

PUBLIC HYBRID SPACES AS A COMPONENT OF CONTEMPORARY CITIES

Katarzyna Pluta

D.Sc. Ph.D., Arch., Associate Professor of Warsaw University of Technology

ul. Koszykowa 55, Warszawa, 00-659, Poland

Faculty of Architecture, Chair of Urban Design and Rural Landscape

Warsaw University of Technology

katarzynapluta1@wp.pl

+48 22 234 5556 +48 22 234 5090

+48 22 628 53 70 (F)

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Abstract

The main objectives of research work presented in the paper are: 1/Exploring the urban design solutions of public hybrid spaces in contemporary cities, which are the outstanding examples of expressive identity, 2/Carrying out the modern interpretation of principles of composition of hybrid public spaces (in urban scale), 3/Exploring the urban design solutions of public hybrid spaces, on the example of student's works realized at The Faculty of Architecture, The Warsaw University of Technology, in The Chair of Urban Design and Rural Landscape - the detailed studies concerning spatial forms, functions and transport system.

The research work has been realized with taking into consideration existing state of knowledge and use of methods proper for morphological investigations of city space. There have been used various research methods: method of analysis and critique of sources (planning documents, design projects and literature), observation method, comparative method, etc.

The main conclusions: 1/The development of public hybrid spaces is connected with limiting of territorial growth of cities and supporting the development of their inner areas, what contributes to creation of the efficient spatial form and sustainable development of contemporary cities, 2/Public hybrid spaces contribute to a high degree to preserve or to create cultural identity of the city. In the face of broadening phenomenon of making uniform of the townscape of contemporary cities, shaping their identity should become a basic need of every city.

Introduction

At present the dream of achieving sustainable development of contemporary cities has been partly realized by shaping new types of public spaces defined as "hybrid spaces". Complexity of human activities and needs in contemporary cities is still increasing as well as demands to satisfy various necessities, obligations and desires. This process requires new special spaces, which should respect many types of activities combined in specific places. There is a need of design of multifunctional experimental public spaces and buildings. In the design process it is

very important to integrate a vision and different disciplines in order to create a more integrated and comprehensive city structure than is possible with the mere sum of separate sites and separate buildings.

Hybrid spaces are characterized by various types of connections: a combination of different functions, real and virtual space, urban solutions with architectural solutions, and solutions in the field of landscape architecture and transport, connections of history and contemporaneity, connections of culture and nature. These are both the hybrid public spaces and hybrid buildings.

In the development of contemporary cities we can observe many positive phenomena as well as negative changes, which influence mostly natural environment and cause deterioration of living conditions: rapid development of motorization, congestion and increasing air pollution, increasing process of urban sprawl and deterioration of city centres, process of decreasing and pollution of green open spaces, insufficient recreational possibilities, etc. So the main aim of creation of hybrid spaces is limiting of transport needs and improving environmental conditions by introduction of green environment (many types of green elements) in public spaces, increasing amount of pedestrian spaces and bicycle routes, etc.

Public hybrid spaces in contemporary cities

There are many principles of shaping hybrid public spaces, among the most important it is necessary to mention: creation of expressive identity, providing high quality and cohesion with the structure of the city, providing flexibility of solutions and variety of functional programme, providing possibility of fixed and changeable activities, providing safety and accessibility, etc.¹

There are several various types of hybrid public spaces in contemporary cities: a combination of public square and urban park, urban garden courtyards, public gardens, industrial areas transformed into new cultural landscapes, cemeteries used as public parks, contemporary playgrounds, riverside promenades with beaches and swimming pools, sea-side promenades with greenery, places of various events and activities with temporary installations or light structures, vertical gardens, interchanges and transportation hubs, pedestrian passages, large scale urban sculptures, experimentally revitalized historical spaces, public spaces combined with hybrid buildings (often high rise, large scale structures), etc. In the process of shaping spatial form of contemporary cities, including hybrid public spaces, the important role have instruments such as architectural and urban design, urban composition, landscape architecture, transport planning, construction design.

