



Crane Index Q1, 2017

KPMG Deal Advisory



Overview of the Crane Index

The Crane Index is a tool utilized across the world in order to monitor the activity in the construction sector. By physically counting the number of cranes in a city on a periodic basis, it enables the reader to understand the construction trend over time

In the crane index survey we count the number of cranes currently installed throughout Tbilisi. During our survey we have covered the tower cranes and, due to the identification complexity, excluded the mobile (small) cranes

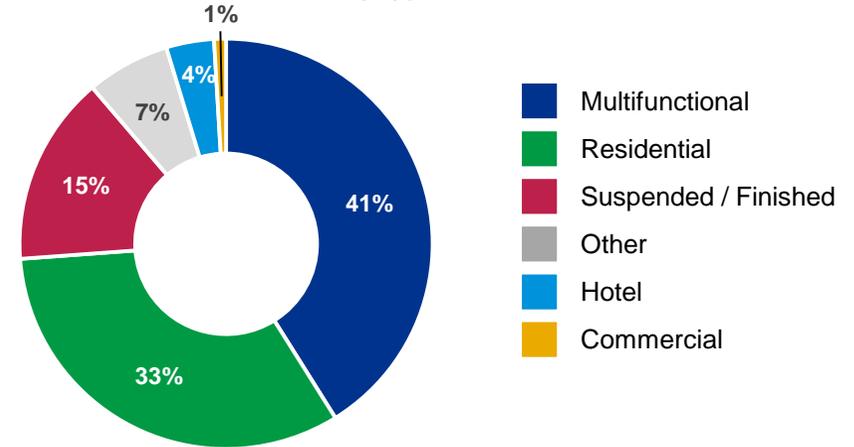
As of the first quarter of 2017 we have identified a total of 107 cranes installed at the construction sites, out of which 17 cranes have been idle either because of suspended construction works or due to them being dismantled

The results of our survey have also revealed that the construction of mixed-use buildings have been the most attractive for developers and private investors, with approximately 41% of construction works being related to multifunctional complexes followed by residential premises (33%). The latter involves the development of a mix of residential, commercial, office and hotel premises

Construction sites were grouped into six broad categories:

Residential	those which are completely designated for the construction of residential premises	Hotels	construction of new hotels
Multifunctional	projects sharing a mix of residential, commercial and office premises	Commercial	construction of trade centers and other premises designated for commercial use
Suspended / finished	projects that are temporarily or permanently suspended and/or at the final stages of construction	Others	projects with use other than those listed above (e.g. museum)

Breakdown of constructions by types



Source: KPMG Analysis

Key data					
District	Area in km ²	Population	Cranes	Density per km ²	Cranes per 1,000 persons
Saburtalo	45	128,583	36	2,857	0.28
Vake	24	99,162	25	4,103	0.25
Didube-Chugureti	26	130,422	12	5,037	0.09
Isani-Samgori	80	271,980	11	3,400	0.04
Nadzaladevi	31	140,429	8	4,564	0.06
Gldani	34	155,319	8	4,581	0.05
Mtatsminda	8	52,144	6	6,517	0.12
Krtsanisi	14	47,096	1	3,264	0.02
Total	262	1,025,135	107	3,910	0.10

