

## **ISTANBUL UNDER PRESSURE OF SOME MEGA PROJECTS (PREDICTION OF THE EFFECTS OF SOME MEGA PLANS ON ISTANBUL)**

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**Abstract.** Istanbul city as a mega city bears strong background and concepts of history, tradition, culture, and art of Turkish community. Every year, Istanbul with unique traits is able to absorb too many tourists attention all around the world. However, in the recent years, it is under pressure of some projects which are executing or planning to be performed. Construction the third bridge, Istanbul canal, and third airport are examples of those controversial schemes which are still vague and indefinite in some aspects. Even though there are various discussions on the projects from different scientific views, it seems to be necessary to make a general analysis with strict decision on the possibilities of their executions. This article tries to give an image of Istanbul future with consideration to all what the plans are following. With putting together separate comments of researches and university professors on the project, it is attempting to predict the threats and effect in the future situation of Istanbul. Therefore, with regard to differently economic, social, political, ecological surveys of project together, it is summarised the effect of them as a table. Finally this article evaluates how much those projects make sense and meet the primary need of plans.

**Keywords:** Istanbul, analyses, mega projects, plan, future.

### **AIMS AND BACKGROUND**

Istanbul is one of the cultural capital cities in the world and located at a very specific region connecting Anatolia and Europe<sup>1</sup>. Experts predict that a devastating earthquake could hit the city within two to three decades which is to be considered in infrastructure projects. Today, Istanbul is a mega city with over 12 million inhabitants, where population density exceeds 2200 inhabitants per km. The city population nearly doubled in the 20 years between 1980 and 2000, the fastest growth period for the population. For the period between 1990 and 2000, the population growth rate of Istanbul was 29.64% for urban parts and 81% for rural parts of the city<sup>2</sup>. Every year, Istanbul with unique traits is able to absorb too many tourists attention all around the world. However, in the recent years, it is under pressure of some

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projects which are executing or planning to be performed. An inappropriate real estate development could lead to the waste land resource, and also the declining of townscape and environment quality<sup>3</sup>. Construction of the third bridge, Istanbul canal, and third airport are examples of those controversial schemes which are still vague and indefinite in some aspects. Even though there are various discussions on the projects from different scientific views, it seems to be necessary to make a general analysis with strict decision on the possibilities of their executions. This article tries to give an image of Istanbul future with consideration to all what the plans are following. With putting together separate comments of researches and university professors on the project, it is attempting to predict the threats and effect in the future situation of Istanbul. Therefore, with regard to differently economic, social, political, ecological surveys of project together, it is summarised the effect of them as a table. The SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) table is made for each project and the advantages and disadvantages of each project have been researched and thus vision of the future was a head of the practitioners and authorities for their better decisions.

## EXPERIMENTAL

*First project: Canal Istanbul.* The canal is a 50 km long maritime transportation canal, 150 m wide and 25 m deep, to be built between the Sea of Marmara and the Black Sea, at the European part of the province of Istanbul. This project, which is popularly known as the ‘crazy project’ as Prime Minister Erdogan, president of Turkey, has named it, concerns the creation of a ‘new Bosphorus’ in Istanbul<sup>4</sup>. This mega project as well as having persuasive benefits, has drastic threats and various side effects which will trigger some great changes and without any doubts, it will put Istanbul under pressure over long time. As the project disrupts the ecological links existing ecosystem, it can be considered as big menace both for nature and history of Istanbul. Regarding the proposed canal project and new settlement which are planned to locate on the northern part of Istanbul are likely to cause vast environmental problems in the future<sup>5</sup>.

