a basis for development of the project. The walk-through with different groups promotes discussion of the advantages, disadvantages, and the opportunities from the perspective of different people. The findings should be collected into a report that can be disseminated.

Step 3: Design challenge. Participants and representatives of different social groups can be invited to participate in interactive ways that involve them actively in the design. This can involve for example, street cafés or open-air workshops, and can use interactive tools such as maps, color stickers, and markers to identify the proprieties and opinions of the different participants. The collected data are processed and included in the draft concept.

¹³ These steps are from the final report of the participatory initiative piloted in the rehabilitation of Avchala Neighborhood Park, which is a subproject Strengthen Local Institutions to Plan and Design Gender Responsive and Inclusive Urban Development (Future Cities Future Women Phase 2) in Georgia under an ADB technical assistance. ADB. 2017. *Technical Assistance for Strengthening Institutions for Localizing Agenda 2030 for Sustainable Development*. Manila.

This process was piloted in the rehabilitation of Avchala Park in Tbilisi (Box 3).

The participatory process should continue throughout the design process. The information collected and the draft conceptual design should be made publicly available so that the stakeholders can review and comment on it. It can have a format of information desk or online presentation or printed materials. Once the information has been disseminated, the comments and letters from the various stakeholders shall be processed and feedback defined; in case of positive feedback the planning process shall be continued and finished with final presentation of the project to the locals. The presentation can be held at the local municipal office, city hall or neutral space where all the interested parties can be attended. If the feedback is negative, there is a need to conduct a consultation meeting where specialists from different disciplines and experts will be involved. A moderator will lead the meeting and facilitate the discussions toward a positive outcome that would benefit all parties.

Box 3: Participatory Process in Action

A participatory process was used in Tbilisi to gather inputs from diverse groups of people in the community for the design of a local park and recreation area in a low-income residential area to be upgraded by the Department of Environment and Green Spaces of the Tbilisi City Hall. Prior to the participatory meetings, district management was consulted and involved, door-to-door interviews were held, and an online questionnaire was administered. Leaders of local religious and social organizations and groups were approached to encourage people to attend the meetings. Posters were placed around the area and invitations sent to households. The women were invited to participate in the meetings, which were held at the park that was to be redeveloped so that it was easy for them to get there and to bring their children with them. The participatory planning tools used were designed to ensure that it was easy for people of all ages and abilities to engage with and identify their priorities and preferences. Holding the meeting outdoors in the area proposed for the park had the added advantage of making it possible to hold consultations while abiding by the coronavirus disease pandemic mitigation measures including wearing masks and physical distancing.



Ensuring women's participation. Women in Tbilisi participate in a “street café” activity held in the proposed area (photo by Nana Adeishvili, ADB).

Source: B. Susantono and R. Guild, eds. 2021. *Creating Livable Asian Cities*. Manila: Asian Development Bank. <https://dx.doi.org/10.22617/SGP210110>.

General Criteria for Park Design

A good design should consider different aspects such as environment, economy, and society. It is important to understand the diverse needs of people of different sexes, ages, and abilities since urban green spaces enhance the well-being of the entire population.

The design of parks should focus on developing authentic and site-specific approaches with a multiple use for every park or green space. There are always several approaches to plan a project, but no matter which one is chosen, the site always matters for the design and the physical environment. A project is influenced by predesign issues such as program, financing, natural conditions, the physical surroundings, or the history of the area.

Before planning a park, urban landscape planners and architects need to know its intended use, and how planners can improve the area. The solution must be appropriate for the required use. Not only is the protection of the monuments meaningful, but also the history of the site. A design that is based on the history of a site can be meaningful for the city and can become an important landmark.

Ecological issues are more important than ever, especially in an urban planning context as the annual average temperature of cities continues to rise. Ecological building and planning means more than just planting trees; it is also about a durable, robust, and sustainable design. Parks that are surrounded by roads need noise reducing zones at the edges of the parks.

These guidelines focus on the aspects that need to be considered in designing the spatial structure and layout of parks, ensuring safety and security, making it accessible to all, and providing activities to ensure a gender-responsive and inclusive park.

Spatial Structure and Layout

The following need to be considered in designing the spatial structure and layout of parks:¹⁴

- **Interlinking of open spaces.** Crosslinking between parks and green spaces and their surroundings should be self-evident, otherwise islands without any connection to or within the city are created. It is especially important in considering the open spaces and major locations used by children and young people, the elderly, and people with disabilities. Interlinking allows a more equal distribution of park users across the existing open spaces.
- **Network of pathways.** The pathways within a park need to be designed so that they connect open spaces, walkways, and activity areas as well as provide users with an opportunity to do laps.
- **Differentiated spatial concept.** To meet the changing requirements placed on parks in a day and a year, the aim is to create a diverse space that is a combination of small- and large-scale open spaces as well as functionalized and flexible, open-use subspaces.

¹⁴ Urban Development Vienna. 2013. *Manual for Gender Mainstreaming in Urban Planning and Urban Development*. Vienna. <https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008358.pdf>.

- **Division in subspaces.** Large areas and areas allocated for ball games need to be subdivided into smaller spaces to prevent them from being taken over by the strongest and most assertive groups. This is especially important to give girls the opportunity to occupy spaces. The subspaces need to be connected and accessible from different points.
- **Flexible and adaptable.** Park layouts need to plan ahead for changes in activity trends and provide space for temporary activities and events. The spaces have to be planned and designed to attract visitors by ensuring that it can accommodate a range of different uses and experiences. This can be done by creating the zones for active and passive recreation, making use of available natural features, and by adding high-quality amenities for physical, social, and cultural interactions. Multiple thematic features such as sports fields, playgrounds, and social and cultural meeting places (exhibition spaces, stages for performance, etc.) can be arranged in zones that attract young groups of visitors. Elderly people also need spaces for passive recreation and comfortable places for relaxation. Zones for table games (chess, puzzle games, etc.) will enhance the number of visitors from these usage groups attracted by recreation with entertaining social activities. Provision of game zones in the recreation spaces increases the elderly people's physical and mental efforts, which helps improve their memory, attention, and concentration. The games involving groups help to integrate youth with senior citizens and enable interaction and prevent exclusion.
- **Space in cases of emergency.** The recreation spaces can be used for emergency purposes during disasters as a temporary safe space for shelter. In case of their proximity to the disaster risk zones, the risk management plan should be elaborated within the planning and designing process referring to the available local disaster risk reduction strategies (if provided), disaster risk zoning map, geohazard risk assessment reports, etc.

Ensuring Safety and Security

A feeling of safety can be created with clearly laid-out spaces offering clear lines of sight and opportunities for social control. These criteria should be used in design of the major recreation areas as well as the main pathways, and important access ways e.g., to the public toilets and entrance areas, etc. of a park (footnote 14). The feeling of safety is particularly important to women of all ages.

- **Orientation.** The arrangement of pathways through the open space should be clearly laid out so that it is easy for people to orientate themselves and find their way around. Main pathways should be laid out in such a way that the users can see ahead clearly into potential hiding places like niches, recesses, and edges of shrubs.
- **Visibility and social control.** Frequently used pathways should have good sightlines to busy spaces to increase the feeling of safety. Sightlines between the individual subspaces of the park, and from these subspaces to the main pathway, also increase the opportunity for social control. The entrance areas of the parks are subspaces that should be especially visible from the outside and have the opportunity for social control so that they can act as stopovers for passersby or safe meeting places. The presence of persons accompanying small children also improves social control in the surrounding areas. Therefore, toddlers' playgrounds should feature attractive (and shaded) seating facilities and recreation areas

for accompanying adults. As they get older, children become more independent and while they still need a safe environment, this needs to be balanced with a need for areas they can retreat to. A mixture of visible and less visible areas provides both social safety, which is highly important to younger girls and boys, and retreat facilities, which are important to adolescents.