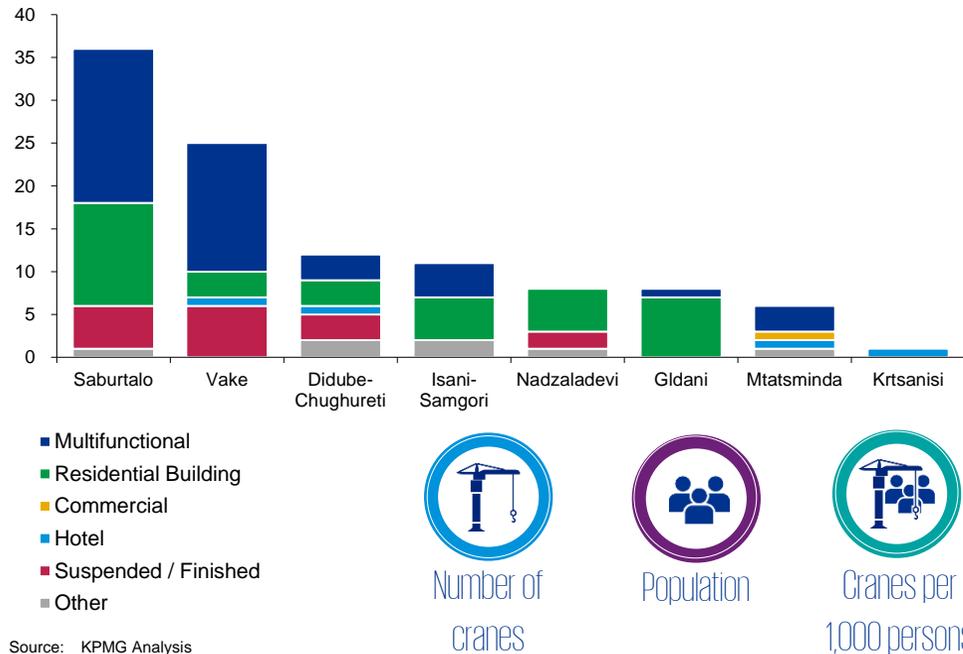
Source: KPMG Analysis, NAPR.GOV.GE, Google maps

Overview of the results

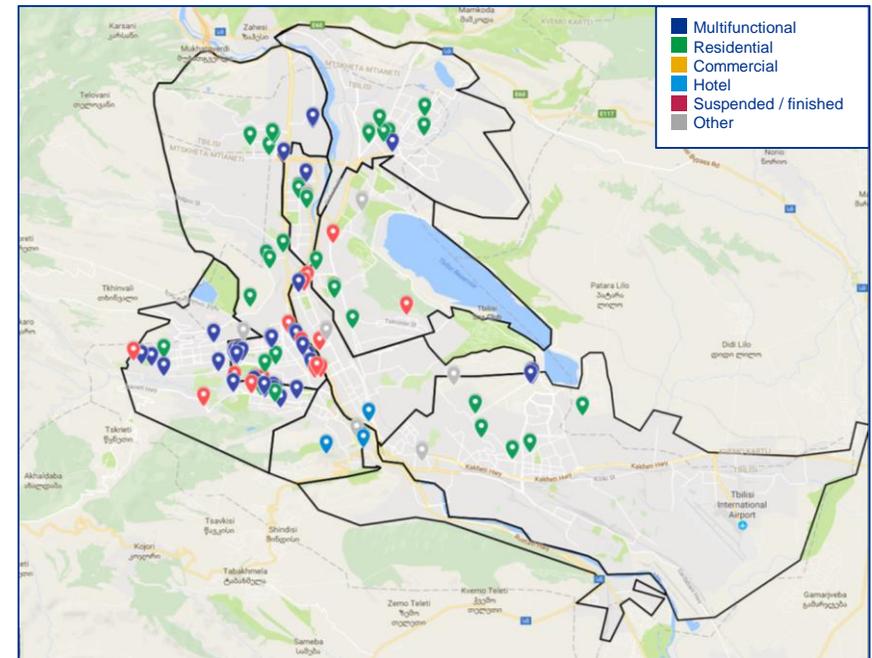
During our survey, we have identified 107 cranes installed in different parts of the city, with the most constructions identified in the western part of Tbilisi. It is important, to outline, that we have allocated cranes among the regions based on official administrative borders of the city of Tbilisi published by the National Agency of Public Registry (NAPR). The area covered by our survey amounts to 262 km², representing 52% of the total area of the city. Regions with populations of less than 10,000 individuals (Lilo, Telovani, Tskneti etc.) were excluded from our analysis

As evident on the map below, the leading region with the highest number of construction sites is Saburtalo (36 cranes), followed by Vake (25), together covering more than 57% of all cranes. The highest concentration of construction in Saburtalo and Vake can be explained by their attractiveness, popularity among the citizens and increased commercial activity (Vake is perceived as the most prestigious district in the city). In order to make the regions and number of cranes comparable, we have calculated two ratios: 1) the density of population for each region (ratio of population divided by area); and 2) ratio of number of cranes per 1,000 persons for each region

Number of projects per districts and types



Source: KPMG Analysis



Source: KPMG Analysis, Google maps

Saburtalo



Description

The majority of constructions of new buildings have been taking place in Saburtalo district. Saburtalo stretches from the Dighomi settlement down to Heroes Square covering some of the largest projects, such as Lisi Veranda, King David towers, Green Budapest residential complex and etc.

