

# Ways to restore the landscape of city transport areas

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**Abstract.** Architectural and landscape reconstruction of the city territory and its separate parts in areas of conflict, including former industry, transport, changing the ecological situation in areas that do not meet ecological requirements, using different approaches in the reconstruction of these areas, with increasing the components of nature, are the main measures of change its content is explained. In the article, greening and beautification works in the regions, when using decorative plants in climatic and construction zones, selection of plants based on the analysis of bioecological characteristics, the use of the method of "adaptation - introduction" of the components of nature to the structure of the transport area, the design of the landscape environment of the cities of Uzbekistan issues of complex organization are analyzed. It is also recommended that the transformation of the slopes of the railway planters into cascading - floor-by-floor compositions using linear plantings of plants will open up new possibilities in the design of hills sloping down to city streets.

## 1 Introduction

In the modern world, one of the urban areas that constantly negatively affects the ecological condition of the city, as well as the aesthetic appearance of the landscape, is the area intended for transport, which is a permanent damage to the urban landscape and the environment of residential areas. delivery locations.

Problems that are intrinsically related to the processes of development of transport systems in residential areas: the high level of gas pollution of city highways, the increase of irregular parking spaces, the lack of practical work on improving the landscape design of areas adjacent to roads, the placement of transport facilities include the increase in the size of areas allocated for transportation (crossings, overpasses, overpasses), the transformation of areas with freight stations into disturbed areas, the absence of natural landscape components in station complexes, etc. [ 1].

Uneven distribution of transport systems in urban areas creates environmental problems along railway stations, continuous highways, and parking lots. The listed zones have their own characteristics in terms of the negative impact of settlements on the environment. Approaching these problematic situations through scientifically based ways, rationally

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changing the natural components of the landscape can reduce the impact of these areas. can change from negative to positive [2].

In the implementation of the rehabilitation of transport areas, it is necessary to: reduce the negative impact of transport communications on the urban environment and change their aesthetic aspects, organize the landscape of parking lots while increasing the importance of natural components of the environment in the system of city streets and squares, train station complexes and in the implementation of rehabilitation processes by taking measures to restore natural parts [3] in the areas of cargo transportation stations, the set of measures includes the following [4, 6]:

- Change the landscape of the station areas.
- Restoration of the territories of former cargo stations, lost landscapes.
- Restoration of landscapes of urban railway transport areas.
- Rehabilitation of the landscape of city parking lots.
- Rehabilitation of the landscape of urban transport infrastructure objects.

Existing train station complexes in the city affect the state of the city's ecological situation, but also as a source of increasing the level of atmospheric air pollution. In this case, the measures used to eliminate this problem are not effective enough, affecting the nature of the adjacent areas. For example, the natural components of the landscape have been lost due to irregular planning of railway sections of railway stations in big cities like Tashkent and Samarkand.

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In the residential areas adjacent to the railway stations, the relations of the inhabitants with the natural components have become unclear, and the lack of plants suitable for the climatic conditions of the region in the railway areas has a negative impact on the environment. Changing the landscape of railway stations has a positive effect on the elimination of long-standing environmental problems, and the aesthetic aspect of the environment changes depending on the quality of the process. N.N. As Sinisina [5] noted, it is necessary to solve the following problems in the organization of these lands: activation of the use of the territory according to its purpose; increase the interdependence of the constituent parts of the territory; loss of features of the railway separating the surrounding facilities from each other; environmental protection of neighboring areas from noise and other harmful effects is effective in achieving ecological stability.

## **2 Materials and methods**

Faced with the above-mentioned problems in the conditions of the rapid development of techniques and technology, in recent years, the modern foreign practice of changing the landscape of the urban environment has put forward a number of noteworthy projects to stabilize the environmental situation in the areas of the largest transport hubs [4]. Such a proposal is to stop surrounding the areas near the railway with noise-proof buildings or dense vegetation, and to create usable areas on them and to actively increase the number of plants in these places. based on transition to events.

The example of the Atlantic Park created at the Montparnasse train station in Paris shows that experts face many engineering problems when applying landscape design to create green spaces in such transport facilities [4]. One of the problems is related to the

problems of providing the necessary conditions for the development of ornamental plants on concrete paved surfaces in the station area.

The inclusion of the engineering infrastructure objects of railway facilities into the composition of "slightly modified landscapes", the use of station complexes in the reorganization of the landscape is of particular importance. The main reason for this is the large number of engineering structures in their composition, forcing to look for ways to increase the share of natural components, including objects combined with objects for practical purposes [1]. Social orientation is manifested in the significant expansion of their opportunities to be in the natural environment located on the roof of the station, taking into account the interests of various age groups of the population living nearby. In addition, due to the sufficient lighting of the garden, it will be possible to use it even in the dark parts of the day.