There are many different solutions of public hybrid spaces in contemporary cities, which are the outstanding examples of expressive identity:

1/ temporary hybrid public space - use of temporary installations or special technical constructions (Ex-Zollamt public garden in Graz, Austria, 2013, Landesgartenschau Vöcklabruck 2007 Waterpark in Vöcklabruck, Austria, 2007); 2/ hybrid public space – as a linking spatial element in the city structure (Måløv Axis in Ballerup, Denmark, 2010, The High Line in New York City, NY, USA, 2009); 3/ hybrid public space – as a new spatial element in

¹ K. Pluta, *Przestrzenie Publiczne Miast Europejskich. Projektowanie Urbanistyczne*. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2012, p. 276.

public historical square (Center for Renhold & Hauser Plads in Copenhagen, Denmark, 2013); 4/ hybrid waterfront public space (Harbour Baths and Kalvebod Brygge in Copenhagen, Denmark, 2003, 2013, Stairs Sonnenbrücke North in Berlin, Germany 2010, Seeds of Change in Bristol, UK, 2012, HTO Park in Toronto, Canada, 2007, Olympic Sculpture Park in Seattle, WA, USA, 2007); 5/ hybrid public space on former industrial site (Jardin des Fonderies in Nantes, France, 2009, Quest Forum in Kolbermoor, Germany, 2010, The Steel Yard in Providence, RI, USA, 2010); 6/ hybrid public space – as a radical revitalization of historical square (Paranama Central Square in Themi, Greece, 2009); 7/ hybrid public space – as a sculpture in large scale (integration of architecture and landscape, The Pythagoras Museum in Crotona, Italy, 2011, Square Via Don Cesare Cazzaniga in Merate, Italy, 2011, Via Tirreno in Potenza, Italy, 2010, Wellness Orhidelia leisure park in Podčetrtek, Slovenia, 2009); 8/ hybrid public space with light structures as a dominating feature (St. Horto in Rome, Italy, 2013, Exhale Project – 140 West Plaza in Chapel Hill, NC, USA, 2013); 9/ hybrid public space – as a solution for climate changes (Water Square Bentheplein, in Rotterdam, The Netherlands, 2013); 10/ hybrid public space – as a part of high-rise building (public square in Shenzhen Stock Exchange, in Shenzhen, China, 2013); 11/ hybrid public space – as a transportation hub (King's Cross Central in London, UK, Urban Loritz Square in Vienna, Austria, 1999).²

The process of studies of various hybrid public spaces was concentrated on research of spatial composition of explored space in urban scale as well as on quality of elements of this composition. So it is possible to mention main types of spatial compositions of hybrid public spaces: 1/harmonious, regular spatial composition (often geometrical), 2/irregular organic spatial composition (for example formed by undulating planes, organic lines and planes), 3/irregular spatial composition with geometrical lines, planes and elements (for example consisting of existing geometrical elements and new green surfaces), 4/dynamic spatial composition (sometimes directed towards a spatial dominant).

There is also possible to distinguish main characteristic features of hybrid public spaces: good connections with existing city structure, combining of historical and contemporary values, use of phenomenon of contrast (artificial – natural surfaces, stable – temporary elements, organic new spatial elements – geometrical historical forms), use of phenomenon of integration (buildings and landscape, natural and artificial elements, different forms and functions), possibility of perception of townscape from different levels and in move, often use of light structures, multifunctional programme (recreation, culture, offices, trade, restaurants, housing, underground parking, playground, etc.), pedestrian accessibility, application of high technologies.

² M.S. Braun, C.v. Uffelen, *Atlas of World Landscape Architecture*, Braun Publishing AG, 2014, p. 11, 24-25, 30-31, 36-37, 62-63, 75, 106-107, 136-137, 139, 143, 152, 153, 182-183, 210-211, 261, 354, 410, 422, 452-453, 472-473, 482-483.

1000 x Landscape Architecture, Verlagshaus Braun, 2009, p.534, 566.

Public hybrid spaces in creation of contemporary Warsaw

The South Station area in Mokotów District – existing situation and problems of development

The physical and functional structure of Warsaw was determined by natural local environment - the Vistula Valley with a high Escarpment on its left bank, where magnificent buildings were located, built in harmony with nature. The Warsaw Escarpment represents the priceless value in town with its green and the landscape open till the horizon, because of its rarity - the single eminence in the city area. It is still the place of great natural and landscape values, as well as a place of historical valuable buildings and complexes. However we can observe a lot of physical changes in this area.