Based on the ACT survey conducted for Marketer magazine, the majority of customers give less preference to the central parts of Tbilisi, most likely due to their desire of living in an ecologically clean environment and near to offices, schools or trade centers. 30% of those surveyed stated that Saburtalo is the most attractive location in which people want to buy property. The next in rankings were Didube-Dighomi with 17%, Tbilisi suburbs with 13%, Nadzaladevi with 11% , Vake-Bagebi 9% and other areas of city with 20%, respectively

The total area of Saburtalo is 45 km² and it is the least dense part of Tbilisi with 2,857 persons per square kilometer

Out of 36 cranes:

- 18 were employed in the development of multifunctional projects
- 12 cranes in the construction of residential buildings
- 5 cranes were idle either because construction works were completed or suspended
- One crane was used for construction of a hospital



#1 - 36



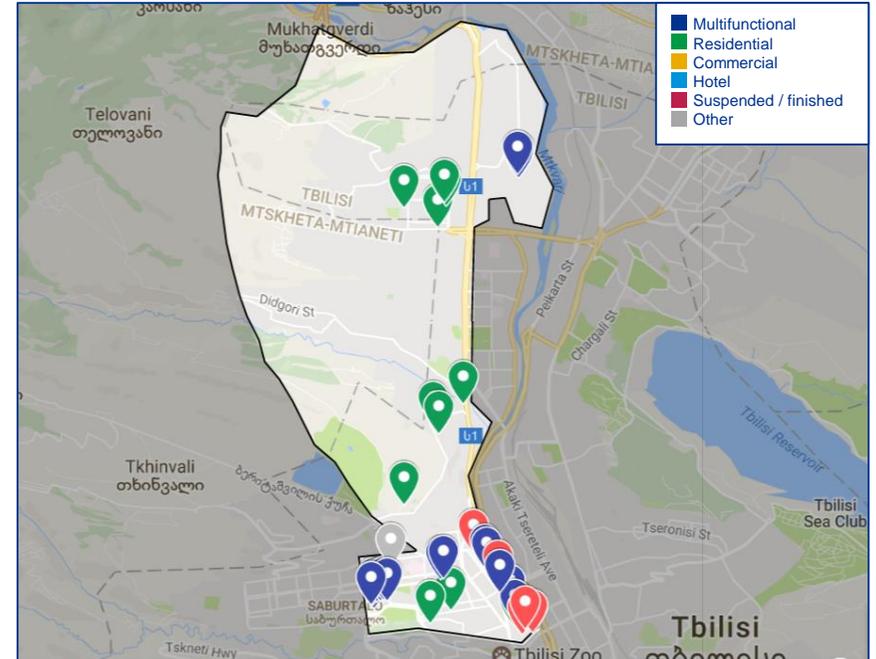
#5 - 128,583



#1 - 0.28



Location



Source: Google maps, KPMG Analysis



Description

Vake, ranking as the 3rd smallest region in the city, is located in the center and western parts of the city, sharing borders with Mtatsminda and Saburtalo. According to the new allocation of administrative areas in the city, combined with adjustments made for the non-populated parts, the total area of the region was estimated to be 24 km². The central part of the region (also known as old Vake), is considered as one of the most prestigious places among citizens. This may also explain the high concentration of construction sites in this part of the city

In terms of density, we have estimated 4,103 persons per square kilometer

In spite of its small population and area, Vake is becoming the center of commercial and business activities, with some of the largest projects, such as Hilton, Axis Towers, etc. currently being developed

Out of 25 cranes:

- 6 were suspended or at the final stages of the construction
- 1 crane is used in the construction of a hotel
- 3 cranes were involved in construction of fully residential buildings
- remaining 19 cranes are used in multifunctional projects



#2 - 25



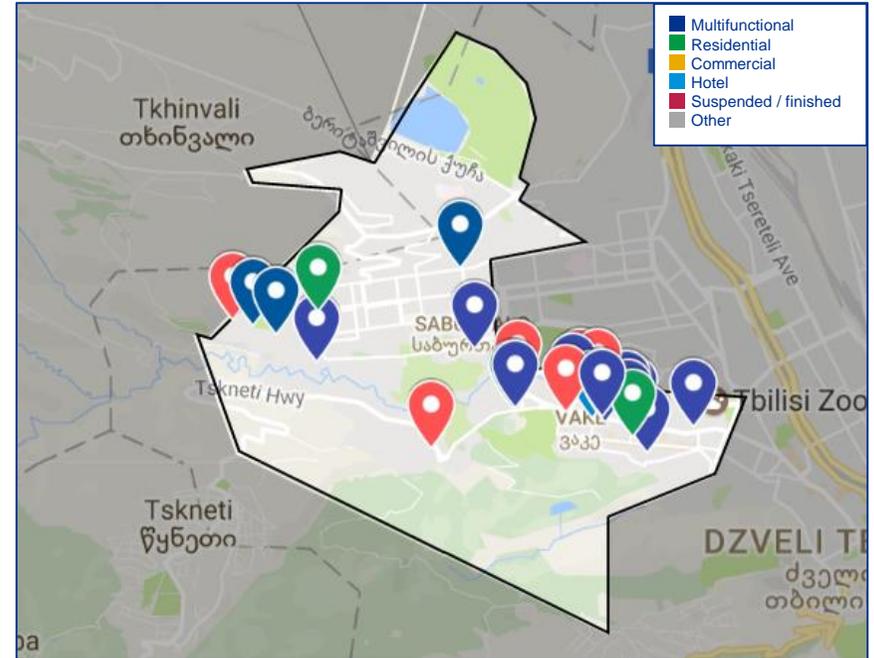
#6 - 99,162



#2 - 0.25



Location



Source: Google maps, KPMG Analysis

Didube-Chughureti



Description

Following Mtatsminda, Didube-Chughureti is the second most densely populated district with 5,037 people per square kilometer. Located in the middle of the city and stretching across the right and left banks of the river Mtkvari, Didube-Chughureti occupies around 26 square kilometers. The region combines two of the historical and touristically attractive parts of Tbilisi, such as Marjanishvili and part of Old Tbilisi

Along the riverside area are concentrated mostly buildings that are designed for commercial use such as furniture stores, auto repair shops (such as Toyota center), restaurants and large trading centers like Tbilisi Mall

Out of 12 tower cranes:

- 3 cranes were used for construction of residential premises
- 3 cranes used for the development of multifunctional complex
- 3 cranes were idle
- Two cranes were categorized as other; and
- One crane was used for hotel construction



