



ASTRAKHAN AGGLOMERATION

MASTER PLAN



Southern Urban Planning Center,
Rostov-on-Don, Russia (2004r.)



URBASOFIA,
Bucharest, Romania (2011r.)



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ASTRAKHANIN A GLOBAL CONTEXT

The intersection of cultures and borders, transport communications and landscapes make the Astrakhan region and its most populated and developed part, the Astrakhan agglomeration, a unique region for the whole of Russia.



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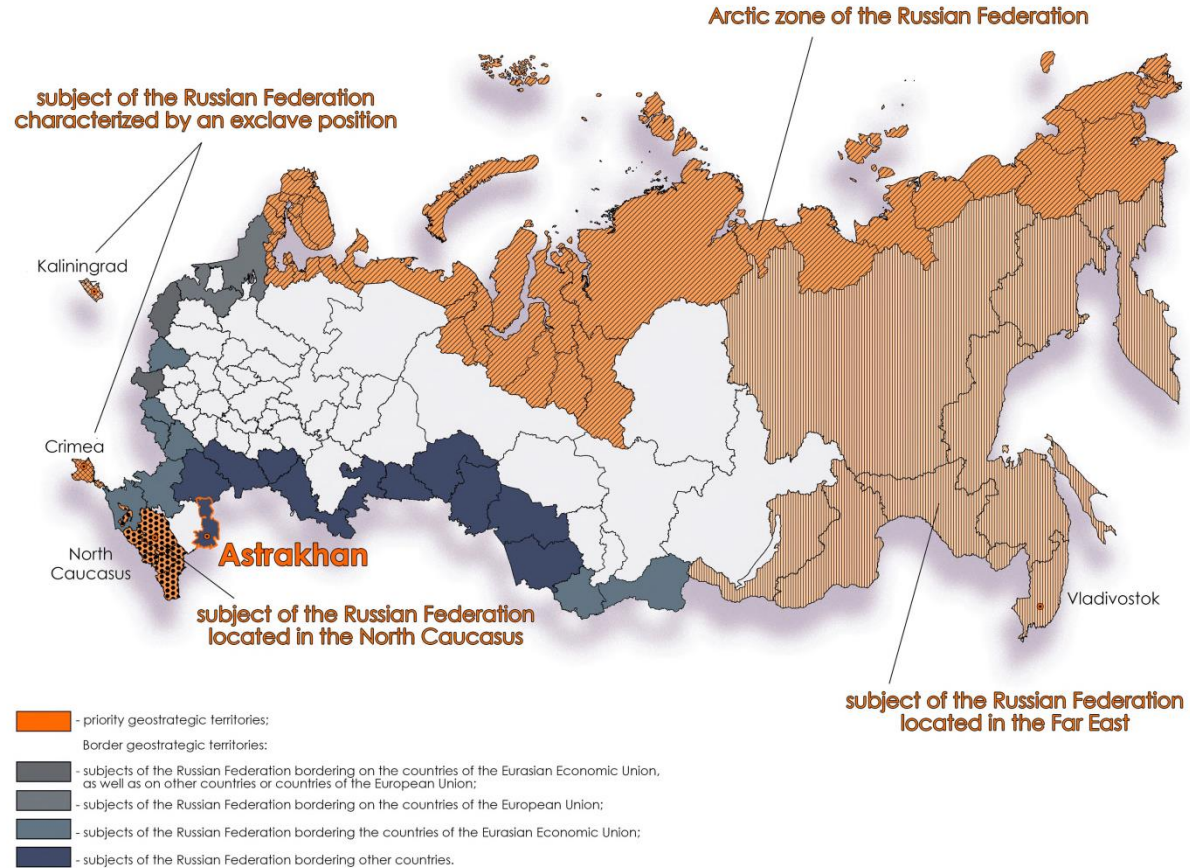
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ASTRAKHAN IN THE ALL-RUSSIAN CONTEXT

Priority territories according to the strategy of spatial development of Russia. The Astrakhan region is included in the border belt, but not highlighted as a priority geostrategic territory