At present Warsaw as the capital of Poland and the predominant urban structure within its own region is in unique situation, because it is the centre of political life, as well as a crucial scientific, cultural and commercial centre. We can observe a big investment pressure in many parts of the city as well as changing patterns of leisure activity and increasing the role of cultural landscapes. There were revitalized many historical public spaces (Krakowskie Przedmieście and Nowy Świat streets, Grzybowski square, etc.) as well as there were designed new public spaces. However many problems of development of the spatial structure of the city have been still solving – one of them is the problem of creation of local centres in districts.

Mokotów District is the example of area, where there is still lack of local centre. The district is located on the left bank of the Vistula River, in vast areas of the upper and lower terrace of the Warsaw Escarpment. With green slopes of the escarpment, numerous parks, green streets and gardens, this district today is considered extremely green.

For years the South Station area is planned as a center of Mokotów District. This area is the important transportation hub (interchange) including: underground station Wilanowska, bus station, tram stops and tram loop, parking Park & Ride. It is a place used by thousands of inhabitants commuting to their work places both from newly built residential districts as well as from suburbs. At the same time this area is the place of many new investments in large scale. Most of them are high residential developments with services on the ground floor, built mainly between the Station area and the edge of the Warsaw Escarpment. Unfortunately, these are uncoordinated investments, which do not form a harmonious spatial composition, and are merely the sum of individual modern buildings. They hid the views of green of the escarpment and highly limited access to it. The location of this area so close to the unique large open areas is a huge advantage, which unfortunately is not reflected in the landscape of the city. Simultaneously on empty plots between Puławska and Al. Niepodległości streets are being built new investments - also of considerable height and volume, which are spatially uncoordinated with the entire area. In the vicinity of the South Station there are also located structures giving a new identity to this area, among others Church of NMP Matki Kościoła (1989). The landscape of the South Station is full of contrasts: there are old houses with vegetable gardens (some in very poor condition), farmlands, supermarket "Supersam", vegetable market, temporary small market along the sidewalk, skate park, playground and right next to them new high housing and office

buildings and modern equipment and surfaces of the underground station Wilanowska. There is insufficient amount of public spaces in the area. It is also necessary to mention, that 2 km west of the South Station there was built shopping and entertainment complex Gallery Mokotów (the second largest shopping mall in Warsaw) as well as Mokotów Business Park. This fact had provoked thesis of bipolar development of the local centre in Mokotów district. There is also planned a new housing district east of the South Station area, what will cause growth of population in the district as well as the necessity of creation representative public spaces. The current transport system in this area is characterized by intense car traffic, complicated intersection of Puławska, Al. Niepodległości and Al. Wilanowska streets as well as chaotic and insufficient solution of bicycle paths. During rush hours huge tailbacks are formed along the streets.

The study of the conditions and directions of spatial development for Warsaw defines the South Station area as the location of the center Mokotów District, the place of main public spaces as well as the interchange. The study postulates the car park in this area and regional and long-distance bus station. In the new vision of development the South Station area it is necessary to propose a variety of functions and types of spaces to meet expectations of different users. This place should not only be an interchange point between five means of transport (a car, a bicycle, an underground, a tram and a bus), but also it should provide a high quality urban space for local residents and workers.

The urban design solutions on the concept of development of the South Station area in Mokotów District in Warsaw, on the example of student's works realized at The Faculty of Architecture, The Warsaw University of Technology, in The Chair of Urban Design and Rural Landscape

In 2015, the Public Transport Authority in Warsaw (ZTM) and The Chair of Urban Design and Rural Landscape of The Faculty of Architecture, The Warsaw University of Technology (WUT) organized a competition for students of the Master Course of the Faculty of Architecture of Warsaw University of Technology (semester 1) on the concept of development of the South Station area in Mokotów District in Warsaw. In the competition took part 12 teams (25 students). Students were supervised by teaching staff from The Chair of Urban Design and Rural Landscape of The Faculty of Architecture WUT (Sławomir Gzell, Katarzyna Kierczyńska-Królikowska, Katarzyna Pluta, Agnieszka Wośko-Czeranowska). Consultations in the field of transport system were provided by employees of ZTM and ZDM. Students had to prepare competition design projects until the end of January 2016. Winning projects were selected by the Jury (teaching staff from The Chair of Urban Design and Rural Landscape of The Faculty of Architecture WUT, ZTM and the Office of Roads and Transport).