One of the most expensive projects created on the roof is the green garden on the roof of the Montparnasse station, but this garden can be an example of the modern technological possibilities of changing the ecological and aesthetic appeal of the space under the influence of significant anthropogenic factors. In these processes, the memory of the landscape makes it possible to increase the ecological stability of the space. Providing the necessary conditions for the long-term use of natural components of the landscape, rational placement of landscape components reduces the impact of transport areas on the ecological environment.

The use of such solutions is considered to be the most reasonable way in terms of speeding up the utilization of areas in the reorganization of the landscape of railway areas. During this process, the increase in the number of new functions must be carried out simultaneously with compensation for the broken nature.

Among the no less important measures to improve the environment of a large city and ensure the ecological stability of its landscape are re-landscapes of former warehouses and cargo sorting areas of railway systems that cross the borders of residential areas. also includes modification [6].

It is possible to clean the "abandoned" areas of the city separated from the main functional areas located between railways and transport routes from the railways that have lost their function and to use the freed land effectively.

The measures for landscape reconstruction of such areas are alternative ecological and urban planning aspects of the urban space and visual-spatial harmony of the landscape due to the fact that "little changed landscapes" will displace the engineering-technical framework that has lost its importance by the components of nature. is becoming an integral part of the reorganization of urban architectural landscapes [2].

In a number of examples in modern foreign practice, there are opportunities to change even the degraded parts of the landscape by clearly changing the environmental situation.

The relevance of this type of landscape reconstruction of the area near residential buildings is based on the fact that the railway has an inevitable impact on the environment of the residential area. If the principle of biopositivity and ecological continuity is used, it is possible to return to its original natural potential by renewing the composition of the green landscape areas and high vegetation of the area.

Convert the disused railway area into a green garden area by filling the railway track areas with artificial relief devices planted with native and introduced shrubs and trees that bloom continuously for 4-5 months with an evergreen landscape. can be changed.

Choosing a method of organizing the area in geometric shapes based on the contrast of a number of rectangular modules with a unique color of plants compared to the arc-shaped environment in the railway station, a more expressive image of the natural components of the landscape in the urban environment. allows to create [6].

The transformation of the slopes of railway planters into cascading - floor-by-floor compositions using linear plantings of plants also opens up new possibilities in the design of hills sloping down to city streets. The addition of a multi-story staircase at the entrance with a system of floating ramps helps to create an unusual geometric shape of the relief on the slope and achieve a variable area. Another way to improve the visual-spatial and ecological characteristics of the urban landscape is to turn the former railway sidings with their own devices into parks with greenery, a certain "place memory", with plants Enclosed and modified transport structures become a permanent symbol of the previous use of the area in the urban landscape [1, 6].

In accordance with the requirements for improving the ecological stability of the settlement areas, the rehabilitation of the landscape of the railway transport areas is inextricably linked with the issues of regulation of transport structures within the settlement while maintaining the balance of natural and artificial components of the environment [3].

"Adjustment" of the natural components of the landscape to the structure of transport areas can form an area that meets the requirements, such as improving the aesthetic qualities of the environment [4].

The above-mentioned application of the "adaptation-introduction" method of the components of nature to the structure of the transport area allows to change the quality of the area where vegetation has been partially lost as a result of practical use.

Along the boundaries of the existing one-lane parking lot, when choosing the distance between the trees when planting trees, the distance is determined according to the size of one or two parking spaces, with a reserve area for turning the car, and this distance is 8 or 12 meters [4]. The inclusion of trees in the structure of the transport area not only divides the traffic section of the road into functional zones, but also creates the basis for achieving an effective result by introducing plants to ecologically unstable parts of residential areas as a factor of environmental stabilization.

In the process of reconstruction of parking lots in an urban environment, the selection of a geometric view of the green space that separates them between the parts of the parking lot helps to achieve harmony in terms of aesthetics. The combination of such rectangular and circular modules is one of the components of the landscape design and helps to discover the unique features of the area. The inclusion of sidewalks in the composition of landscaped areas creates additional conveniences in the use of parking spaces, allows to separate the passageways of residents from the area where cars move [1]. As a distinctive feature of parking lots, materials and pavements of contrasting color and tone can be used, which facilitate the visual demarcation of traffic and pedestrian areas.

### **3 Results**

The method of relief blocking of transport areas can be considered as one of the most effective methods of visually delimiting the areas where vehicles are located in the urban environment, especially when these areas are located adjacent to residential and transport areas [4]. Changing the topography of the area between the parking lot and residential areas provides a more stable visual demarcation of these two areas throughout the year than tall plants planted in a row.