- **Lighting.** It is especially important that main pathways, important access ways, and heavily used subspaces are well-lit to improve users' objective and subjective feeling of safety.
- **Provision of well-maintained and accessible toilets.** Provision of well-maintained and accessible toilet facilities contribute to a clean and safe environment and particularly enable women, girls, people with disabilities, and elderly persons to stay in the park for a longer period of time. Access to toilets should be well-lit and not hidden.
- **Shaded areas.** Areas offering shade and protection from the weather need to have good sightlines to occupied zones.
- **Sign posting system and information for users.** Implementation of information technology, wireless internet connection, digital signages, and other technological innovations to provide users with the important information on these spaces as well as sensing the environmental conditions within this space will improve the recreation space quality and maintenance performance. The monitored data can generate and deliver necessary information for better management, conservation, and resource efficiency. Introduction of digital technologies can improve city operations and help citizens better understand their local environment. The digital information boards and sensing devices can be installed in parks and other spaces collecting and distributing the environmental data on a daily basis. This will enhance usage of these spaces. It can also raise awareness and confidence about the environmental and health benefits of being in the park and may increase the outdoor physical activities in these spaces.
- **Care and maintenance.** Well-maintained, clean, and aesthetically pleasing surroundings encourage people into the parks and have a positive effect on users' feeling of safety. Spaces that meet these requirements are also better accepted by girls. Planning should also consider the criterion of easy maintenance.
- **Quality assurance.** A regular review of the functions of a park should consist either of regular monitoring and evaluations of the relevant factors, or of a periodic exchange between the entities responsible for the maintenance of the park and the support or representation of the users.
- **Safe access.** Safe access ways to the park can be ensured by means of curb extensions and street-crossing aids. These will increase user comfort and safety, including for the elderly and people with disabilities.

Barrier-Free and Accessible Parks and Green Spaces

A good public space provides ease, safety, and choice to people.¹⁵ Safe paths and wayfinding signages improve accessibility, orientation, and connectivity of spaces and functions. A clear hierarchy of paths should be established to enable pedestrians, cyclists, and people with

¹⁵ ADB and the Government of Georgia, Ministry of Regional Development and Infrastructure. Forthcoming. *Inclusive Urban Area Guidelines*; and ADB. 2017. *Enabling Inclusive Cities: Tool Kit for Inclusive Urban Development*. Manila. <http://dx.doi.org/10.22617/TIM157428>.

physical disabilities move around the park safely and quickly. The design shall be useful and marketable to people with diverse abilities. It has to accommodate a wide range of individual preferences and abilities. Successfully designing to promote wayfinding allows people to determine their location within a setting, determine their destination, and develop a map that will take them from their location to their destination. Signage should be used to direct people to specific places such as play spaces, toilets, and water fountains.

Gender-Responsive Activity Design

Planning and design needs to ensure that activities can be enjoyed by both boys and girls, and by people of all ages and abilities, and that they are designed in such a way to encourage girls, people with disabilities, and elderly people to engage in them. The key to making a place for people of all gender expressions and sexual identities is to ensure that the space feels not only open, but also exciting. International best practice shows that including new design elements such as a stage, a storage shed, an outdoor reading space, and sports fields for teenage girls attracted a higher proportion of women and children to the park.

In designing for maximum engagement in activities, the following should be considered (footnote 15):

- **Arrangement of play areas.** Park design needs to ensure that groups of children of different ages can use the park at the same time safely. Play areas for older children should be located close to play areas for younger children and toddlers so that carers of multiple children of different ages can watch them at the same time. Older siblings may be looking after younger children while they play and need to have activities close by to entertain them. Sports areas, volleyball fields, and badminton courts intended to encourage girls to join in the activities need to be within sight of other areas that they favor and frequent.
- **Play equipment.** Play equipment should be multifunctional, i.e., it should not only fulfill an exercise- or skill- related function but also have a high communicative value (allowing users to sit, lie down, observe, or move). A scattered installation of play equipment in open-use areas encourages girls to expand their room for play and exercise, since equipment-based exercise games may be easily integrated into large-scale play activities. The facilities offered should also include integrative play equipment, i.e., play equipment that can be jointly used by several persons (e.g., bird's nest swing, climbing towers, roundabout, etc.). Play equipment that can be used by several children at the same time, and which combine the interests of younger and older children facilitates the older children's task of supervising their younger siblings. These facilities should always leave children enough room to get past each other, so that it is not possible for an individual person to prevent others from getting by. Further play facilities promoting motor functions and sensory experiences (e.g., balancing bars, sound elements, etc.) should also be provided along the pathways and near the park entrances. In this way, children passing by the park on a daily basis can be motivated to use these facilities and incidentally stay in the park for a longer time.
- **Ball game areas.** These should be designed to be open and multifunctional and should be combined with recreation zones along the boundaries of the ball game area that can be used for playing, watching, and communicating. This will facilitate the use of the areas and

enable visitors to cross the field or to play for a short period. The areas surrounding sports facilities should also offer opportunities to communicate with others. There should be an increasing number of facilities for games such as volleyball and badminton that are equally popular among girls and boys and promote social integration.

- **Furniture.** The available seating facilities should be of different quality (wooden decks, platforms, seating walls, table-bench combinations, etc.) and at least partly designed as movable seating. Plans should also include a covered area that may act as a weather shelter and meeting point for young people.
- **Retreat areas.** Retreat areas, which will also support role-play, should be created in quiet parts of the park.
- **Exposed areas.** Parks should also feature exposed areas that provide a good overview and act as meeting points and see-and-be-seen spots.

Activities for Senior Citizens

For senior citizens, the park can play an important role as a place of encounter and participation in public life. For older people to enjoy their time in a park in the same way as younger ones, the following framework conditions must be met:¹⁶

- **Space for encounters and communications.** These are important to motivate elderly people to visit a park or public space.
- **Space for appropriate physical activity.** These could include green lawn areas for aerobics, tai chi, yoga, etc., as well as areas for multiple use and paths with different surfaces and slopes. There should also be sitting areas for mind or brain games such as chess, puzzles, checkers, or dominoes that improve attention, concentration, and memory, etc.
- **Group-specific design and equipment.** These include tables and benches. How they are placed in a public space is important. Benches should be the appropriate height and have an arm and backrest. It should be easy for people to sit around the tables.
- **Easy access to public transport.** This is an important consideration in park design especially for elderly people. The design should also incorporate access to bicycle paths and barrier-free entrances and pathways.
- **Movement.** Sports equipment courses in public parks should be designed in such a way that they are easy to reach; located in a place that is semi-visible but not remote so that it provides a feeling of safety; away from the playground or playground equipment; composed of 10 to 15 different devices for different user groups designed to meet their different needs and abilities; promote mobility, strength, dexterity, balance, and coordination; incorporated with surfaces that are safe and barrier-free for elderly people to walk on; and outfitted with seats that have fast-drying surfaces.

¹⁶ Government of the City of Vienna, Municipal Department 18: Urban Development and Planning. 2011. *Leitlinien zur Bewegungsförderung älterer Menschen in öffentlichen Parkanlagen in Wien*. (Guidelines for Promoting Physical Activity for Older People in Public Parks in Vienna) Vienna. <https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008212.pdf>.