The projects were evaluated both in terms of architectural and urban design as well as communication. In the concept in the sphere of transport students had to take into account: existing underground station Wilanowska, bus terminal enlarged at least 30 per cent, integrated tram stops for the existing line along Puławska street and planned new line in east-west axis,

bicycle parking for 800 places, check-in hall for passengers, parking Park & Ride and Traffic Management Centre (with the ZTM office). In addition, the teams had to design a new road system. The winners of the third place were Anna Obłąkowska and Antoni Rybinski. The winners of the second place were (ex aequo): Natalia Skolimowska, Krzysztof Jakubów and Agnieszka Roś, Przemysław Chimczak. The winners of the first places were: Anna Kowalczyk, Kamila Momot and Marcin Jaworski. The competition was connected with the conference.³

The design project 1 – authors: Agnieszka Roś, Przemysław Chimczak

In the design project Authors have focused on the relations with a new housing district planned east of the area and with other important directions. Links are created in form of axes of pedestrian paths. Another important idea was creation of many hybrid public spaces, which have different functions and character. Some spaces have strong urban character, another ones are more like parks and are linked with a green belt around the whole plot. There were proposed the following types of public spaces: communication square, market square, playground for children, public meadow between office buildings, public gym and many smaller green squares.

Figure 1. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

³ Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016), The competition was also supported by Piotr Łuszczynski - participant of Doctoral Course at The Faculty of Architecture, Warsaw University of Technology.

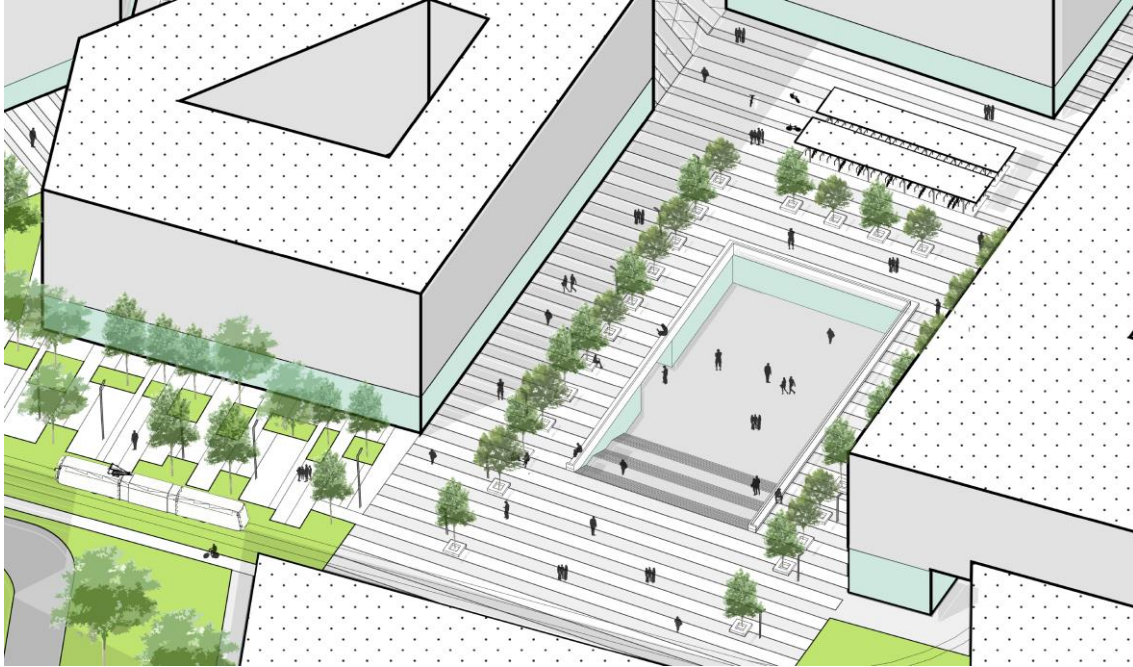
The most important public hybrid space is a communication square - the place where travelers may change means of transport. Authors have decided to delete a traffic on the part of Puławska street, what gave an opportunity to create a square enlarged towards western direction as well as a public space connecting bus station, tram stops, underground station and Park & Ride facility. The square is designed on two levels: on level "-1" there is a parking site, underground station and bus station for long-distance buses. Level "-1" and ground floor are connected by the uncovered part, which is a pedestrian passage with some commercial units. On the ground floor there is proposed the station for short-distance buses, the tram loop and stops, the entrance to the underground station. The square is surrounded by office buildings with commercial functions on the ground floor and is equipped in little architecture like lamps and benches. The square is well connected with other public spaces (directly through opening between buildings with a market square and indirectly by pedestrian passages with other public spaces).