Laying the natural component of the landscape on the surface of less modified landscapes, changing the ecological and scenic aspects of transport areas, placing plants resistant to harmful gases in accordance with the terrain is considered an important means of unification in less modified landscapes.

The rehabilitation of the landscape of transport infrastructure objects not only increases the ecological potential of the shrinking green areas in residential areas, but also provides an opportunity to introduce a functional meaning in the transformation of the areas.

"Incorporation" of the natural components of the landscape into the structure of the transport area has a much broader meaning, in which engineering-transport devices cover the slopes with plants or perform specified tasks, including a system of areas intended for active recreation issues of organization will be resolved.

## 4 Discussion

Using the principle of biopositivity, one of the manifestations of influencing the ecological and aesthetic aspects of transport areas is the use of plants of one or different forms at the intersection of roads in separate directions [6, 9]. In this case, the manifestation of natural components should not contradict the requirements of the functional use of transport facilities, but completely abandoning the filling of its surface with asphalt or concrete is an important step towards improving the ecological situation.

Separate green lines are green areas in the center of traffic intersections, green spaces between car turns near tunnels and overpasses, and small lanes of straight traffic roads are objects of landscape design [3]. Turning each listed part of the urban environment into a "landmark" of a certain landscape with the help of natural materials allows to achieve its uniqueness in landscape solutions, with the help of such landscape solutions, the technical characteristics of the environment are combined.

Green areas organized on the basis of the principles of aesthetic harmony and semantic interpretation are realized by using types and forms of plants resistant to climatic conditions that require little attention.

The area is decorated with various ornamental, long-lasting flowers (*Lagerstroemia indica* flowering period 5 months, *Pyracantha crenulate*, *Hibiscus syriacus* L., *Hibiscus syriacus* f. *Alba*, *Buddleja davidii*., *Buddleja davidii* f. *alba*., *Buddleja davidii* f. *Rosea*. flowering period 5 months , *Hydrangea paniculata*, *Hydrangea arborescens* flowering period 3-4 months) based on national ornaments composed of plant species, considered as a visual area consisting of a graphic pattern and a volumetric shape can give highways a highly aesthetic appearance, but also a landscape The successive attractive changes of accents in the solution have a positive effect on the mental state of the drivers.

The increase in the speed of car traffic and, accordingly, the size of engineering and transport structures, the need to reorganize the landscape in the functional filling of the spaces between them emerges. The restoration of natural components of the landscape, which divides the area into zones and gives attractiveness to this place, using landscape design solutions for the exterior of residential areas, is becoming more and more popular today.

From the point of view of analyzing the potential of reconstruction of the transport area, it is noteworthy to turn the part of the city with a multi-storey traffic intersection into a park area.

At the borders of the intersection, a curved green lawn gives variety and attractiveness to the landscape by placing ornamental plants in the form of a fan and a straight line when creating a system of places. Adherence to social orientation is reflected in the placement of sports and health facilities, shops and cafes in the areas near the intersections. A change in landscape design in transportation areas will allow urban areas that are designated for engineering purposes and then degraded to be used for recreational purposes.

The fact that the territory of Uzbekistan stretches from the north-west to the south-east ensures that its natural conditions are variable.

The territory of our republic is characterized by a harsh continental climate, hot summers and cold winters, dry air, sharp daily temperature fluctuations, and a large amount of moisture evaporation. Hot "Afghan" and "Harmsel" winds blow in many regions of Uzbekistan in the summer season, and cold winds prevail in winter. The mentioned factors

are extremely unfavorable for green construction and have a negative effect on the growth of trees, shrubs and ornamental plants.

Extreme (severe) winter and summer temperatures, low relative humidity and high level of evaporation, soil and hydrological conditions are of great importance in determining the number and size of tree and shrub species used for landscaping. The absolute minimum temperature:  $-38^{\circ}\text{C}$  in the north (Ustyurt),  $-25^{\circ}\text{C}$  in the south (Termez),  $-30^{\circ}\text{C}$  in Tashkent,  $-35^{\circ}\text{C}$  in the foothills limit the planting of heat-loving, southern exotic trees and shrubs [8-10].

## 5 Conclusion

The problems that arise during the reconstruction of the landscape of transport areas of the considered urban environment show that it is necessary to improve the methods of identifying natural reserves and changing urban areas in order to achieve sustainable development of the regions of our republic.

During the analysis of foreign practices in the rehabilitation of transport areas, it became clear that the growth of the possibilities of technological solutions can be seen that the demand for the harmonization of residential areas by turning transport structures into objects of architecture and landscape reconstruction is increasing.

It is appropriate to choose ornamental plants after analyzing the bioecological characteristics of plants in the areas of Uzbekistan for greening and beautification works in climatic and construction zones.

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