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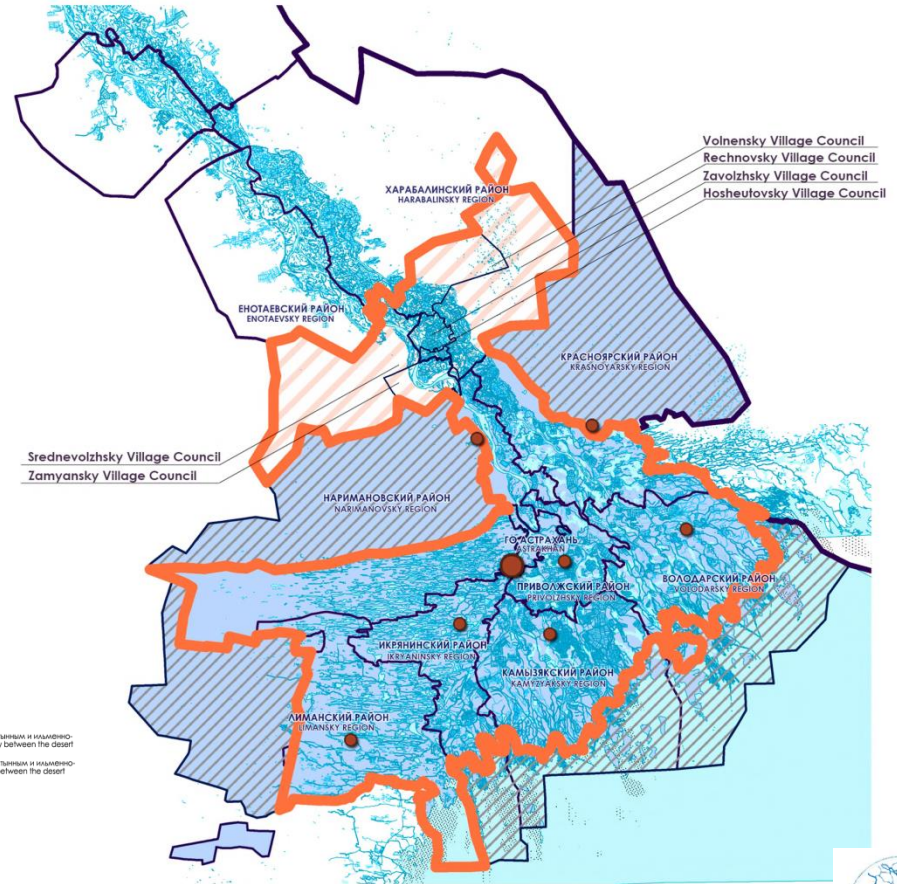
BOUNDARIES ASTRAKHAN AGLOMERATIONS

We have given proposals on changing the boundaries of the Astrakhan agglomeration and including in its composition a part of rural settlements of the Kharabalinsky and Enotaevsky districts and excluding a part of sparsely populated territories

14 420 sq. km.
732 people

Условные обозначения / legend

-  - граница Астраханской области (предлагаемая) / the proposed border of the Astrakhan agglomeration
-  - административная граница Астраханской агломерации (предлагаемая), включающая территорию между пустынями и холмисто-бурыми ландшафтами / administrative boundary of the Astrakhan agglomeration (proposed), including the territory between the desert and hilly-hill landscapes
-  - административная граница Астраханской агломерации (существующая), включающая территорию между пустынями и холмисто-бурыми ландшафтами / administrative boundary of the Astrakhan agglomeration (existing), including the territory between the desert and hilly-hill landscapes
-  - граница района / district border
-  - узел агломерации / agglomeration node



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PRIORITY AREAS FOR THE DEVELOPMENT OF THE ASTRAKHAN AGGLOMERATION



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A NEIGHBORHOOD OF TRADITIONAL AND ALTERANT ENERGY SOURCES

The extraction of hydrocarbon resources and the development of traditional energy sources have always been one of the leading specializations of the Astrakhan agglomeration. The master plan assumes further responsible development of traditional energy sources and the development of alternative energy, taking into account the peculiarities of the Astrakhan climate and landscapes



ЭНЕРГОРЕСУРСЫ
ENERGY RESOURCES



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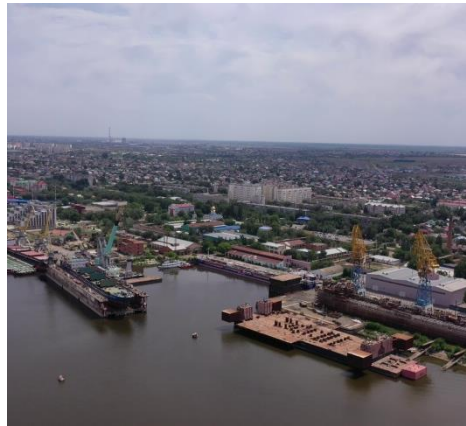


PRESERVATION OF EXISTING SPECIALIZATIONS, DEVELOPMENT OF INNOVATIONS

The industrial complex of the agglomeration will develop due to the intensification of production while maintaining modern specialization in mechanical engineering and the food industry.