Inclusive Playgrounds

Inclusive playgrounds should consider the needs of children with a wide range of different physical and developmental disabilities. There should be equipment that stimulates different sensory systems including sight, touch, and sound, and gives the opportunity to develop movement, muscle stretching, and mobility such as spinning, climbing, sliding, and swinging. Play areas need to be accessible and easy to move around in, and should provide opportunities for children of different ages and abilities to play together. There should also be quiet and more secluded areas provided for less confident children and for children suffering from sensory overload.¹⁷ Supported swing seats with harnesses, wheelchair accessible roundabouts, wide embankment slides, basket hoops, sand and water tables, etc. are some good examples of ways in which a playground can be made inclusive for children with different abilities. Natural features such as rocks, hills, tree stumps, and water features can be integrated to add play value and introduce texture, context, and invitations to play.

¹⁷ More detailed information on inclusive playground design can be found in HAGS. www.hags.com.

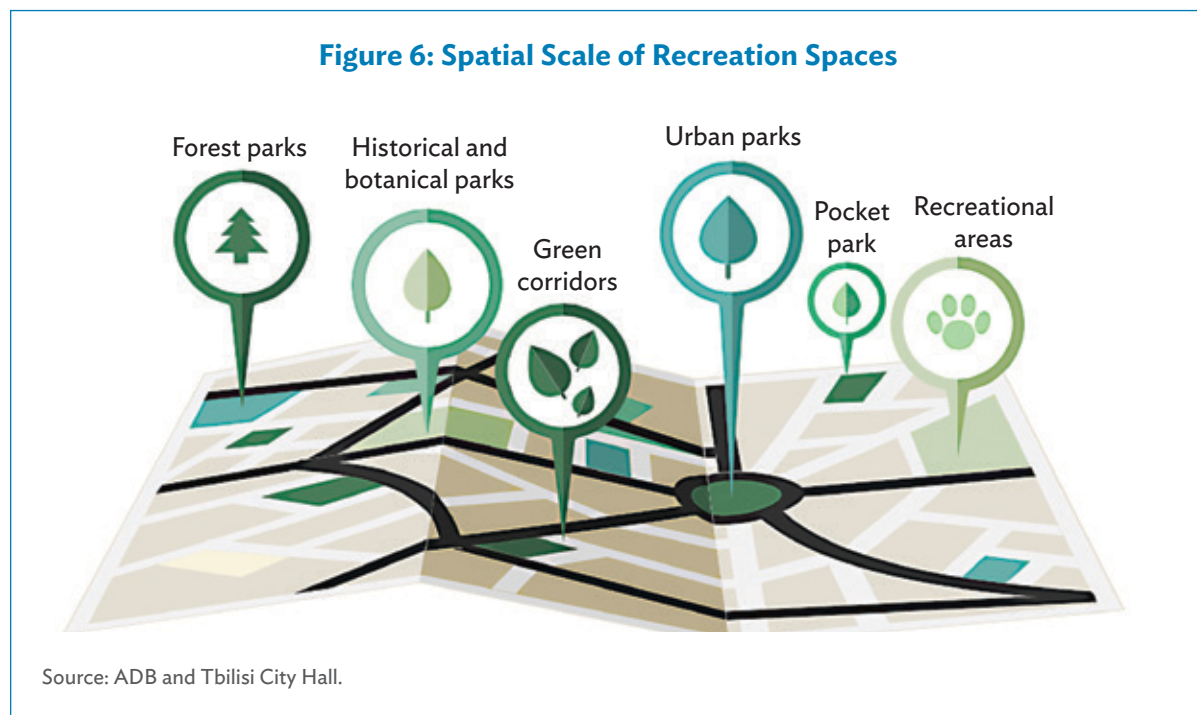


**STANDARDS
AND CRITERIA FOR
DETAILED PARK DESIGN**

The following section lists the design criteria that need to be considered and included, if relevant, in the design of parks, green spaces, and recreational areas. The relevant standards are also provided where they exist either as requirements, such as those included in Georgian Law, or as good practice drawn from international standards, or adapted to be appropriate to Tbilisi from the standards used in other cities.

Provision of Green Spaces and Parks

Green spaces and parks need to be accessible to all the urban population. Planners should consider the distance people have to travel to reach green spaces they can use (Figure 6).



Good Practice Standards

The general urban green space provision standard in many countries set the minimum distance within 250 meters (m) of the people they are intended to serve.

Within 250 m of home (straight-line distance), residents of Tbilisi should have easy access to 0.5 hectares of good quality green space where they can relax, exercise, and take children to play. The site may contain natural or seminatural areas and be equipped with a sports and play area.

Within a 15-minute (500 m) walking distance, Tbilisi residents should be able to access a larger green space of at least 3 ha, with relevant recreational facilities, playgrounds and/or sports areas, cultural amenities, and natural or seminatural landscape.

Spatial Structure and Layout

Spatial structure and layout determines the ease with which people can move through and between parks and green spaces and make the most effective use of them.

Design Criteria

Criteria that need to be incorporated in spatial plans and layout of parks and green spaces are the following:

- Parks and green spaces should be connected to each other where feasible.
- Different open spaces and walkways within the park should be connected by paths.
- Provide small and large subspaces that can be used for different purposes and activities.
- Subdivide large areas to make them more inviting for users.
- Create zones for active and passive uses, and for younger and older users.
- Provide space for emergencies according to disaster risk management plans in place.
- Ensure proper distribution of recreational spaces between green and grey infrastructure during the design process.

Good Practice Standards

Of the total area of the park, 75% to 80% should comprise the natural landscape or manmade green surfaces (with plants and trees); 8% to 15% should be allocated to pavements, lanes, and pathways; and 5% to 10% for playing and sports fields.

Security and Safety

Park design needs to ensure that users feel safe and risks of harm from traffic, hazards or interpersonal violence are mitigated. Women and girls are especially at risk of violence and harassment and careful park design can help to ensure their safety and encourage them to use the parks.

Design Criteria

Specific criteria that need to be incorporated into designs to ensure safety and security are the following:

- Ensure greatest possible visibility and lines of sight.
- Avoid hidden spaces.
- Ensure enough lighting, especially along pathways and public spaces including public toilets.
- Cameras should be installed in the park area and monitored.
- Communication networks should be uploaded and recorded in geographic information system format.

- There should be one lane in the park area with appropriate surface for trucks, and other lanes of appropriate size and surface for ambulances or other emergency vehicles. These trails should allow vehicles to go from one end of the park to the other.
- Remote-controlled barriers need to be located at the entrances of the park to prevent alien cars from entering.
- Hydrants must comply with fire safety standards.
- There should be a building for the security service (24-hour service for very important spots).
- There should be an insulated room with a bathroom and adequate equipment for security personnel in the park area.
- Within the park area, in a conspicuous place, there should be a dedicated area where emergency call stations will be installed to connect to 112.
- There should be a set of light boxes indicating the presence of a stationary aid station and a special box, with appropriate marking and warning signs, containing medicines and essentials for first aid.
- There is a need for a central power distribution cabinet in the park area, which provides 24-hour power supply.
- There should be information boards with maps of the park.
- There should be appropriate parking and warning signs (including a bicycle sign, lawn sign, etc.) in the park area.
- Appropriate space shall be provided for pets in the park area.
- Parks should be designed for easy maintenance and a maintenance plan should be put in place.

Good Practice Standards

More detailed standards for park lighting can be found in Appendix 2.

