



THREE IMAGES OF ONE RAILWAY STATION

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ABSTRACT

The article is devoted to the history of Sochi and Adler railway stations, evolution of building tasks and transport infrastructure in modern architectural environment. In connection with the Olympic Games in Sochi in 2014, the value of architectural and functional characteristics of the objects for the Black Sea metropolitan city has increased dramatically. Analysis of options for the design decisions of the railway station in Adler provides an opportunity not only to compare embodied architectural and construction images, but also to assess trends in the development of transport integration strategy.

ENGLISH SUMMARY

Background. On the eve of the Olympic Games in Sochi there have been a lot of talks about one of the important infrastructure objects- railway station in Adler.

Previously, no one was particularly interested in the old, small, stone, single-staged railway station, built at an intermediate station on the way to the popular Soviet Black Sea resorts between the cities of Sukhumi and Sochi. Closest to Adler, Sochi railway station was built in 1952 by architect A. Dushkin, chief architect of Metroproekt and manager of an architectural studio of the USSR People's Commissariat of Railways. This station represented, as well as all its southern counterparts, a front light building, customizing visitors to relaxation. However, one status difference existed: it belonged to the main resort of the country.

Quite another matter was Adler railway station (Pic. 1). For this suburb of Sochi the major transportation hub has always been the airport. A small building of the station had capacity of 750 people, which could be satisfactory for the needs of resort's intermediate station. But due to the Olympics, the situation changes dramatically. Adler has become the main transport interchange hub, reception center. A completely different type of railway station was required- a multifunctional complex, prototype of the future, combining rail, road, air and sea transport (for prospective construction of port terminals). And the old building could only be saved as a historic building, later adapting it into a museum.

As for Sochi railway station, architectural monument, it was decided to expose it only to reconstruction, technical re-equipping, while maintaining its inherent architectural forms.

Objective. The objective of the authors is to provide information on the construction of Adler railway station from the prospective of unrealized projects and realized options.

Methods. The authors use analytical method.

Results. Capacity of a new station has increased significantly – up to 2 thousand passengers or, if usual modern classification of stations is followed, its capacity grows to 15,000 passengers per hour.

Characteristic location of Adler railway station is its cramped location between sea on one side and town buildings and mountains on the other (Pic. 2). Modern architectural ideas of «flowing of station's space» come to the rescue and the railway station was designed like a large station concourse in the shape of an oval body with supporting blocks between the tracks.

The first draft of the new station, proposed by the institute «Mosgirotrans» did not contain ideas of the station square use, since it had to be located above the station space and, moreover, it assumed stylobate at the lower floor, which would become a new area with platforms for loading and unloading of urban and personal transport. Parking places were provided for (Pic. 2–3). Passenger spaces in the project were located at the stylobate level and above. The floor under stylobate had to be used not in full, only in outside parts where service premises were located. The remaining area had to service for passengers to go down on platforms.

The whole structure (Pic. 3) was given simplicity by the glass cover of the station building, proposed in the project as a winter garden or as a commercial space for public events such as exhibitions, receiving delegations, etc. Project's plans were developed by design institute «National Urban Planning Institute» based on the ideas of the architect Yu.M.Orleanskiy from JSC «Mosgirotrans».

Staff of the department «Building constructions, buildings and structures» (MIIT) from the very beginning with a great interest kept track of the Olympic construction projects, and three years ago, a fifth-year student A. N. Loginov was submitted sketches, basing on which he developed two alternative space-planning decisions for Adler railway station, which were retaining its exterior. In addition, it was necessary to calculate irregular structures, since distance of supporting blocks between tracks was not consistent with modular system in construction.

At the same time the acoustic department of Research Institute for Building Physics has announced a contest of thesis projects on practical solutions to acoustical problems. Loginov's project received the prize for the original version of noise protection of the hotel complex territory for project of Adler railway station. He put pavilions for public transport on the way of noise transmission with the walls of the convex shape, reflecting noise in the opposite direction. That is, the contestant has blocked distribution of direct sound and focused a reflected one.

Unfortunately, Adler railway station, built on the project of SPA «Mostovik» does not leave the impression of that lightness, even elegance, which the option of Mosgirotrans had. But, it is entirely possible that it takes precedence over unrealized project in other, more relevant indicators.

The built railway station is a multi-purpose building, which includes not only the function of

passenger services, but also others, accompanying implementation of a large complex of tasks. The list of work spaces includes warehouses, administrative offices, and multilevel car parking area, banks and so on.

Railway station is divided functionally into three zones: the urban part – from the side of the city and the station square, concourse – the part that hangs over the tracks, maritime part – from the sea side and multilevel car-parking space.

The shape of a new station resembles a huge bird's wing. In German word «Adler» means «eagle», a mountain eagle. But a word of German origin unlikely should be considered here. But, nevertheless, the idea of building-wing was adopted for development.

As for the shape of the building, there is another analogy: building is a wave on the sea shore. Smooth sloping part goes into a peak, which has a negative grade.

Great opportunities in the formation of the building were given due to its cladding with facing composite aluminum panels, glazing of the station assumes blocking of infrared and ultraviolet radiation, which saves energy on air conditioning. Electricity is generated, by the way, by solar collectors located on the roof. Thus, a new building in Adler meets all objectives of a «smart station». And yet, it is probably the only station in the world, coming out of that, people get to the seafront promenade. Bus station and park adjoin it at the west side.

Grandness of the building caused many building difficulties in construction volumes and timing. Visiting Sochi in March 2013, employees of the department noticed a lot of problems.

It is especially nice to know that this huge object was successfully completed on time.

Railway line to the Olympic Village goes from Adler railway station, on the main branch from Sochi. And there are two autonomous railway lines: to the airport for aeroexpress train and to Krasnaya Polyana (Alpica service) for express train «Lastochka», connecting seaside with ski resort.

The construction of these branches significantly reduced travel time to facilities and maintenance services of the resort moved to a modern level.

Airport was reconstructed and a new railway line, being a part of the building, was constructed.

As for the road to Krasnaya Polyana, its uniqueness should be mentioned. First, there is not one line, but two: railway and road, running parallel to each other, which greatly improves the availability of the ski resort. Secondly, the conditions for the construction of both roads were associated with greater difficulties. Given the terrain relief, it is quite easy to imagine that there have been very little direct horizontal sections: tracks had to be constructed in tunnels, on bridges, all designs were calculated individually. Thirdly, the roads run through the narrow mountain gorges, where stormy mountain river Mzymta flows – and its character had to be taken into account.

Stations in this area are made light, functional and fit well in a mountain landscape. According to reviews of Sochi residents and visitors, it is comfortable and pleasant to use it.

Conclusion. Thus, the transformation of station complexes, prepared for the Olympics in Sochi, meets one of the strategic objectives of Russian Railways, which is in line with the global trend. It concerns the creation of large intermodal passenger transport hubs – hubs where passengers can not only make transfers or leave the luggage for storage, but also get a whole range of services they need.

Modern principle of the separation of passenger traffic, security and self-sufficiency of stations provide a creative approach to the organization of their internal space, features of this functionally complicated complex of services should be taken into account, space-planning decisions should be discussed with designers at the design stage and the placement of facilities should be adjusted in the process of operation. The authors hope, that railway station built in Adler will successfully stand the historically prescribed long test of passenger traffic.

Key words: history, railway station, city, transport infrastructure, urban construction correlations, multifunction links and service.

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