#3 - 12



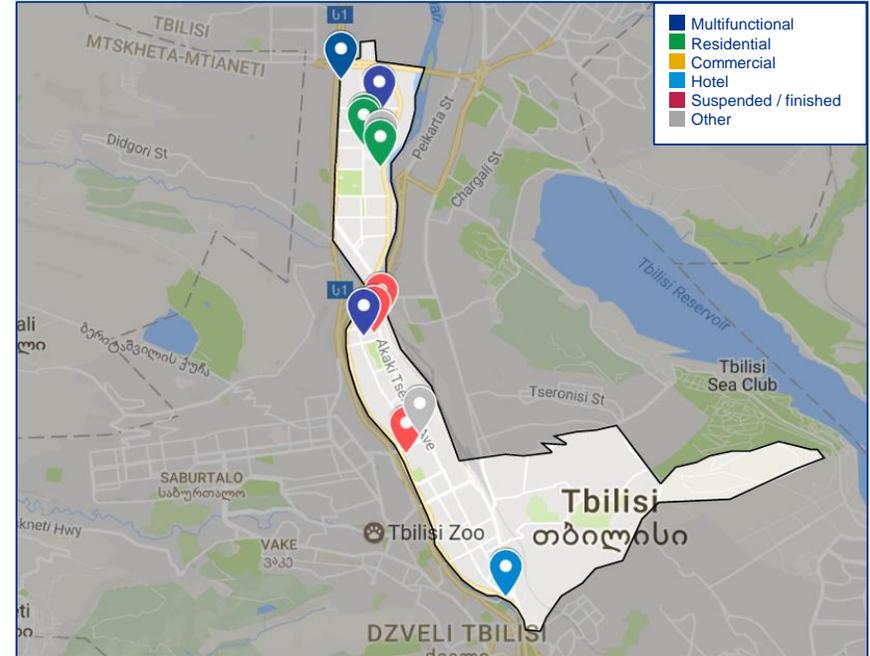
#4 - 130,422



#4 - 0.09



Location



Source: Google maps, KPMG Analysis

Isani-Samgori



Description

As the Tbilisi urban development process actively continues, the Isani-Samgori district has also been targeted for residential and commercial projects. Isani-Samgori district also covers the territory close to Tbilisi reservoir. The area around the reservoir is attractive for real estate investors and is planned to undergo significant infrastructural development. The development envisages construction of hospitals, schools, trade centers, an ecologically friendly residential area and more. Hualing Group has been the single largest foreign investor in the Georgian real estate sector. Some of its notable projects such as Tbilisi Sea New City, Tbilisi Sea Plaza and Youth Olympic Village are located in this district

Isani-Samgori is the largest district of Tbilisi by area (80 square kilometers) with density of 3,400 inhabitants per square kilometer

Out of identified 11 cranes:

- 5 cranes were installed at residential building construction site
- 4 cranes were used in the development multifunctional projects by Hualing Group
- Two cranes were used in the construction of a monastery and a hospital persons ratio of 0.04, ranking Isani-Samgori 7th out of eight regions



#4 - 11



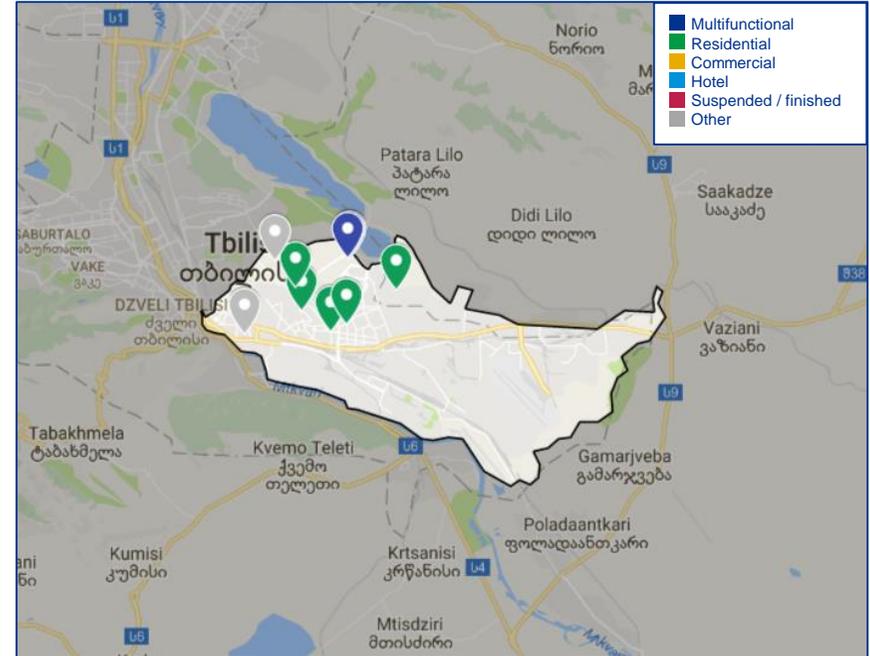
#1 - 271,980



#7 - 0.04



Location



Source: Google maps, KPMG Analysis

Nadzaladevi



Description

Nadzaladevi is the 4th largest area in Tbilisi with the total area of approximately 31 square kilometers (including Tbilisi reservoir) and density of 4,564 persons per square kilometer (excluding Tbilisi reservoir area). There are number of residential, business, entertainment and commercial projects planned for the development of the Tbilisi reservoir