Barrier-Free and Accessible Parks or Gardens

Barrier-free and accessible parks and gardens help to ensure easy access for those that are less mobile, such as people with disabilities, the elderly, and parents with small children.¹⁸

Design Criteria

The following criteria need to be considered to ensure accessible parks and gardens:

- The access paths and entrances to park or other recreational spaces should provide a clear entry route from the entrance or car parking area to various locations and facilities.
- An information board placed at the entrance with a master plan of the area should provide details on optional routes, pathways, surfacing, gradients, slopes, and locations of accessibilities of various facilities and zones.

¹⁸ ADB and the Government of Georgia, Ministry of Regional Development and Infrastructure. Forthcoming. Inclusive Urban Area Guidelines; and ADB. 2017. *Enabling Inclusive Cities: Tool Kit for Inclusive Urban Development*. Manila. <http://dx.doi.org/10.22617/TIM157428>.

- Signages must include direction signs, emergency and hazard warnings, information notice boards, and location signs.
- Signs and information boards must be clear, easy to read and understand, properly lit at night, visible, and strategically located.
- Sign surfaces should prevent glare and be of durable weather-resistant material.
- Colors should contrast with the surrounding surface to avoid confusing people with low vision and blindness.
- The international symbol of access should be used where appropriate (for example, in parking lots and toilets for people with disabilities).

Standards

With Decree N732, the Government of Georgia approved the National Accessibility Standards effective 1 March 2021. These should be followed in the design of parks.

Gender-Responsive and Inclusive Playground Design

Careful consideration is needed to the design of playgrounds to ensure that children of all sexes, ages, and abilities have equal opportunity to play and use the space. Appendix 3 provides recommended standards for placement of equipment and furniture in different park types.

Design Criteria

General

In general, the following needs to be considered:

- Locate play areas for different age groups close to each other.
 - Provide a range of play equipment for children of different abilities.
 - Design playgrounds purposefully to meet a range of needs.
 - Provide activities for different ages and abilities.
 - Ensure integrative play opportunities.
 - Provide a stockade playground for toddlers.
 - Provide some shaded areas.
 - Provide facilities and activities that are popular with girls such as volleyball and badminton.
 - Provide facilities that will make creative play possible.
- Integrate natural features such as boulders, slopes, and tree stumps to provide retreat areas, places to sit and socialize or as an onlooker, settings for role play and group play.
- Build gates for trucks and cars for maintenance.
- Gates for people should be separate from gate for trucks and cars.
- Provide drinking fountains with automatic flush.

Surfaces

Choice of surfaces in play areas needs to consider the following:¹⁹

- The surface of the playground must be soft enough to limit injury from falls, but firm and stable enough for a wheelchair user or a person using a walking aid to maneuver.
- Hard surfaces should be non-slip so they are not affected by weather conditions.
- Site should be relatively flat with overall gradient of 2% to 5%.
- Loose fall protection should not pollute paths.

Accessibility

The following are criteria to ensure accessible playgrounds:

- Must be accessible for people with disabilities, people who use wheelchairs, emergency services, etc.
- A minimum access zone of 900 millimeters in width is required to move around any playground structure.
- Recommended reach ranges for a person seated in a wheelchair are
 - 50–90 centimeters (cm) for 3–4 year-olds;
 - 46–100 cm for 5–8 year-olds; and
 - 40–110 cm for 9–12 year-olds.

Safety

Safety considerations include the following criteria:

- Avoid the need to cross roads or car parks to reduce risk of injury by traffic.
- Ensure equipment is installed in accordance with manufacturer's instructions and that clearance distances around the equipment are adequate.
- Ensure moving equipment is located away from the entrance to the play area.
- Zones can be used to separate moving equipment from those that do not move, thus reducing the risk of accidental collision.
- A policy for no dogs or pets should be considered in playground areas or all dogs should be kept on a leash.
- Sand pits should be inspected daily and cleaned regularly, and sand replaced as necessary.
- No drainage close to a sandbox

Playground Seating

Provision of seating is important and should consider the following:

- Provide benches, gazebos, shelters, etc. near the play area for carers.
- A variety of seat types should be provided to allow parents, caregivers, and children of all abilities to rest near the play space and each other.

¹⁹ More information on surfacing can be found in A. Zimmerman. 2015. *Constructing Landscape: Materials, Techniques, Structural Components*. 3rd ed. Boston: Birkhäuser Publishers.

- Seating should be provided to give the best vantage point from which to supervise children and closer to younger children's play area.
- Seating should be protected from wind and comfortable in all weather.
- Include benches with and without arm rests to allow someone in a wheelchair to transfer to them. Similarly, make sure that there is enough space for a wheelchair to be placed next to a bench.

Good Practice Standards

Most accidents on playgrounds relate to falls, either from equipment or on the ground. Operators of playgrounds have a duty of reasonable care to all prospective users. Several international standards for the design of playgrounds are available and represent good practice in playground design and construction. One example is the European Standards for children's playground equipment and surfacing. A list of these standards with some of the key points are in Box 4. There are also several publicly available guides to these standards that summarize key information.²⁰

Box 4: European Standards on Children's Playground Equipment and Surfacing

The European Standards for playground equipment and surfacing are detailed in the following standards:

- EN 1176 Playground equipment and surfacing-Part 1: General safety requirements and test methods;
- EN 1176 Playground equipment and surfacing-Part 2: Additional specific safety requirements and test methods for swings;
- EN 1176 Playground equipment and surfacing-Part 3: Additional specific safety requirements and test methods for slides;
- EN 1176 Playground equipment and surfacing-Part 4: Additional specific safety requirements and test methods for cableways;
- EN 1176 Playground equipment and surfacing-Part 5: Additional specific safety requirements and test methods for carousels;
- EN 1176 Playground equipment and surfacing-Part 6: Additional specific safety requirements and test methods for rocking equipment;
- EN 1176 Playground equipment and surfacing-Part 7: Guidance on installation, inspection, maintenance and operation;
- EN 1176 Playground equipment and surfacing-Part 10: Additional specific safety requirements and test methods for fully enclosed play equipment;
- EN 1176 Playground equipment and surfacing-Part 11: Additional specific safety requirements and test methods for spatial network; and
- EN 1177 Impact attenuating playground surfacing-Methods of test for determination of impact attenuation

Source: The full standards are available for purchase individually or as a set at European Standards. <https://www.en-standard.eu/set-en-1176-new-all-parts-en-1177-2018-standards-for-playground/>.

²⁰ Some examples are available at Wicksteed Playscapes. 2008. *An Essential Guide to BS EN 1176 and BS EN 1177: Children's Playground Equipment & Surfacing: Updated for 2008*. <https://www.cpa-horticulture.co.uk/download/WicksteedPlayStandards.pdf>; and The Play Inspection Company. 2018. *An Essential Guide to EN 1176 and EN 1177 Children's Playground Equipment & Surfacing: Updated for 2018*.

Active Areas for Adolescents and Adults

Recreation areas also need to be provided for older children and adults. These should consider the following:

- Provide spaces for street ball, beach volleyball, soccer, and basketball.
- Make open spaces inviting for less confident people.
- Provide ball catch fences.
- There should be a minimum of two entries or exits to each area or court.
- Use sound absorbing surface material.
- Provide grids if the court is next to a street.
- Skate parks should be simple, with smooth surfaces and edges and adequate lighting.

Materials

There are also some criteria that one should take into consideration when choosing the appropriate materials for playgrounds:

- **Sustainability.** The development of the project shall be resource-efficient and have minimal environmental impact.
- **Quality.** Focus on high-quality materials that are warranted to last long, are appropriate, and internationally accepted, and offer the highest public usage.
- **Aesthetics.** Use simple, robust, and fit-to-purpose materials that are multifunctional and thoughtfully designed.
- **Technical correspondence.** The material compositions, textures, feels, finishing, structural elements, corresponding pieces, and other details shall be in correspondence with project design drawings, matching with the quality and technical profile required by the project designer.

