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### **Ecological-aesthetic reorganization of the foot-traffic network on the NAU territory**

*An analysis of the existing system of pedestrian-traffic network on the National Aviation University territory has shown that despite of all its reliability and aesthetic attractiveness, it needs to be reorganized and improved to increase the level of environmental safety and aesthetic-artistic expressiveness in order to achieve the required level of leading countries of the world. To do that it is necessary to separate pedestrian and traffic flows within certain sections, change covering of sidewalk on the ecologically safe covering, create parking lots and comfortable recreation areas.*

At present time, there is an urgent need to develop and improve the existing pedestrian and traffic system on the territory of one of the leading universities in the world of the aerospace profile - the National Aviation University in Kiev to reach the level of advanced countries (USA, UK, China).

The current state of the existing pedestrian-traffic network on the territory of NAU is characterized by sufficient reliability and aesthetic appeal: traffic approaches and footpaths, surrounded by a landscaped area, operate quite efficiently.

During the existence of NAU, established to provide a rapidly developing aviation industry with qualified flight and maintenance personnel, the university has undergone two main periods: formation and reconstruction. In the first period there was intensive construction and improvement of the territory with the stable functioning of the educational process. The difficulties of the formation period were not only in the appropriate combination of the educational process and construction, but also in the need to assert the rights the university to preserve the architectural appearance of the erected group of buildings in the Stalinist Empire style in times of "struggle against architectural extravagances". The main attention in the project was given to the main building, which formed the Komarov Avenue development on the transport highway section, creating a prestigious, impressive architectural image that meets the required urban planning conditions of that planning zone. The plan configuration of this main building also reflected the style characteristics of the Empire construction - a strictly symmetrical solution with the main architectural accent in the form of a stylized Corinthian portico in the center with arched openings and a wide front staircase in front of it. The general form of the plan corresponds to the traditional solutions typical for the Ukrainian architecture of the Baroque era; an example is the main building of the Agricultural Academy, designed by the architect Dyachenko in Kyiv.

Along the Garmatnaya Street, which is perpendicular to Komarova Avenue, the university's academic buildings are located as well. A part of the buildings was placed along the inner diagonal transportation connection, and in the central zone a hangar was built to demonstrate the flying equipment to the students.

The master plan of the university was an almost regular triangle with three entrance gates, quite rational concerning the configuration of entrance gates and pedestrian footways. The central place in this structure was the internal boulevard, running parallel to Garmatnaya Street, from the entrance gate to Komarova Avenue. Here the chestnut trees were planted by the outstanding aviation figures of the country (cosmonauts, aviators).

The shortcomings of the pavilion location of architectural objects and the pedestrian traffic network structure formed on their base are the remoteness of the buildings from each other and therefore greater length of connecting elements, which cause the construction cost increase and the time required to overcome these distances, leading to fatigue of students and teachers. Moreover, the autonomy in location of educational buildings leads to an increase of the enclosing structure's perimeter and requires additional protection measures in comparison with the compact location of facilities, which also increases the cost of erecting buildings and their operation.

The reconstruction period, performed by Giprovuz, was caused by the urgent need to expand the educational capacity because at that time the institute GVF served as the main institute of higher education in former USSR training the civil aviation personnel.

The architects made cardinal changes in the compositional structure of the University complex, significantly increasing the architectural volumes and creating extended expressive facades, using the principle of blocking. The main compositional accent was a 16-story educational building-plate, orientated perpendicular to Komarova Avenue and surrounded by three-story buildings.

The long facade was created along the Garmatnaya street a due to blocking of the existing buildings of two architectural types - a rectangular two-story (fourth educational building) and a five-story atrium. Thus, a system of blocked buildings was created, which had a limited number of entrances with a fairly rational, typical for higher education institutions, planning structure that ensures the effectiveness of a various educational processes.

In addition, the inner space of the university complex was filled by center of culture and art building, whose plan resembles a truncated cone. This building is connected with the eighth academic building by a transition gallery. Such decision has made the outer and inner spaces secure, cozy and aesthetically expressive, and the internal connection system more saturated and concentrated. A certain variety in this architectural system is made by autonomously located buildings (hangar block, chemical laboratories block, archive block, etc.).

Noting the thoughtfulness and rationality of all adopted decisions, it is necessary to pay attention to some shortcomings:

- the creation of a new compositional accent in the form of a 16-story block-plate from the side of Komarov avenue did not lead to moving the administrative apparatus of the University into it. The administrative apparatus had preferred the "classical" architecture, its high aesthetic qualities, thanks to which, both its external and internal aura positively affects not only the administrative apparatus but also visitors (teachers, students, guests);

- one of the important compositional accents - the fountain in the recreation area, near the fourth building, did not become an attractive part of it and is not currently in operation.

**Conclusions.** Today's realities indicate that pedestrian and traffic network existing on the territory of NAU requires some eco-aesthetic reorganization to achieve the level of the world advanced countries universities of the air-space profile. To do that it is necessary to realize the following:

- Separate the pedestrian and traffic flows in separate sections of pedestrian-traffic network;

- change the environmental harmful asphalt concrete covering of sidewalk on the ecologically safe covering like colored concrete paving tile;

- create a parking lot on NAU territory instead of on-street parking to unload pedestrian-traffic network and areas around existing buildings.

The implementation of these proposals will significantly improve the ecological safety and the esthetic attractiveness of the University territory.

### References

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