ИННОВАЦИОННОЕ ПРОИЗВОДСТВО
INNOVATIVE PRODUCTION



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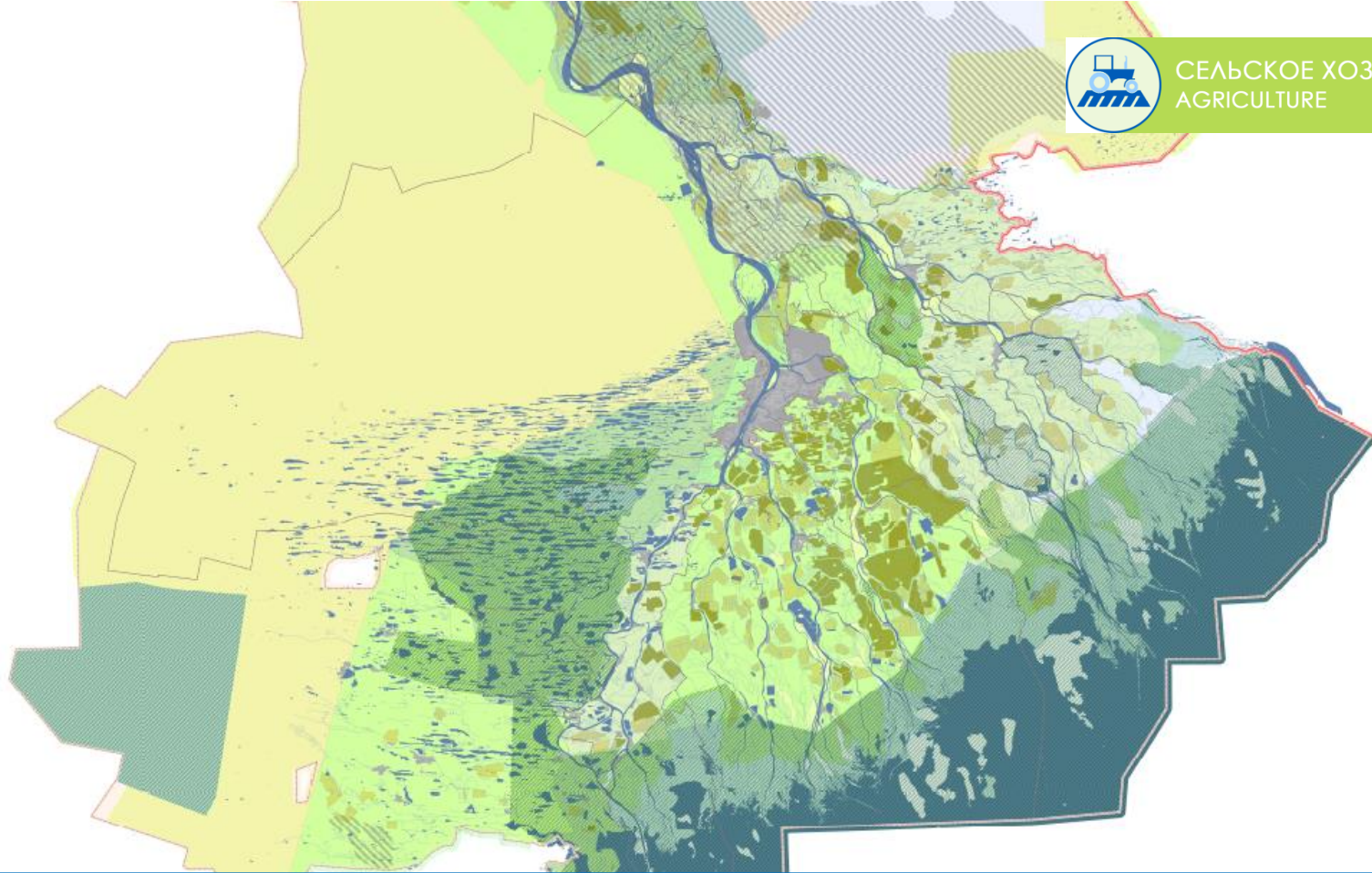
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СЕЛЬСКОЕ ХОЗЯЙСТВО
AGRICULTURE