Plants, Green Areas, Ecology

Careful design is needed to ensure that planting and landscaping are appropriate and sustainable, and provide a pleasant and healthy environment.

Design Criteria

The following criteria need to be considered:

- Grassy areas should be provided in all public parks to allow for lying down and sitting in lawn areas for recovery and relaxation.
- There should be no construction of any light structures or use of hard materials in these areas.
- Security aspects, for example, of the height of plants, should be considered.

- Designs should consider the color and size of plants.
- Plants should be selected based on suitability with the climate, soil, etc.
- The use of shrubs should be according to the park type (urban or scenic).
- Further additions and replanting should be in line with the original design and concept.
- Consider vertical greening to integrate buildings into the landscape.
- Ensure that planting is appropriate and attractive around play areas.
 - Consider including medicinal and herbal plants and indigenous plants.
 - Incorporate drought-resistant and oxygen-generating plants.
 - Where possible, label the different species and include plant uses to educate and raise public awareness.
 - Neighborhood gardens can be included where there is available space. These should include water and electricity connection as well as sealed meeting areas.

Seminatural Grasslands and Brownfields

Where seminatural grasslands and brownfield sites are included the following additional criteria need to be considered:

- Seminatural grassland especially to maintain habitats for protected plants and animals should be pursued where local plant type is suitable, there is sufficient area available, and there is demand for this.
- Natural site characteristics concerning soil, geology, water, fauna, and flora need to be appropriate.
- If possible, water should be visible to promote experience and, at the same time, make use of the habitat potential of humid and wetland locations.
- For plant and insect diversity, areas should be allocated for spontaneous vegetation (succession).
- Extensive cultivation of the grassland with a minimum of mowing (two times a year) and avoidance of nutrient enrichment.
- Provide suitable areas where fallen leaves can be left over the winter.
- Encourage the natural flora and fauna of the area by keeping existing soils and using local seed varieties for greening. This preserves the identity of the original vegetation and insect diversity.
- Natural zones should be recognizable as clearly visible areas and should be integrated into the overall horticultural structure. Preferably use near-natural rainwater management.

Required Standards

Tbilisi City Hall elaborated the list of plant species suitable for climate and landscape conditions of Tbilisi city.²¹

The maintenance should be carried out according to the requirements of the decree of the Tbilisi city government.²²

Good Practice Standards

- The gradient of the lawns should not exceed 30%.
- Planting is not permitted directly on the structural soil.
- Open or stripped soil or grass-covered soil or surface should be replaced with new.
- The pits for the plants should be large enough to provide root space and reduce the likelihood that the pavement will not be damaged or completely destroyed in the future.
- Do not use toxic plants, stinging plants, or plants with thorns.
- The amount of organic substrate brought in depends on the size of the plots and beds or the volume of the containers used.
- Trench or canal cutting near the plants must be done manually so as not to damage the roots. Planting trees at the entrances of the building is prohibited to ensure free movement or entry of the fire brigades.

Park Furnishings

Park furnishings should include benches and tables, floor anchoring, waste bins, dog excrement bag dispensers, pavilions or pergolas, drinking fountains, insect-friendly and energy efficient lighting especially on main paths, and floodlights where necessary.

Design Criteria

The following criteria for benches, waste bins, drinking fountains, bike lanes, and bike racks need to be considered:

Benches

- Benches need to have backrests and be accessible to persons with disabilities.
- There should be a mix of benches with armrests for those needing extra support, and without armrests, which are accessible to wheelchair users.
- Benches should have an adjacent companion seating space, and be located both along, and away from paths of travel and in both sunny and shaded locations.

²¹ Tbilisi City Hall. 2018. Decree N 05.14.147 List of Tree Species Suitable for Climate and Landscape Conditions of Tbilisi Municipality. <http://tbilisi.gov.ge/img/original/2018/3/20/05.14.147-Kheebis-Sia.pdf>.

²² Tbilisi City Hall. 2018. Decree N 18.342.597 Adoption of the Standard Action Plan for Maintenance of Tbilisi Municipality Plants and Agri-technical Measures. <http://tbilisi.gov.ge/img/original/2018/5/25/gankarguleba.pdf>.

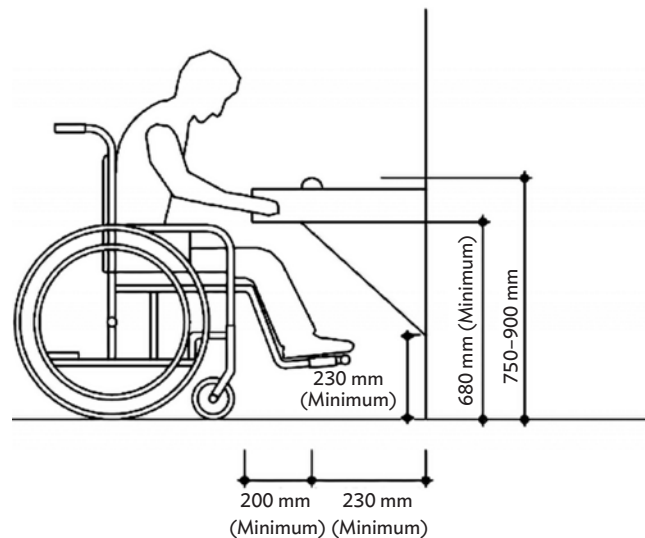
Waste Bins

- All trash receptacles shall be accessible to persons with disabilities and located immediately adjacent to a path of travel accessible to persons with disabilities.
- Bins should not be placed within eating areas; instead they should be installed at the exits of each area.
- Bins need to be suitable for everyone and people should be able to use them with only one hand, for example, open tops, slots, and push doors.
- Spaces next to benches may be needed for people using wheelchairs to be close to people on the bench; therefore, do not locate bins in clear spaces next to benches.

Drinking Fountains

- All drinking fountains shall be barrier-free.
- Drinking fountains shall be located within active use areas of the park including near children's play areas.
- Drinking fountains must also be easily accessible for maintenance and should have a level concrete or asphalt paved area around it.
- Public drinking fountains should be securely mounted, and ensure clear knee space below of 700 millimeters, to allow comfortable access by persons using wheelchairs (Figure 7).
- The maximum height of the spout should be 900 millimeters and controls should be easily operable with one hand.²³

Figure 7: Exterior Public Drinking Fountains Accessibility Design



mm = millimeters.

Source: Adapted from City of Toronto. 2004. *Accessibility Design Guidelines*.

https://www.toronto.ca/wp-content/uploads/2017/08/8fcb-accessibility_design_guidelines.pdf.

²³ City of Toronto. 2004. *Accessibility Design Guidelines*. https://www.toronto.ca/wp-content/uploads/2017/08/8fcb-accessibility_design_guidelines.pdf.

Bike Lanes and Bike Racks

- Bicycle racks shall be located at large park entrances and at entrances to major buildings.
- Additional racks may be required for major facilities not in close proximity to buildings.
- All bicycle racks shall be galvanized. Racks shall be located so that parked bicycles do not impede pedestrians.

Good Practice Standards

Recommended requirements for park furniture in different types of parks is shown in Appendix 3.

Shade

It is important to provide spaces within the play space and other recreation and rest areas where users are not in direct sunlight.

There are various ways to provide shade:

- Use established trees for shade.
- Use a freestanding fabric shade structures.
- Utilize fabric structures or roofs on top of the equipment.
- Consider shading some of the seating or gathering areas by using gazebos and pavilions.

