

WP 3 Urban Development

Energy Efficient and Integrated Urban Development Action
(UrbEnergy)

Sustainable Development Concept for Jugla Neighbourhood

SIA grupa93

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Summary

The sustainable development concept of Jugla neighbourhood is created within the framework of Energy Efficient and Integrated Urban Development Action project (UrbEnergy). The concept was developed by consultancy firm "Grupa93" Ltd in cooperation with external experts Mr Elmars Danisevkis ("E. Danisevska birojs" Ltd., transportation issues), Mr Aigars Kuskis (architect, urban planning issues), partners of the project "Rigas Pilsetbuvnieks" Ltd, specialists of the Board of Economics of Riga City Council City Development Department and other parties involved in the project.

The concept was developed during the period of July-October of 2010. The work has been completed according to the terms of reference and contained analysis of the documents on Riga City urban development, statistical information and graphical materials available from the state and municipal institutions, taking into consideration the projects that have been carried out in Jugla neighbourhood and the examples of good practice in the urban sustainable development in European Union and USA.

In order to stimulate the practical implementation of the project and initiatives of sustainable solutions in Jugla neighbourhood, the main focus was put to the identification of "the key players" – the potential partners of cooperation (institutions, enterprises and organizations that work in or are closely connected to the territory of Jugla neighbourhood), their interests and possibilities of cooperation, the involvement into the determining of the solutions and motivation to participate in further implementation of such solutions (Department of Territorial Management and Development of Executive board of Northern District of Riga City Council, "Rigas Mezi" Ltd, NGO "Puks un draugi", "Strazdumuizas organizacija" of Latvian Society of the Blind, etc.).

Selective surveys were made in different parts of the neighbourhood in order to find out the opinions of the residents for the purpose of identification of the views of the residents, their perception of the neighbourhood, main needs and required solutions. For the acquisition of practical information the inspection of the territory and nature observations were carried out.

The aim of the creation of this concept was the establishment of propositions for the fostering the sustainable development of Jugla neighbourhood with main focus on the aspect of increase in energy efficiency of the neighbourhood considering the specifics of UrbEnergy project.

The concept includes overview of the actual situation of Jugla neighbourhood, the analysis of preconditions for the further development and propositions for sustainable development solutions by taking into account also the aspects of their economic effectiveness.

The development vision of Jugla neighbourhood and the action plan in the concept are developed:

- in the context of Riga City development strategy;
- by use of the characteristics and advantages of the neighbourhood;
- by focusing attention towards specific target groups of the residents (detached house dwellers, apartment building dwellers, residents with special needs (the visually impaired/blind) with the view on their needs in context of the specific area of the neighbourhood;

- in line with former activities (plans of the municipal institutions and developer's projects);
- using experience of good practice of foreign countries;
- by perceiving the cooperation among different groups as the most important tool for the establishment of the neighbourhood's sustainability.

Up to this time no common methodology for the assessment of sustainable development of the territories (neighbourhoods) in Latvia has been established. In general the practice with sustainable construction plan development in Riga and Latvia is very small; therefore in the creation of the concept attention was drawn to the identification of good practices outside Latvia.

In the worldwide practice certification of development projects is used as one of the instruments for implementation of sustainable solutions. It includes evaluation of various aspects by using appropriately chosen criteria and set of indicators that allow to evaluate the level of existing sustainability and to set specific targets to reach higher level of sustainability.

In order to encourage common approach and perception of sustainable development targets with regard to the application of individual development projects and development of the area, the sustainability aspects must be defined based on the same subject areas within which the construction projects are analyzed and evaluated:

- reduction of the impact of climate changes, increase in energy efficiency;
- development of the society;
- increase in quality of urban environment;
- securing of ecology and biological diversity;
- improvement of transportation situation and accessibility;
- rational use of resources;
- development of business activities and local economy.

Each sustainability aspect has a defined action plan that includes project proposals for the implementation of sustainable solutions in the neighbourhood area.