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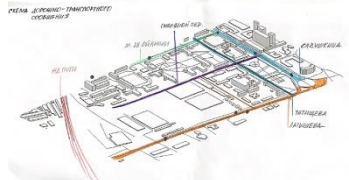
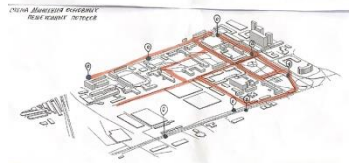
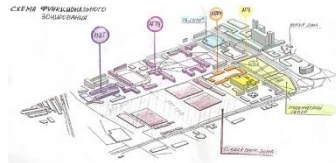
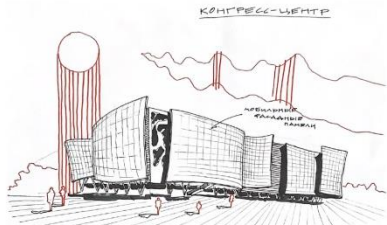
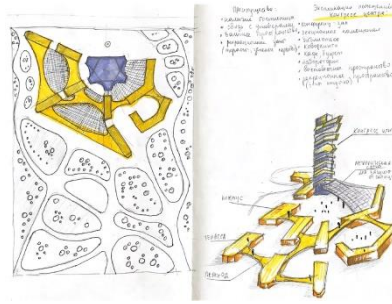


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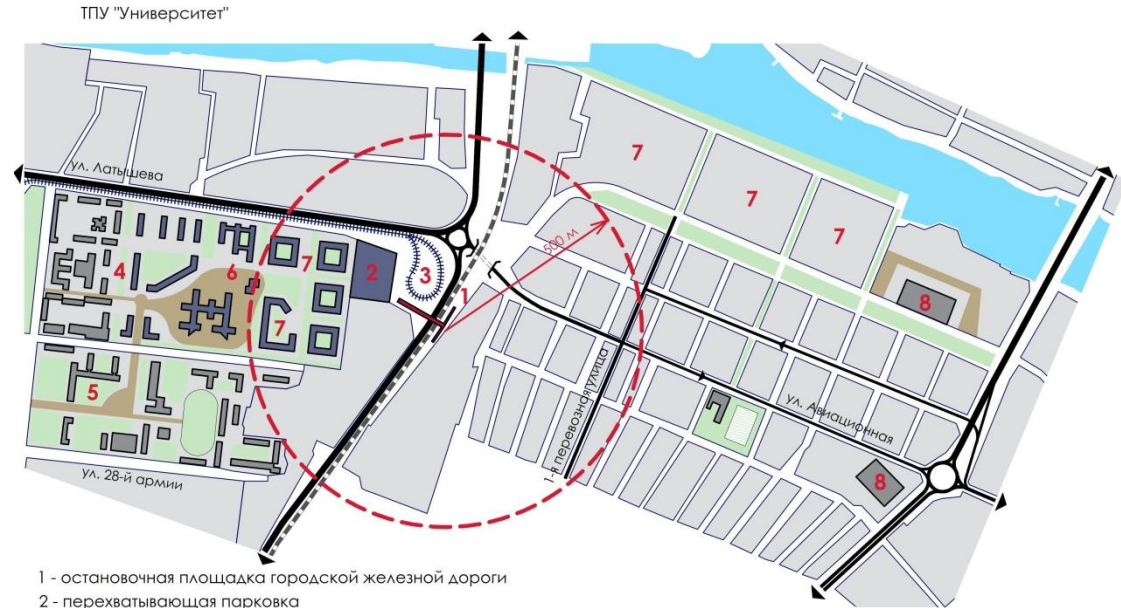




INTERUNIVERSITY SCIENTIFIC AND EDUCATIONAL CLUSTER (CAMPUS)



The master plan proposed the placement of a new inter-university research and educational center (campus) with a student city, university buildings and public spaces on the territory adjacent to the existing site of the university



- 1 - остановочная площадка городской железной дороги
- 2 - перехватывающая парковка
- 3 - конечная остановка трамвая
- 4 - кампус АГУ (сущ.)
- 5 - кампус АПУ (сущ.)
- 6 - кампус научно-образовательного центра (проект.)
- 7 - жилые комплексы (проект.)
- 8 - торговые центры (сущ.)