Water Management and Energy Efficiency

Efficient use of resources is essential for environmental sustainability of the city and need to be integrated into the design by considering the following:

- Sufficient water points should be provided the plants.
- Irrigation system should be developed individually for each area as required and to ensure efficient use of water.
- Designs should include boreholes, rainwater collection tanks, and other features designed to harvest rainwater and stormwater to prevent exacerbating the depletion of groundwater in the city.
- A proper drainage system should be provided to ensure water does not collect on surfaces of recreational and play areas, lawns, or playing fields.
- Use permeable surfaces and runoff designs to keep low lying paths free of water.
- Develop a plan for efficient use of energy in the park such as lights attached to movement sensors, using low-energy bulbs, electric maintenance vehicles, and renewable energy sources.

Sealed Surfaces

The type of sealed surface depends on the type of park and the usage of each area within it. Surfaces should be permeable and resin-bounded. Alternately, red gravel can be used. To avoid urban heat islands, the sealing rate should be reduced to a minimum. Appendix 3 has examples of appropriate materials for use on sealed areas of parks.

Dog-Walking Spaces

Dog-walking areas should be fenced and have entry gates, benches for dog owners, and good lighting. There should be bins for dogs' excrement as well as water stations for dogs. Warning signs and banners with rules need to be displayed and supporting inventory for dog activity can be provided.

Good Practice Standards

Good practice standards for dog-walking spaces include the following:



- minimal area of 300 m²,
- minimal height of the fence is 1.2 m,
- minimal distance from living area is 30 m,
- adapted entry, and
- protection of trees in the area.








APPENDIXES



APPENDIX 1

Typology and Detailed Description of Types of Parks in Tbilisi

Type	Description	Example of the Park Type in Tbilisi	Detailed Description
Urban Recreational Areas			
Local parks or pocket parks (mini parks)	Small, publicly accessible parks, around and between buildings 0.05–0.16 ha		<p>Pocket parks provide recreation opportunities within walking and bicycling distance of home for local populations.</p> <p>These parks include facilities for a variety of age groups such as playground equipment, outdoor fitness equipment, gazebos, and pathways. They are very important for children up to 6 years and people who take care of children or elderly people.</p>
Local parks or community parks	Semi-public and public green spaces, in multi-story residential areas, with grass, trees and shrubs 0.16 ha–1.0 ha		<p>A community park is also a local park and should connect to other communities and neighborhoods. New housing developments that border the park should provide access to them. Approximately two-thirds of a community park should be reserved for active recreation uses such as open grass area for free play, children’s playground. Paved pathways should direct users to areas within the park as well as to adjacent trails, greenways, streets, and sidewalks.</p>

Type	Description	Example of the Park Type in Tbilisi	Detailed Description
Neighborhood parks	Medium-sized, accessible, green, and recreational space in an urban area 1.0–3.0 ha Dedaenis park, 9 March gardens		Neighborhood parks should be accessible to, and meet the needs of families and communities for recreation and meeting places, as well as preserving unique landscapes and open spaces. They may provide for more specific recreational purposes such as extreme sports amenities, picnic areas, sports courts, permanent restrooms, drinking fountains, landscaped areas, and a playground. Approximately two-thirds of an urban park should be reserved for active recreation uses such as sport fields, open grass area for free play, children’s playgrounds and space for outdoor events. Paved pathways should direct users to areas within the park as well as to adjacent trails, greenways, streets, and sidewalks.
Large urban parks or residential district park and city parks	9 April Park, Mziuri Park Veterans’ Park 3.0 ha and more		Residential district parks serve a large area consisting of several neighborhoods and have a combination of passive areas and active facilities. They provide space for recreational opportunities such as football, basketball, and wildlife viewing, and may also have specialized amenities such as an art center, amphitheater, or a natural area with interpretive trails. City parks include a wide range of recreational opportunities and serve residents within the city.

Type	Description	Example of the Park Type in Tbilisi	Detailed Description
Thematic Parks			
Historical (cultural heritage monuments) park or garden	Vake Park Vera Park First Republic Park		Tbilisi has a number of historical parks that are places of cultural or social significance and include statues, monuments, or plaques to mark these. They also provide recreational opportunities for the urban population, and include various natural features such as trees, grassy areas, playgrounds, water bodies, sports facilities. etc.
Botanical Garden	Large diversity of plant species		The National Botanical Garden of Georgia (former Tbilisi Botanical Garden) is a leading research, cultural-educational, and nature conservation institution in the country. It is hilly and occupies approximately 97 ha. There is a substantial collection of plant species and ornamental cultivars contained and displayed within it.
Forest Park	Digomi Forest Park Krtsanisi Forest Park		The forest parks in and around Tbilisi are large tree-covered areas. They have paths and picnic areas and provide people with a chance to enjoy the natural environment.

Type	Description	Example of the Park Type in Tbilisi	Detailed Description
Non-Urban Recreational Areas			
Recreational areas more than 5 ha	Lisi Lake, Turtle Lake, Gldani lake, Tbilisi Sea, Mtatsminda Park		These are larger green areas on the edge of the city with bike lanes, lighting, drinking water fountains, walkways, areas with lawns and trees, playgrounds, and sports facilities.
Forest 132–4,000 ha	Didgori Lilo Tskneti Kojori Krtsanisi Dendrological Park Xudadov Forest Tbilisi Sea		Natural or planted areas of dense tree vegetation (remnant woodland, managed forest, mixed forms).

Type	Description	Example of the Park Type in Tbilisi	Detailed Description
Linear Parks, Tree Alleys			
Linear Park	Green areas between the roads, park furniture, playground		A linear park is a green space in an urban or suburban setting that is substantially longer compared to its width and is developed for bicycling, hiking, walking, etc.
Tree and hedge alley	Trees and hedges planted along roads and paths		Plants planted along the paths and roads, near dwelling houses and buildings, mainly tall trees and in some cases ornamental trees and shrubs. Helps to create a kind of green corridor and preserve biodiversity.
Green street verges	Mostly shrubby or grassy verges along roads or other built or natural element		Roadside green areas covered with ornamental trees, shrubs and grasses, safe haven islands, where an irrigation system is arranged and maintained by the Tbilisi City Hall. Such spaces contribute to the mitigation of the so-called "heat islands" effect.

ha = hectare.

Note: All photos are courtesy of the Tbilisi City Hall.

Source: Authors.

APPENDIX 2

Detailed Standards for Lighting

Lighting is an important component of urban life. Properly designed lighting provides safety and security so the city may be navigated and used at night. Well-designed lighting both uses energy efficiently and minimizes the negative effects on human and nocturnal animal life. Effective lighting improves the quality of urban life for everyone. The Government of Georgia has standards for electric network infrastructure from which the following have been drawn.¹

Conditions for lighting network installation shall meet the requirements of Power Usage Effectiveness 2007. The poles must be firmly attached.

The height of the poles is preferable from 3.5 to 4.5 meters (m) and has a diameter of no less than 100 millimeters (mm). Install switchgear on each pole.

If there is a gearbox, the gearbox must be of iron and at least 30 cm above ground level. Power cable should be 5-tip (three phases and two zeros, one working and the other protective) calculated for network length and short circuit current. Refer to the norms of Power Usage Effectiveness 2007.

The depth of cable laying in protective tube (double coat corrugated board) should not be less than 50 cm.

Protective grounding of poles and boxes should be arranged according to Power Usage Effectiveness 2007.

Empowering the facility should happen only after submitting a complete set of technical documentation.