Argument on effects of the project in short and long time: all benefits and reasons mentioned in favour of the project seem scientifically fallacious and actually they will sweep the problems under the carpet. For instance, it claims that the canal decreases the waiting time for vessels to pass the Bosphorus. While, in the case of the Bosphorus Strait, there is neither a shorter, nor longer alternative to connect the Black Sea to the Sea of Marmara. Another defensive reason of the project is that the canal will decrease maritime traffic in the Bosphorus Strait and increase chance for sports, leisure and tourism activities, as well as intra-city transportation. While, the Strait has always been an international maritime corridor and Istanbul was the main gateway city for incoming and outgoing products. So, increasing tourism activity puts pressure on the local government to provide more

leisure-related services<sup>6</sup>. Furthermore, it is claimed that current evidence suggests that the wastewater and ballast water of sea vessels traveling across different seas pose a significant threat to local habitat. However, the Black Sea already suffers such an invasion from an alien species, in the last two decades. And, canals also may facilitate such invasions, as is the case between the Mediterranean and the Red Sea, where both Lessepsian and Anti-Lessepsian migration of species is observed<sup>7</sup> (Table 1).

**Table 1.** SWOT table for Canal Istanbul

| Strengths  | Weakness  |
|--|---|
| <ul style="list-style-type: none"> <li>• The passage of vessels up to 300.000 DWT (deadweight tonnage).</li> <li>• Using the debris of the canal on obsolete quarries in the Northern European Istanbul for building of an airport, with a capacity of 60 million passengers per year.</li> <li>• A seaport.</li> <li>• Motorway bridges passing over the canal.</li> <li>• Railway bridges passing over the canal urban functions.</li> <li>• Residential areas.</li> <li>• Congress and convention centres.</li> <li>• Cultural facilities.</li> <li>• Tourism facilities.</li> <li>• Business districts.</li> <li>• Recreational functions.</li> <li>• Recreation areas.</li> <li>• Some existing lakes formed by filling up of rainwater to old quarries.</li> </ul>   | <ul style="list-style-type: none"> <li>• Extremely high price of construction without any defensive plan to compensate.</li> <li>• Destruction inhabitants and historically drastic damage of that part.</li> <li>• To propagate negative impacts of development through adjacent areas.</li> <li>• The invasion an alien species of medus named Mnemiopsis Leidyi into the sea transmitted by vessels.</li> </ul>  |
| Threats  | Opportunities   |
| <ul style="list-style-type: none"> <li>• To threaten the fertile agricultural land and crucial under-water reservoirs in the southern part of the western bank of the city.</li> <li>• To threaten two lagoon type lakes called Buyukcekmece and Kucukcekmece which are protected by the Master Plan of Istanbul.</li> <li>• To increase the populations tourist and more pressure on natural sources.</li> <li>• To increase the rents, buildings and business.</li> <li>• Reverse the balance between the cold and fresh waters of the Black Sea and the warm and salty waters flowing from the Mediterranean will change.</li> <li>• To dry out the Sazlidere basin, which meets 6.7% of Istanbul water needs.</li> <li>• Cultural shock to inhabitants who deal with the new changes, business, crowd, and so on.</li> </ul> | <ul style="list-style-type: none"> <li>• To increase recreational activities and intra-city sea transportation.</li> <li>• To eliminate waiting time to pass the Bosphorus because it will allow a more efficient passage of vessels.</li> <li>• To eliminate the potential risk of discharge of wastewater from waiting vessels.</li> <li>• To increase the need for logistics and transportation.</li> <li>• To increase business districts for producer services, international tourism areas, and housing for associated workforce.</li> <li>• To minimise threats on population and cultural heritage that are posed by potential marine accidents.</li> </ul> |

*Second project: The new airport in Istanbul.* Transportation is the first problem that comes to mind for a metropolitan city like Istanbul with special geographical position, density of population, widespread setting areas, and historical background and also with various social, cultural, commercial activities<sup>8</sup>. Istanbul is a city with most important social, cultural and economic activities and expected to become one of the mega aviation cities – more than 10 000 long-haul passengers per day – in the coming years<sup>9</sup>. Istanbul New Airport is an airport under construction in Arnavutkoy district on the European side of Istanbul, Turkey. The existing Atatürk Airport, on the European side of Istanbul, does not meet increasing demand and there is an increasing problem of air traffic congestion. There is no space to build an additional runway as the airport is absorbed within the city of Istanbul. North of the airport is covered with industrial areas where as east and west covered with residential areas. Because of the limited capacity, the Turkish Airspace Authority does not allow additional cargo or charter flights to the airport. Airlines which want to start new routes and/or to add additional flights cannot do so.