In spite of the region's high population, Nadzaladevi has a lower level of construction activity with only 8 tower cranes currently being installed, out of which:

- 5 cranes were used in construction of residential buildings
- 2 cranes were idle due to cases of suspension or completion of construction works; and
- One crane was used by Caucasus International University

High population of the region and low construction activity, has ranked Nadzaladevi 5th according to cranes per 1,000 person index with 0.06 points



#5 - 8



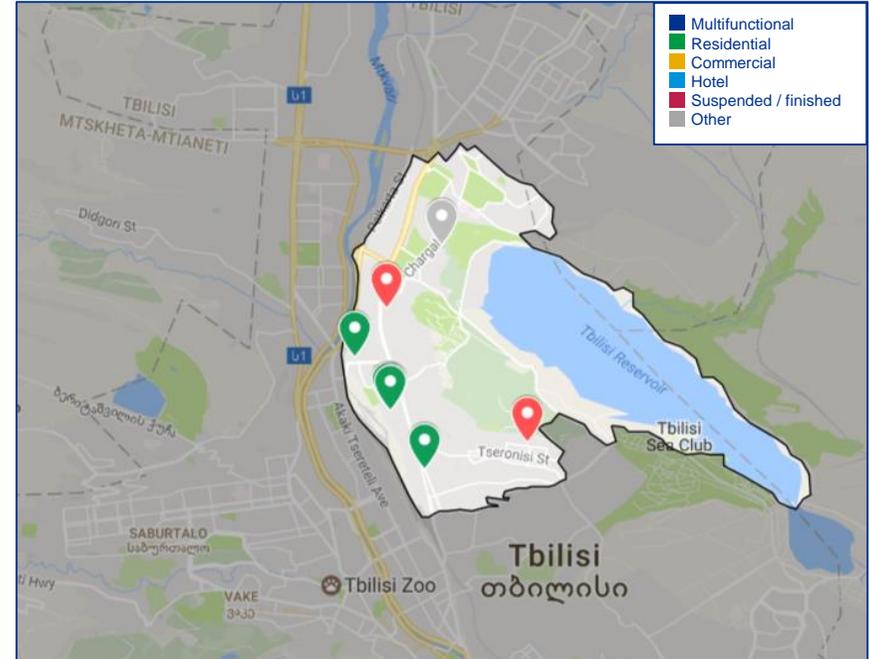
#3 - 140,429



#5 - 0.06



Location



Source: Google maps, KPMG Analysis

Gldani



Description

Gldani is the 3rd largest district of the capital city with an estimated area of 34 square kilometers. Gldani has third highest population density (4,581 people per square kilometer) among Tbilisi's districts. The region stretches from Didube station up to the outskirts of the city in the northern part

Due to the district's population dynamics, commercial infrastructures have been developed at a very rapid pace. Gldani is considered as an urban district, and shares lower popularity among citizens compared to Mtatsminda and/or Vake. This may explain the low number of tower cranes identified and lack of hotel or mixed-use projects

Out of 8 tower cranes:

- 7 were installed for construction of residential buildings
- One crane was used in construction of multifunctional building