The feed cord of the object shall be brought to the point of attachment to the external illumination pole and protected by a metal pipe (no less than 2.5 m high from the ground).

In case of fuse box installation, the box should be grounded.

The poles should be painted, numbered, and firmly attached. The lamps should be zeroed.

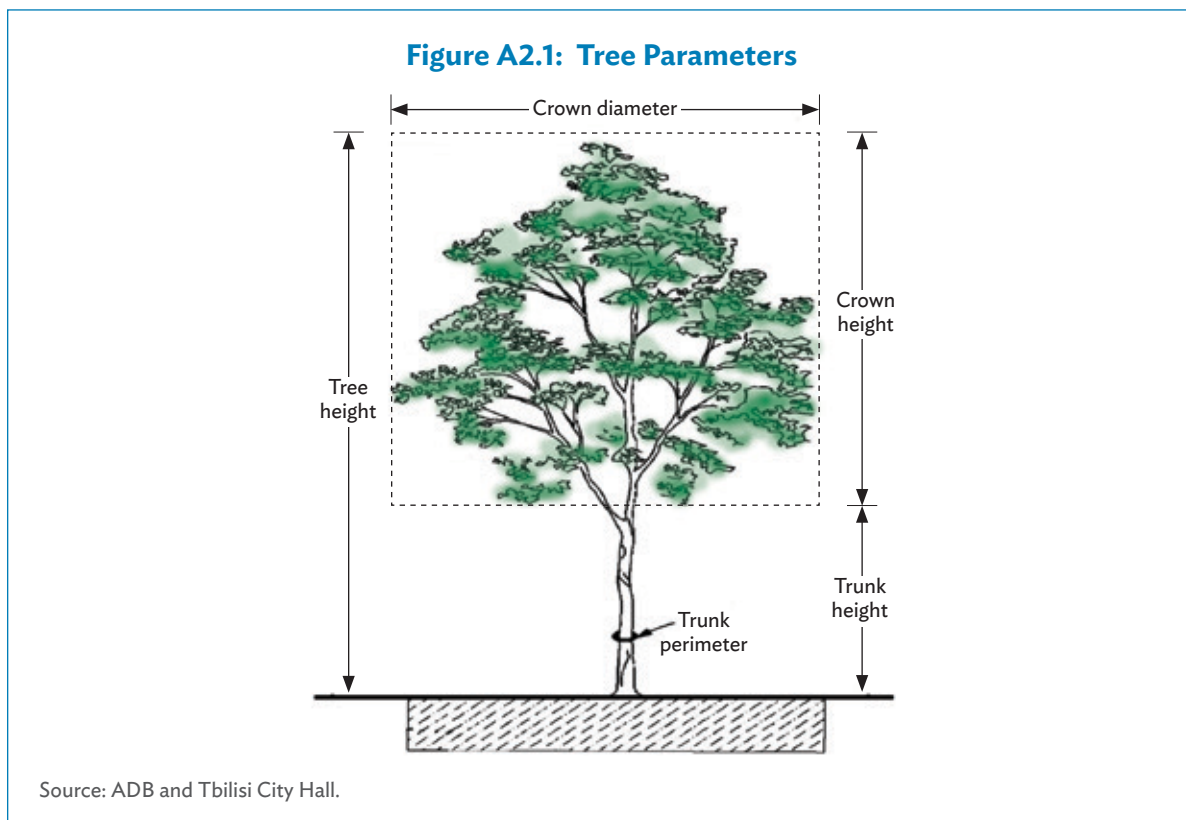
¹ Government of Georgia. 2013. Decree N366. The Rules for Defining of Zones and Safety Norm for Electric Network Infrastructure. 24 December. <https://matsne.gov.ge/ka/document/view/2156434?publication=0>.

Technical drawings should include types of cables and wires, cross-section length, grounding of poles, and cabinets.

Required Technical Documentation for the Work Done on the Outdoor Lighting Network (footnote 1):

- (i) Project.
- (ii) Performing drawing.
- (iii) Protocol for the protective grounding of the poles, the grounding of the cabinets (covert work, layout, resistance measurement, laboratory accreditation certificate).
- (iv) Cable laying protocol (of underground work, of insulation measurement before and after laying).
- (v) Voltage measurement protocol (measured at the beginning and at the end of the line)
- (vi) Phase load measurement protocol.
- (vii) Specifications of the work performed which will specifically indicate the following:
 - (a) type of wire, cable, its diameter, and length;
 - (b) diameter, height, and quantity of poles; and
 - (c) lighting types, quantity, and power of lamps.

Distance between a lamp and a tree. When defining the location for planting trees, consider the tree parameters of the specific tree type when full-grown (Figure A2.1).



The following are the three important factors to consider when defining the distance between a tree and a lighting pole:

- (i) **Tree with a long trunk the branching of which begins in the upper part of the stem.** For trees on traffic streets, the tree trunk should be 4.5 m in height so as not to obstruct the traffic. In inner urban zones, the height of the trunks may be lower than 4.5 m. A balanced proportion between the trunk and crown heights should be adhered to in case of all types of trees.
- (ii) **Tree crown diameter.** Tree crowns should not obstruct the light produced by outdoor lighting. The location of the lighting pole should enable light to spread under the tree crown.
- (iii) **Height of lighting poles.** The height of a lighting pole depends on the area of the space to be lit up. If lighting poles are located on one side of a street, their height is defined in a way that they light up the whole street area. If poles are located at both sides of the street, their height needs to be calculated in a way that enables the lighting of only half of the street.

The lighting poles should be installed considering the diameter of the root system to avoid damaging the root system in the process of installation.

If there is information on the height of a trunk and a pole, the distance between them can be defined using Tables A2.1 to A2.5.

- When calculating the distance, consider the diameter of the root system, which is equal to the diameter of the crown.
- The table is for lighting poles that produce light at 70-degree angle or slope.
- Distances are measured between the central points of figures.
- If there are figures included in the table, a tree is located between two lighting poles.
- If there are no figures included in the table, the distance between a tree and a lighting pole is presented in a way that a tree cannot be located between two lighting poles. In this case, the following solutions can be found:
 - short poles, shorter distances between each pole and higher quantity;
 - bush-like trees; and
 - selection of various types of trees.

Table A2.1: A Tree Trunk 2.5 Meters Tall

Diameter of the crown of the grown tree (m)	Height of lamp poles (m)						
	4	6	8	10	12	14	16
4	6	11.5	17	22.5	28	33	38.5
6	7	12.5	18	23.5	29	34	39.5
8	8	13.5	19	24.5	30	35	–
10	9	14.5	20	–	–	–	–
12	10	–	–	–	–	–	–
14	–	–	–	–	–	–	–
16	–	–	–	–	–	–	–
18	–	–	–	–	–	–	–
20	–	–	–	–	–	–	–
22	–	–	–	–	–	–	–
24	–	–	–	–	–	–	–
26	–	–	–	–	–	–	–

m = meter.

Note: A sample computation would be is if the trunk height is 2.5 m, and the crown diameter is 8 m, the lighting pole height is 6 m, then the distance between the lighting pole and a tree should be 13.5 m. The distance between trees and the distance between lighting poles are both 27 m.

Source: Authors.

Table A2.2: A Tree Trunk 3 Meters Tall

Diameter of the crown of the grown tree (m)	Height of lamp poles (m)						
	4	6	8	10	12	14	16
4	5	10	15.5	21	26.5	32	37
6	6	11	16.5	22	27.5	33	38
8	7	12	17.5	23	28.5	34	39
10	8	13	18.5	24	29.5	35	40
12	9	14	19.5	25	–	–	–
14	10	15	–	–	–	–	–
16	–	–	–	–	–	–	–
18	–	–	–	–	–	–	–
20	–	–	–	–	–	–	–
22	–	–	–	–	–	–	–
24	–	–	–	–	–	–	–
26	–	–	–	–	–	–	–

m = meter.