Arguments on the long-term and short-terms effect of the project on Istanbul. The most important reasons mentioned in the articles as to the third airplane in the limitations that the two current airports have. For example, it says although the Ataturk Airport is very near to the Sea (and Istanbul is surrounded by seas) maritime transport connection and/or integration is not possible at all. The new Istanbul airport will stretch over 7659 ha of land, of which 6172 ha are forest. It is home to a rich variety of wildlife with hundreds of thousands of birds migrating over this very region and the nearby Terkos Lake and other smaller wetlands serving as birds nesting and resting grounds throughout the year. Contaminants such as lead, copper and zinc spreading from business in the third airport will contaminate the Terkos Lake with heavy metals<sup>10</sup> (Table 2).

**Table 2.** SWOT table for Istanbul New Airport

| Strengths   | Weakness  |
|---|---|
| <ul style="list-style-type: none"> <li>• Important transit point for international flights, between Europe, Asia and Africa destinations.</li> <li>• Reaching more than 50 destinations in different countries with less than 3.5 h flights from Istanbul with limitation of the total passenger capacity to 100 million passengers/year in Ataturk and Sabihegucen Airports.</li> <li>• Attraction of passengers in the region of European part to use the airport because of limitation of the current airport for international flights.</li> <li>• Main metropolitan airport for passengers and cargo.</li> </ul> | <ul style="list-style-type: none"> <li>• To cut 2513341 trees in the area including pine, spruce, oak, beech, juniper, redbud, willow and poplar trees.</li> <li>• To damage the forest located in the airport land.</li> <li>• To destroy the nest of thousands of birds migrating over the region.</li> </ul> |

to be continued

Continuation of Table 2

| Opportunities   | Threats   |
|---|---|
| <ul style="list-style-type: none"> <li>• To be the major aviation centre of Turkey all the time.</li> <li>• Making the airport as a centre of attraction and developing surrounding areas as an airport city.</li> <li>• To have adequate and sufficient area for both airport and airport city development.</li> <li>• To develop in the vicinity of the airport, social-cultural activities, business and finance centres (with office buildings), convention centres, logistic centres (with warehouses), shopping centres, hotels, recreation and accommodation areas.</li> <li>• To have multimodal transportation modes, such as direct access or connection to interstate highway and railway systems, express train and metro facilities.</li> <li>• To have appropriate infrastructure for existing and future needs with detailed master planning studies.</li> <li>• The opportunity for this kind of aircraft operations which will maximise the passenger transport.</li> <li>• To eliminate noise problem in Ataturk Airport because of the dense settlements surrounding.</li> </ul> | <ul style="list-style-type: none"> <li>• To threat wildlife of Terkos lake</li> <li>• To damage the forest.</li> <li>• To threat the lake near and other wetlands beside the airport.</li> <li>• More passengers and more pressure, more pollution, and more destruction over long time.</li> <li>• Increase the population.</li> <li>• Effect on history and nature of the north.</li> </ul> |

*Third project: The third bridge of Istanbul.* The concentration of the world population in urban areas is growing at an enormously rapid rate creating megacities, currently defined by the United Nations (UN) as cities of over 10 million people. Although there are numerous examples in the developed world, megacities are primarily a phenomenon of the developing world<sup>11</sup>. With an official population of 13 255 685 Istanbul is the most crowded metropolitan city in Turkey. 15% of Turkey total population live in Istanbul<sup>12</sup>. If Kanal Istanbul is indeed built, this will be a disaster for the entire Marmara region, as it would bring the highly polluted waters of the Black Sea into the Sea of Marmara, eating away at the oxygen levels of the Marmara, and cause a new pollution problem that the authorities possibly may not be able to deal with. Salt water will leak underground, as it flows through the waterway, and affect underground water sources, and possibly the forests. The real problem, however, is the new settlement areas and the population boom that will go with it understandably the real purpose of the project<sup>10</sup>. The Third Bridge, which is controversially also called the Yavuz Sultan Selim Bridge, was met with protests considering that Yavuz Sultan Selim has ordered the massacre of approximately 40 000 Alevis in the 16th century. 116:002 Nazli Tumerdem budgets<sup>13</sup>. The Third Bosphorus Bridge, as a part of Northern Marmara Motorway, is also