Figure 2. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



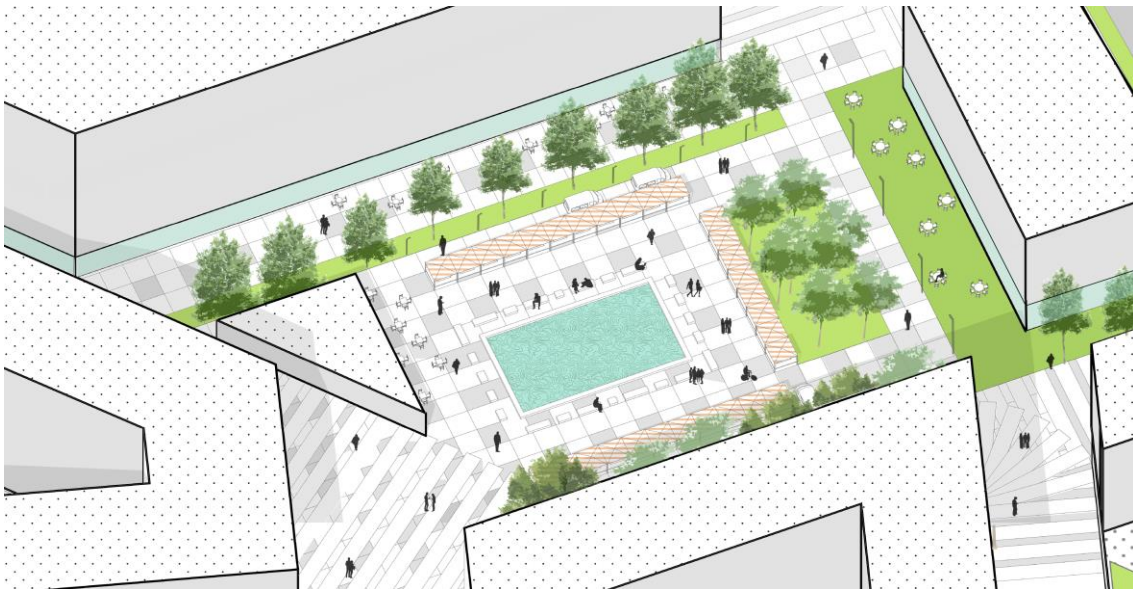
Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

Figure 3. The design project "The South Station area in Mokotów District, Warsaw" – communication square, 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

Figure 4. The design project "The South Station area in Mokotów District, Warsaw" – market square, 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

Figure 5. The design project "The South Station area in Mokotów District, Warsaw" – playground for children, 2016, authors: Agnieszka Roś, Przemysław Chimczak, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

The design project 2 – authors: Natalia Skolimowska, Krzysztof Jakubów

MULTI - LEVEL INTERCHANGE

In the design project the modification of urban transport in the area is based on two goals. Authors have focused on time of interchange. This was the reason of location three means of transport (bus, tram and subway) as close to each other as possible. Authors have proposed one common tram stop for lines in all directions and have moved the bus loop that took a lot of valuable area on the level "-1". In this way people leaving the subway do not need to climb up to the level "0". On the same level "-1" there is a possibility to move to the new tram stop. Between subway entrance and bus loop there is a waiting area with a few levels of office space to rent. In the design project two main streets of the area - Puławska and Al. Niepodległości- are proposed as one-way streets in order to create pleasant public spaces.