Note: A sample computation would be is if the trunk height is 3 m, the crown diameter is 12 m, the lighting pole height is 4 m, then the distance between the lighting pole and a tree should be 9 m. The distance between trees and the distance between lighting poles are both 18 m.

Source: Authors.

Table A2.3: A Tree Trunk 4 Meters Tall

Diameter of the full-grown tree crown (m)	Height of lamp poles (m)						
	4	6	8	10	12	14	16
4	2	7.5	13	18.5	24	29	34.5
6	3	8.5	14	19.5	25	30	35.5
8	4	9.5	15	20.5	26	31	36.5
10	5	10.5	16	21.5	27	32	37.5
12	6	11.5	17	22.5	28	33	38.5
14	7	12.5	18	23.5	29	34	39.5
16	8	13.5	19	24.5	30	35	–
18	9	14.5	20	–	–	–	–
20	10	–	–	–	–	–	–
22	–	–	–	–	–	–	–
24	–	–	–	–	–	–	–
26	–	–	–	–	–	–	–

m = meter.

Note: A sample computation would be is if the trunk height is 4 m, the crown diameter is 10 m, the lighting pole height is 8 m, then the distance between the lighting pole and a tree should be 16 m. The distance between trees and the distance between lighting poles are both 32 m.

Source: Authors.

Table A2.4: A Tree Trunk 4.5 Meters Tall

Diameter of the full-grown tree crown (m)	Height of lamp poles (m)						
	4	6	8	10	12	14	16
4	2	5	10.5	16	21.5	27	32
6	3	6	11.5	17	22.5	28	33
8	4	7	12.5	18	23.5	29	34
10	5	8	13.5	19	24.5	30	35
12	6	9	14.5	20	25.5	31	36
14	7	10	15.5	21	26.5	32	37
16	8	11	16.5	22	27.5	33	38
18	9	12	17.5	23	28.5	34	39
20	10	13	18.5	24	29.5	35	40
22	–	14	19.5	25	–	–	–
24	–	15	–	–	–	–	–
26	–	–	–	–	–	–	–

m = meter.

Notes: A sample computation would be is if the trunk height is 4.5 m, the crown diameter is 20 m, the lighting pole height is 4 m, then the distance between the lighting pole and a tree should be 10 m. The distance between trees and the distance between lighting poles are both 20 m.

Source: Authors.

Table A2.5: A Tree Trunk 5 Meters Tall

Diameter of the full-grown tree crown (m)	Height of lamp poles (m)						
	4	6	8	10	12	14	16
4	2	5	10.5	16	21.5	27	32
6	3	6	11.5	17	22.5	28	33
8	4	7	12.5	18	23.5	29	34
10	5	8	13.5	19	24.5	30	35
12	6	9	14.5	20	25.5	31	36
14	7	10	15.5	21	26.5	32	37
16	8	11	16.5	22	27.5	33	38
18	9	12	17.5	23	28.5	34	39
20	10	13	18.5	24	29.5	35	40
22	–	14	19.5	25	–	–	–
24	–	15	–	–	–	–	–
26	–	–	–	–	–	–	–

m = meter.

Notes: A sample computation would be is if the trunk height is 5 m, the crown diameter is 14 m, the lighting pole height is 16 m, then the distance between the lighting pole and a tree should be 37 m. The distance between trees and the distance between lighting poles are both 74 m.

Source: Authors.

APPENDIX 3

Equipment and Furnishing Placement Standard

	Green Corridor and Linear Park	Tree Alley	Street Green	Pocket Park	Neighborhood Park	Large Urban Park	Recreational Area	Historical Park	Botanical Park	Forest Park	Forest
Furnishing											
Bench with armrest	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Blue
Bench	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Blue
Shade structure or gazebo	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Blue	Light Blue
Pavilion	Light Blue	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Blue	Light Green	Light Blue	Light Blue
Drinking fountain	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Garbage bin	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Restroom	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Blue
Bike line	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Bike rack	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Identification sign	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Areas of water	Light Green	Light Blue	Light Blue	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Vegetation											
Trees	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Shrubs	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Perennials	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Grass	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green

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Appendix 3 continued

	Green Corridor and Linear Park	Tree Alley	Street Green	Pocket Park	Neighborhood Park	Large Urban Park	Recreational Area	Historical Park	Botanical Park	Forest Park	Forest
Technical Items											
Irrigation ^a	Must	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Lighting ^b	Must	Not needed	Not needed	Must	Must	Must	Would be good	Must	Would be good	Not needed	Not needed
Sports lighting	Not needed	Not needed	Not needed	Optional	Optional	Would be good	Optional	Optional	Not needed	Not needed	Not needed
Playground and Fitness											
Outdoor fitness equipment	Optional	Not needed	Not needed	Would be good	Would be good	Must	Would be good	Optional	Not needed	Not needed	Not needed
Slides	Optional	Not needed	Not needed	Must	Must	Must	Optional	Optional	Optional	Not needed	Not needed
Activity towers	Optional	Not needed	Not needed	Would be good	Would be good	Must	Optional	Optional	Optional	Not needed	Not needed
Sand play	Optional	Not needed	Not needed	Would be good	Would be good	Would be good	Optional	Optional	Optional	Not needed	Not needed
Climbing frame	Optional	Not needed	Not needed	Optional	Optional	Would be good	Optional	Optional	Optional	Not needed	Not needed
Nature play	Optional	Not needed	Not needed	Optional	Optional	Optional	Optional	Optional	Optional	Not needed	Not needed
Balancing	Optional	Not needed	Not needed	Would be good	Must	Would be good	Optional	Optional	Optional	Not needed	Not needed
Swing	Optional	Not needed	Not needed	Must	Must	Must	Optional	Optional	Optional	Not needed	Not needed
Other											
Paths	Must	Not needed	Not needed	Must	Must	Must	Must	Must	Must	Optional	Must
Public art	Optional	Not needed	Not needed	Optional	Optional	Would be good				Not needed	Not needed
Outdoor stage	Not needed	Not needed	Not needed			Would be good			Not needed	Not needed	Not needed
Sports fields	Not needed	Not needed	Not needed			Must			Not needed	Not needed	Not needed
Sports courts	Not needed	Not needed	Not needed			Would be good			Not needed	Not needed	Not needed
Hike trails		Not needed	Not needed							Must	Must
Parking	Not needed	Not needed	Not needed	Not needed	Would be good	Must	Must	Would be good	Must		
Rules or ordinance signage	Would be good	Not needed	Not needed	Must	Must	Must	Must	Must	Must	Must	Must

Must Would be good Optional Not needed

^a Depends on the plant and location.

^b Distance between street lamp = light height multiplied by 2.

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Fair Shared Green and Recreational Spaces—Guidelines for Gender-Responsive and Inclusive Design

Tbilisi Municipality

These guidelines were developed through the collaborative efforts of the Asian Development Bank and the Municipal Department of Environmental Protection of Tbilisi City Hall. The publication aims to inform decisions that will contribute to the sustainable development of Tbilisi and give residents a better quality of life while protecting their valuable heritage and preserving the green landscape for successive generations. The guidelines recommend development features and design specifications for green space provision and identify priorities for improvements and for ensuring that limited resources are targeted at areas of most need.

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