The concept contains detailed review of five pilot projects which are aimed at improvements in specific areas of public infrastructure. The ideas of the project have been chosen as activities that would be possible to carry out in the nearest future in order to solve significant problems in the specific area of the neighbourhood. The results of the project will be available to wide range of users. The projects are based on the possibility of municipal institutions to participate and they are targeted at the involvement of the residents of the neighbourhood – with motivation and arrangements for the continuation of further activities. The final expenses and financing models have been identified.

In the attachment of the concept there are:

- explanations of the principles of urban development good practices;
- summary of information on foreign examples regarding the development of criteria and program for the detection of the targets of sustainable territorial development and for the selection of criteria;

- sustainable development evaluation criteria example (BREEAM methodology translation).

The prepared concept contains at the same time practical suggestions for specific actions in Jugla neighbourhood, suggestions for the action plan in the scope of all city and helps to the establish the understanding of problems related to sustainable development.

Brief on existing situation discussed in the concept

Existing situation and Jugla inhabitant opinion

Total area of Jugla neighbourhood is 1409.9 ha, which is approximately 3 times greater than the average area of a typical neighbourhood in city of Riga. Jugla is the second largest neighbourhood of Riga and comes together with a very complex spatial structure. There are 27.500 people (95% in the multi-storey and 5% private houses) living in Jugla. What Jugla offers geographical is: its location at the fringe of the city core, allowing it to serve as the gateway to the North, and it's proximity of the great outdoors as the city is home to larger lakes and natural forests. People who are living in Jugla recognize it as quite place to live with fresh air, good recreational possibilities, and outstanding public transport system. However it has been recognized that multi-storey dwelling lack adequate parking facilities.

Spatial structure

Spatial structure and different parts of neighbourhood within this concept are viewed as following:

- Makskernieku village (to the north form the railway);
- Strazdumuiza (quarter along Jugla lake waterfront between Brivibas gatve, Juglas Street and Pales street);
- Village of the Blind (quarter at lake shores of Jugla lake, that is crossed by Pales street);
- Living Jugla (dwelling quarters on both sides of Brivibas gatve, along Malienas and Murjanu Streets);
- Juglas Fur-farm village (quarters around South East side of Maza Jugla street).

Jugla neighbourhoods spatially fragmented as the main centre at Brivibas gatve (main attraction points: #6 tram terminus, petrol station "Statoil", Jugla market, public transport hub) and other activity nodes Murjanu and Jugla street junction because previous land use had not property define a city centre.

Jugla's is "developed out" spatial structure restricts future development as there are only few places where development opportunities available: to the north from the railway and in the area of formerly known as the Juglas fur-farm. Development of the north part is closely linked to the development of the Northern traffic corridor.

Connections – traffic system and public transport

Comparing with other neighbourhood in Riga City, connection to Jugla can be evaluated as good, with only a few areas of the city having poor connection with Riga City. Time consumed to get to the city centre is 30 min. Main streets of the neighbourhood are Brivibas gatve, Juglas street, Murjanu street and Silciema street.

We can talk about Jugla as about area where street network is almost completed. One of the prior developing streets is Auduma street which goes along Brivibas gatve.

Main traffic generation objects and so also people attraction objects in Jugla are Ethnographic Open-air museum, shopping mole "Alfa", Sports Academy, lake Babelitis.

It is easy to reach Jugla neighbourhood by public transport, it is concluded that the public transportation is very good from both the modes of diversity and the number of routes and stopovers, although relatively significant differences exist between different parts of the neighbourhood. To or via Jugla neighbourhood there are going 22 urban public transport routes. 3 of these are tramway lines, 9 bus routes, 9 minibus routes as well as the Valga direction railway line. At an average, 1212 public transport runs are made a day. The bulk of the total numbers of runs made are by minibuses (541), buses make 421, trams – 239, and train 11 runs a day on average.

Geographical and nature condition

Relief and terrain of the neighbourhoods vary greatly in the area. For example, geological condition such as a high level of groundwater creates areas unsuitable for building developments in almost in all Jugla neighbourhoods. Currently, the most favourable area for new developments is on the southwest part of Jugla.