Figure 6. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Natalia Skolimowska, Krzysztof Jakubów, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology, also in: <http://www.ztm.waw.pl/informacje.php?i=1118&c=98&l=1> (access: 15.03.2016)

PUBLIC SPACE

In the area there were proposed three main public hybrid squares that are connected directly with each other. The first one is interchange square with the entrances to the subway, surrounded by office buildings with commercial uses at the ground floor. The main element of spatial composition of this square is a local market and a fountain. In the south-east direction there was planned a business square which is surrounded by higher office buildings (height up to 90m). The square is partly a tram loop (the track is planned partially under or between the buildings). The track in the square will be full of green elements, which will enable to rest in an attractive place during lunch time.

The third planned square has a local character and buildings surrounding it have mixed functions (theatre, cinema, housing with cafes at ground level). The spatial composition of the whole urban complex depend on green axes that lead along Wilanowska, Domaniewska and Pejzazowa streets (through the interchange and business squares) towards the Warsaw Escarpment.

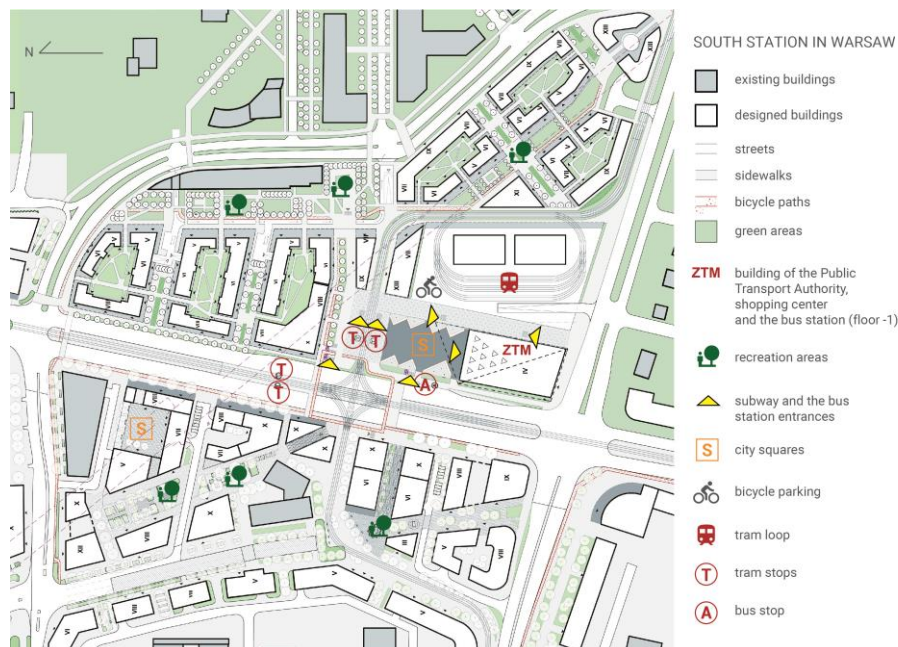
The design project 3 – authors: Agata Bosiacka, Urszula Mazanek

The main idea of the design project is concentration of stations and stops of every means of public transport in one place as close as it is possible and shortening the distance between them. At present the plot is located around complicated road system and do not form any spatial order. However it is a very important place for the whole city because it leads inhabitants to the center and to suburbs.

In the project there was proposed the simplification of road system by moving Al. Niepodległości street into the tunnel. The bus station located on level “-1” will be bigger by about 30% in comparison to the existing bus station. It will allow direct transition to the underground station Wilanowska on level “-1”.