#6 - 8



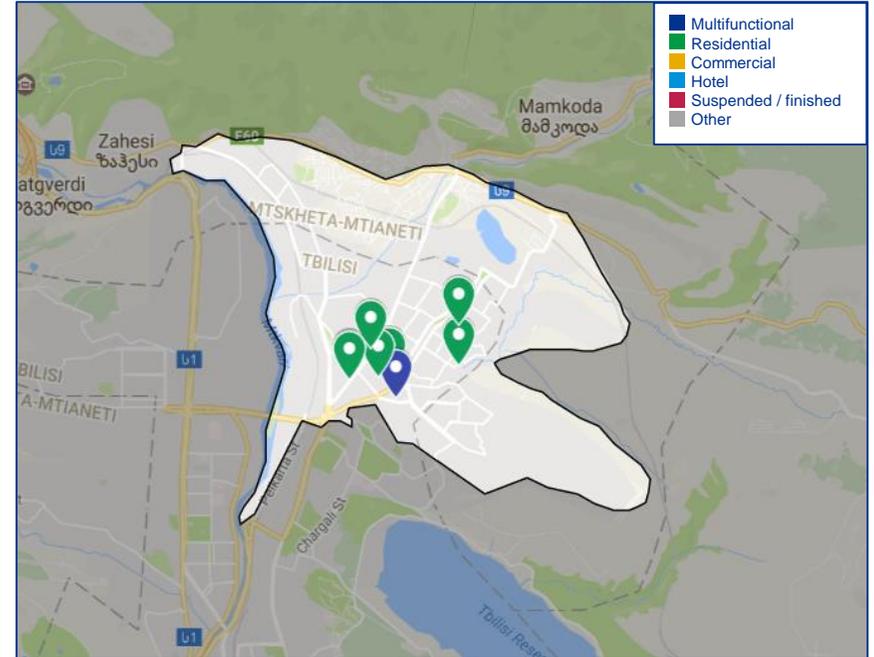
#2 - 155,319



#6 - 0.05



Location



Source: Google maps, KPMG Analysis

Mtatsminda



Description

Mtatsminda, one of the oldest and smallest regions, located in the heart of the city, is considered as the historical center, combining famous monuments, cultural and architectural sights, such as Freedom Square, Opera, Rustaveli Theatre etc.

Total area despite its small population is estimated to be 52,144 square kilometers with the highest density of 6,517 individuals per square kilometer

In Mtatsminda region we have identified six cranes installed at four construction sites, out of which:

- Three cranes were used for construction of 7 star hotel at Freedom Square
- One crane was used for the construction of trade center – “Galerea Tbilisi”
- One crane was installed for construction of a hotel
- One crane was used for the construction of a museum

Despite the small number of cranes in the region, there are more construction sites than those indicated in our survey, the reason for which is the topography of the region itself. Mtatsminda is characterized with small and medium size buildings, allowing the use of mobile (small) cranes instead of tower cranes. As indicated previously, we have excluded mobile cranes from our survey