Another potential development area is the territory of the former Thermo electro station's (TEC-1) ash field. However it should be taken into account that the area is not naturally suitable for development, thus soil remediation could pose an additional cost.

Noise and air quality

Noise limits are exceeded in all residential areas of Jugla, specifically around Brivibas gatve where they are extremely high, and as well at Murjanu, Juglas and Malienas streets where noise levels are high.

Regarding air quality, the main pollutant is from all forms of transport, especially along Brivibas gatve.

Brownfield

The Riga Brownfield data base includes the following areas included: TEC-1 ash field and TEC-1 peat storage field. Development of those areas will be viewed together with Northern traffic corridor development. However there are several other problem areas in the neighbourhood, such as the former industrial area, Juglas Fur-farm village, the waterfront of Jugla lake, area around railway terminus, a dilapidated building on the corner of Murjanu, and Kveles streets and the allotments Maza Jugla street.

Nature area and waters

There are about 450 ha of nature areas and greeneries in Jugla, mainly-forest areas. Main forest missives are Smerla and Juglas forests; a bit smaller is forest around Lake Babelitis.

Despite the large amount of forests in Jugla, the area suffers from a lack of necessary recreational facilities. This concept posses several project concepts that can be elaborated on to improve the quality of greeneries in Jugla.

Jugla is rich with waters, compared with other Riga City neighbourhoods. Lake Jugla is the largest lake in Jugla neighbourhood. Lake Kisezers borders only north side of the neighbourhood. There are several smaller lakes in Jugla – Dambjpurva lake and Velnezers lake, both very popular for recreation among Jugla inhabitants. Also there are a few small rivers that cross Jugla’s neighbourhoods.

Within this concept we propose detailed project to improve Juglas lake waterfront as well as the banks of Strazdupite river.

Recreation

The main recreation places in Jugla are the forest and lakes areas. At the lake Babelitis there is city meaning place for swimming that is very popular for many residents in addition to those that residing Juglas such as those from Teika and other surrounding neighbourhoods. Courtyards mainly are poorly developed with the best ones only providing children playgrounds. Around lake Dambjpurva there is a path with different activity elements provided. In general there are not enough recreation places in Jugla and new qualitative places should be developed.

Jugla development possibilities

Development directions for Jugla: Northern traffic corridor area, Jugla Fur-farm village, former industrial areas. For new dwelling developments only Jugla Fur-farm village and Northern part are the only viable possibilities in Jugla where suitable land for development is provided. In addition the lack of free and appropriate space in Jugla has restricted the development of new projects. As Jugla within Riga City is considered as “Riga gate” to accent this on the entrance to Jugla according Riga territory plan it is allowed to build 17-24 storey houses. This option should be reconsidered because of the lack of parking places already at the moment.

Social infrastructure objects and retail

At the moment there are not enough places in kindergartens for all children from Jugla, however the up school levels do not suffer from this same problem. Regarding different kind of service objects Jugla is good assured.

Main trade areas in Jugla are along Brivibas gatve and on Murjanu and Jugla street junction. If there no critical increase in number of inhabitants in Jugla, then new shopping places will not be necessary.

Economic activity of the area

Jugla mainly is a dwelling area without big industrial companies. There are 63.000 working places in Jugla regarding statistic data, but it is unknown what number of Jugla inhabitants are working in their neighbourhood and how many are going to work elsewhere.

Average price for a 2-3 room apartment is 600 euro/m². It is the same price as in neighbourhood areas. Offer properties in the real estate market is evaluated as good.

Engineering infrastructure

Central water supply is available in most areas of Jugla, with only in few areas (e.g., Mākskernieku Village and Fur-farm Village) water supply is handled locally. Central sewer services are used by approximately 90% of the population. Water drainage system is provided by Riga City Traffic Department, maintaining more than 188 km network in the city. Overall condition of the network is unsatisfactory and unsuitable for the current development level. In one of the detailed project descriptions it is proposed to reconstruct storm water sewage system.