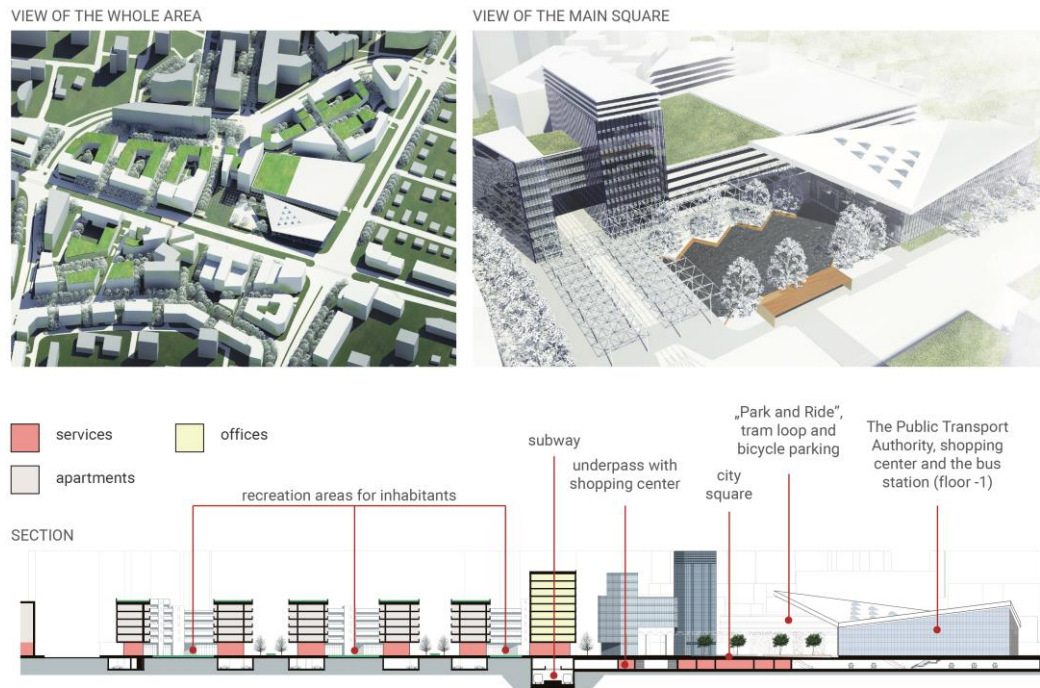
Along the transition passage there is proposed a service gallery and the place where ZTM information is located. Over the space allocated to the bus station there will be a building with an entrance hall at the level 0 with a gallery on the first two floors above the ground and ZTM premises located on floors 3. and 4. Starting from level 1 through all the levels there will pass two triangular atria, allowing illumination of the station with daylight. The geometry of the roof, which form refers to the existing modernist stations buildings in Warsaw, allows partial covering of the main square in front of the building and gives the building unique character. The second important point of transport system is the exit from the underground on the west side of Puławska street. This exit is in the internal square of service building.

Figure 8. The design project ”The South Station area in Mokotów District, Warsaw”, 2016, authors: Agata Bosiacka, Urszula Mazanek, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology.

Figure 9. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Agata Bosiacka, Urszula Mazanek, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology.

Location of the underground exit simplifies the flow of people by providing direct connection between the place of work, service facilities and transport system. Authors have proposed the introduction of a new tram line along Wilanowska street. Near the crossing with Puławska street the tram track turns right in a way which enable location of the tram stop on the main square, what reduces walking distance for passengers. Intersection of tram lines is located approximately 180m from the crossing. Special roofing system with light structures will allow to overlap of tram stops. In the design project there were proposed two main hybrid squares with commercial functions and also two green parks with leisure areas (one located near the existing office building and another one located around multi-family buildings east of Puławska street).

The design project 4 – authors: Jakub Pierzchała, Magdalena Subocz

The biggest challenge of this design project was to fit all needed functions into rather small site. In order to provide the highest amount of possible functions, Authors have decided to concentrate all means of transport in one vertically organized system (proposed as a hybrid spatial-functional structure). At the lowest level there were proposed the underground tram lines, whose stops are directly connected with the subway station. Above, on the ground level, there is a bus station, linked with a local public square by corridors surrounded by trade rental

Figure 11. The design project "The South Station area in Mokotów District, Warsaw", 2016, authors: Jakub Pierzchała, Magdalena Subocz, supervisor: dr hab. inż. arch. Katarzyna Pluta, professor of W.U.T.



Source: Archival materials of The Chair of Urban Design and Rural Landscape, The Faculty of Architecture, Warsaw University of Technology.

Conclusions

In the future - quality of space of contemporary city would depend above all on quality of its public spaces. During the research work it has been noticed, that original and unique spatial composition of public hybrid space has been one of the decisive elements, which influence shaping the identity of the space and increase its quality. Therefore the most interesting examples of public hybrid spaces in cities presented in the paper are examples of original and interesting spatial compositions.

The penetration of spaces of different character thanks to the principle of multi-functionality of terrains and buildings and flexibility of spatial, functional and constructional solutions as well as conscious and unique spatial composition of urban complex and public spaces, could shape harmonious and sustainable townscape of contemporary city of XXI century.

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