#7-6



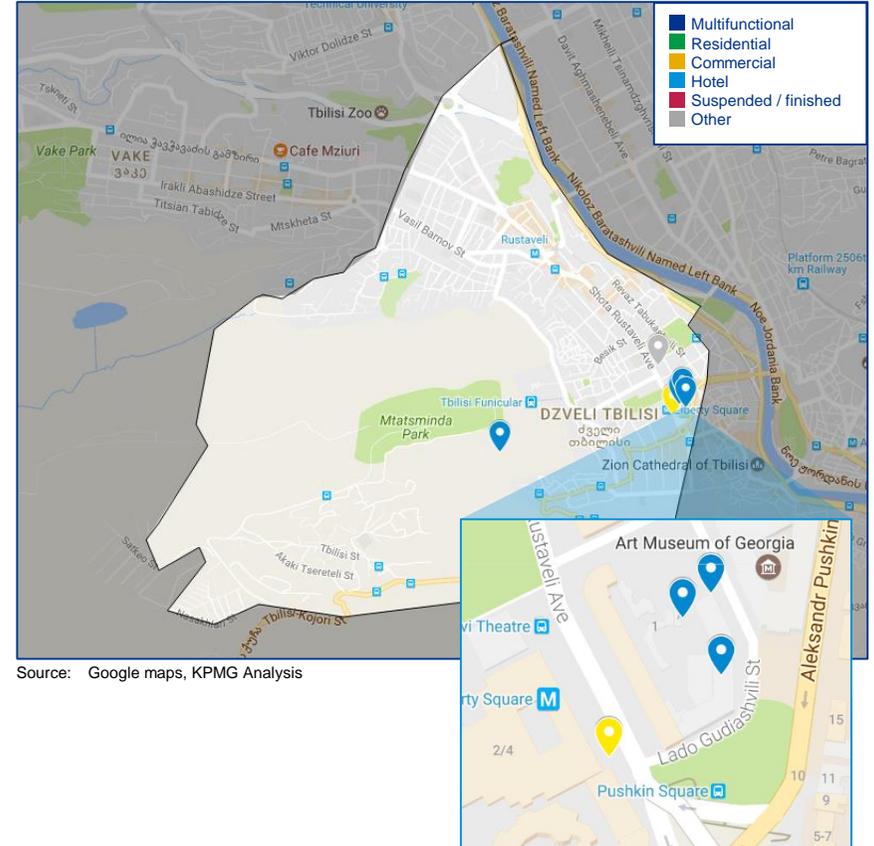
#7-52,144



#3-0.12



Location



Source: Google maps, KPMG Analysis

Krtsanisi



Description

The Krtsanisi region stretches between Old Tbilisi, along the bank of the river Mtkvari, down to Gorgasali Square. The northern part of the region, along with Mtatsminda, is one of the most attractive for tourists as most of the historical sites are in the Old Tbilisi Area. The site is crammed with cafes, restaurants and historical sights such as Narikala Fortress and Abanotubani. The latter is known for its natural hot spring waters rising from the ground. Several major diplomatic missions are also located in this part of the city such as the French embassy, British embassy, Swiss Embassy, Embassy of Japan and headquarters of the EUMM Mission

In spite of the popularity of the region, Krtsanisi seems to lack construction activity. We have counted only 1 crane in Krtsanisi that was being used for construction of a hotel. This may be explained by several factors: Firstly, there are a lot of cultural heritage monuments carrying certain construction restrictions. Secondly, the region is characterized with small buildings, requiring mobile cranes instead of tower cranes

Krtsanisi is also the least populated area of the city with the number of inhabitants amounting to 47,096 persons with estimated total area of 14 square kilometers. Density of the population in Krtsanisi amounts to an 3,264 individuals per square kilometer. Krtsanisi has the lowest cranes per 1,000 persons ratio of 0.02



#8 - 1



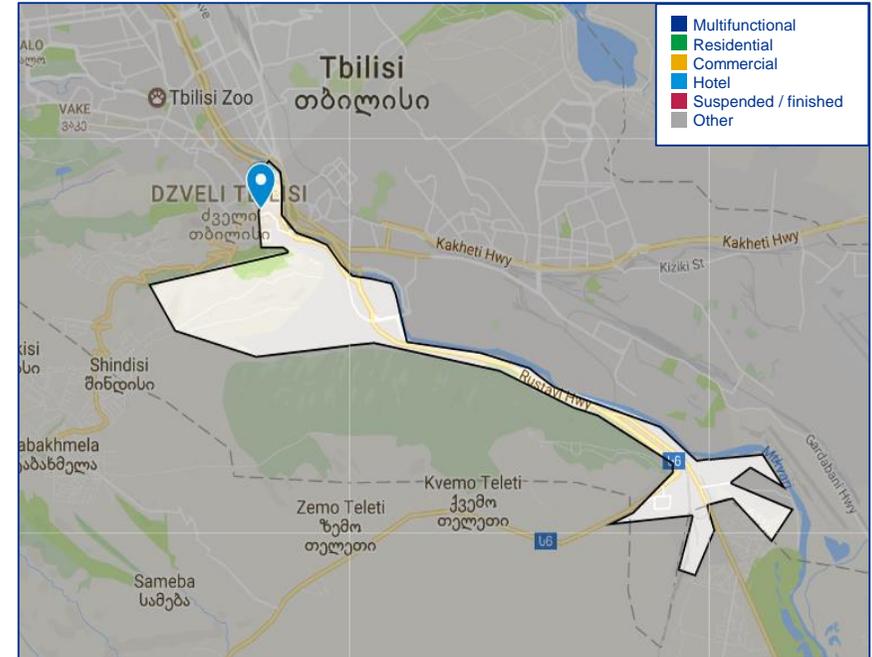
#8 - 47,096



#8 - 0.02



Location



Source: Google maps, KPMG Analysis



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