Centralized heating in Jugla, like in most parts of Riga and Latvia is supplied mainly to high-rise apartment housing estates and all kinds of public and services buildings. In individual homes autonomous heating often is used, on a gas or solid fuel basis. Electricity supply as well is available in most parts of Jugla, leaving uncovered only those without development such as Mākskernieku Village. However, nearby power lines ensure appropriate electricity connections to these areas as well. Electrical power is sufficient for Jugla. Medium pressure ($P < 0.4$ MPa) distribution gas main (DN 150 - DN 200) and high pressure ($P < 0.6$ MPa) distribution gas main passes through Jugla.

Increasing of energy efficiency and pollution abatement

Six spheres are indicated in this chapter which are crucial for energy efficiency and pollution abatement in the city. These spheres are spatial planning, transport, street lighting, waste collection, water supply, sewage and storm water drainage and decreasing of resource consumption.

Both practical recommendations at local Jugla level and higher Riga municipality level are included in this concept. The main problems that were identified in Jugla neighbourhood different parts and given solutions that are in the Jugla are the following:

1) Problem in the area of Living Jugla

Lack of the parking lots that can be evidenced throughout Jugla's multi-storey apartment building courtyards. Courtyards are mainly without necessary landscaping, and cars are parked right in the green common areas or on the access road (blocking access to the emergency transport in that way).

Solution

There are several solutions proposed, ranging from low cost surface parking development (parking site between buildings and/or along the access road parking) to multi-storey parking garage and “parklift-parking” (multi-storey garage that is built on a side of a residential building).

2) Problem for all Jugla neighbourhood

Smerlis forest is used extensively mainly because of the lack of recreation infrastructure with the forest.

Solution

The proposed project is to develop bicycle paths in the Smerlis forest. Bicycle paths are proposed to develop in several stages – connecting Smerla street with the dwelling area of the Jugla and Brivibas gatve with Dambjapurva lake in dwelling area. We are proposing to make some attraction object (view tower, summer café) in the middle of the forest to encourage people visit the forest more frequently. The target group of this project is not only people living in Jugla neighbourhood, but also in nearest neighbourhood (Teika, Mezciems).

3) Problem for Living Jugla and inhabitants living in Juglas lake area

Waterfront of the one of biggest Riga lakes – Jugla lake at some places has a characteristic of brownfield area. There are not enough swimming places, paths along the lake, picnic places and playgrounds.

Solution

The concept proposes a wooden path all along Jugla lake and within Jugla neighbourhood borders. There are several new swimming places (one developed for the visually impaired/blind people) proposed, two new boat docks, biodiversity path and the fisherman path proposed.

4) Problem for the northern part form railway and area between Brivibas gatve and railway

Lake Babelitis is a popular recreation location among Jugla inhabitants and Teika neighbourhood inhabitants. However the lake is difficult to access – it is necessary to cross

the railway in prohibited places. Additionally, there is Auduma street, which goes along the railway that is already within the street red lines but is not built.

Solution

We propose to build Auduma street and two pedestrian crossings via railway (at the end of the tram station to the railway connecting street). Auduma street building will unload Brivibas street during rush hours and will improve accessibility to the dwelling area located in this Jugla part.

5) Problem for Living Jugla and inhabitants living in Juglas lake area

Strazdupite river that is going through dwelling area is very narrow at the moment and its recreational potential is not used.

Solution

In this concept we propose to improve Strazdupite area: to increase water amount in the river we propose to make sustainable urban drainage system – which collects water from area around in Strazdupite. To improve Strazdupite banks in the project it is proposed to make outdoor gym complex as well as jogging path along one bank of Strazdupite. In that way people will be encouraged to use it for sports activities and surrounding will be visually improved.

The results of the project will be possible to use for a wide range of users, because project solutions are based on the principles of people participation, motivation and on different municipality institution and local stakeholder participation.

Eventual costs for the projects and overall financial models also are included in this concept.

In appendix of this concept there are attached (in Latvian version):

- explanation of several best urban planning principles that are used in planning;
- summary about foreign experience (sustainable urban planning criteria and different programme that are used to define criteria);
- sustainable development assessment criteria example (translation of the BREEAM Communities criteria).