considered as a megaproject with its approximate budget of US\$2.5 billion<sup>14</sup>. However today, a third bridge over the Bosphorus could have much more catastrophic and irreversible impacts upon the city when compared to any former structure that has transformed the geography of the city. First of all, the construction is a fait accompli one since it is not approved by the preservation council and it lacks a participatory planning medium which would ensure possibilities of opposition and dispute at local levels<sup>15</sup>. Its route passes directly from natural barriers of the city like ecologically sensitive forests, water reservoirs and catchments<sup>16</sup>. This is highly problematic since the experts point out that it has caused the deletion of 245 thousand trees so far<sup>17</sup>. Probably it will also have adverse effects on the areas of drinking water reserves, lead to an increase in local temperatures and cause the extinction of endemic plants and animals<sup>18</sup> (Table 3).

**Table 3.** SWOT table for Third bridge of Istanbul

| Strengths   | Weakness   |
|---|--|
| <ul style="list-style-type: none"><li>• Support rail and sea transportation vehicle, autobuses.</li><li>• Solve the problem of metropolitan such as the traffic of the two other bridges.</li></ul> | <ul style="list-style-type: none"><li>• Increase the vehicle passing from Asian side to European side without increasing in number of passengers.</li><li>• Exhaust gases emitting vehicle.</li><li>• Increasing rubber tires.</li><li>• Damage lake and dam located in the North area.</li><li>• Damage forest of Kocaeli and Thurace Peninsulas.</li></ul>   |
| Opportunities   | Threats  |
| <ul style="list-style-type: none"><li>• Solving the traffic problems of Istanbul.</li></ul>   | <ul style="list-style-type: none"><li>• Cutting blood vein of Istanbul.</li><li>• To terminate water and forest sources of Istanbul.</li><li>• Threaten water collection and flora-fauna of ecosystem.</li><li>• Lack of water in the global drought period by using the water reservoir to build the bridge.</li><li>• Harm to natural Black sea coastline by linking to the Black sea coastal highway.</li><li>• To cause settlers to leave their inhabitants.</li></ul> |

CONCLUSIONS

Cities are characterised through their urban fabrics and urban fabric can be defined as the ‘artificial geography of structures and infrastructures that are superimposed over the natural geography’<sup>19</sup>. For centuries, cities have been developed according to their geographies and topographies, from which topologies were created that determined the social, economic, spatial and phenomenological interactions of cities. However, it is not a surprise that in the age of Anthropocene, geography is no longer considered to be the preliminary shaping agent of urbanism, but it is

urbanism that emerges through activities of humankind that shapes the geography. This could be defined with the term of geo-urbanism. The renowned urban planner Bruno Secchi claims that whenever he moves one square meter of soil from one place to another to build, he is correcting and improving natural geography. However, he also insists that these projects have to be useful and not be done just to change the world<sup>20</sup>. In the specific case of Istanbul, the city that has been the main focus of Turkish governance, the realisation of three projects is very questionable within the framework of geo-urbanism. The projects lack transparency in its process and is opposed by experts and NGOs (Non-Governmental Organisation). It is built on the northern regions of the city which are the most vulnerable and valuable naturally and ecologically. Moreover, the laws liability to change does not promise that these regions will be protected in the years to come. Most importantly, the previous examples show that development proceeds without being faithful to any master plan. It can be argued that the city of Istanbul always had a tradition of constructing mega structures and mega projects throughout its history. Whether it be a way of proving dominion of mankind over nature through artifice or another tool of visibility for the competence of the emperor and the sultan over his people; structures like Hagia Sophia, Hippodrome of Constantinople, the Valens Aqueduct, land and sea walls or Suleymaniye Mosque and many more can be considered as mega projects of former times. These man-made structures created new landscapes and territories within the city.

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