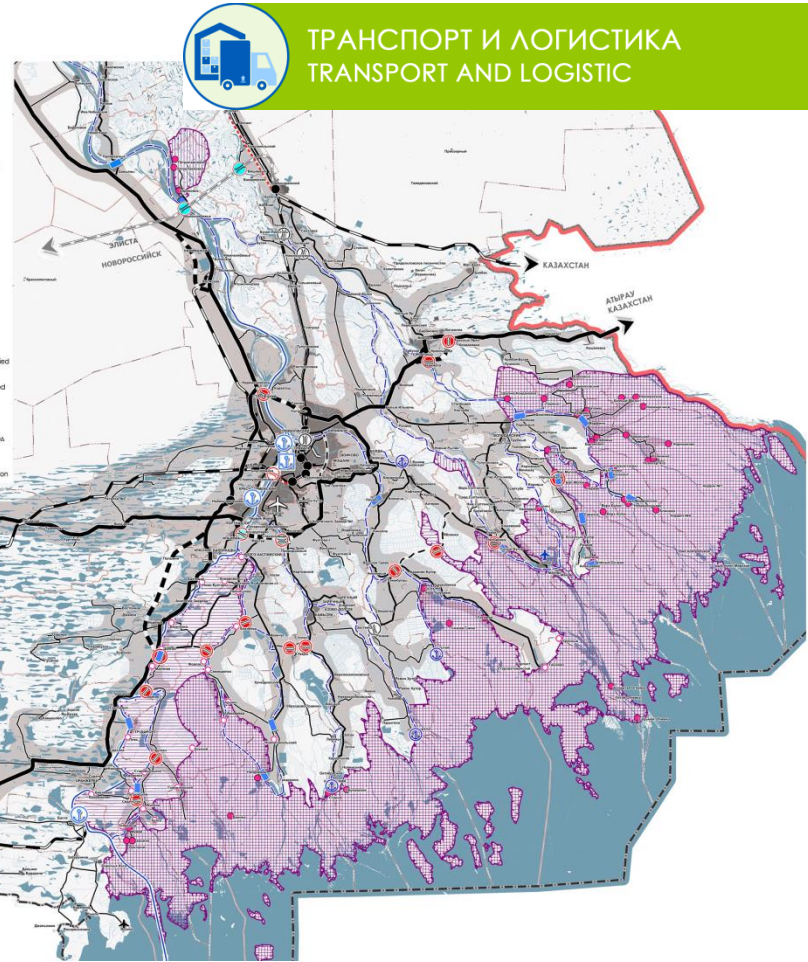
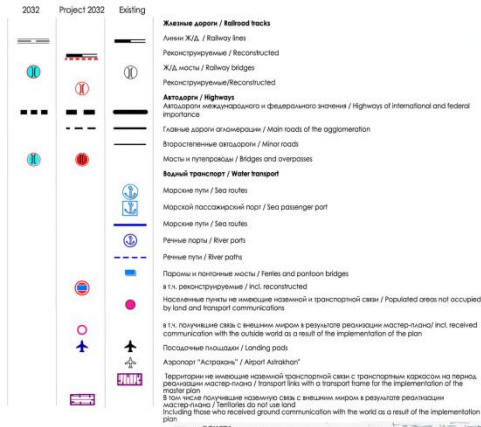


TRANSPORT FRAME ASTRAKHAN AGLOMERATIONS

The development of the transport framework is assumed due to the strengthening of meridional and the appearance of latitudinal links, the construction of new bridge crossings, and the optimization of the route network.

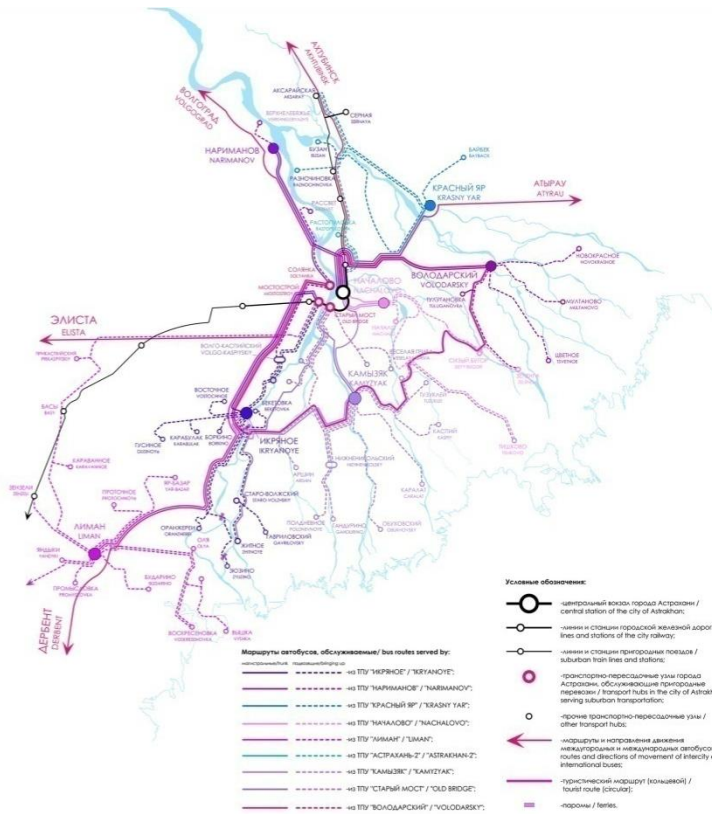
Major events:

- by passes of Astrakhan, Narimanov, Krasny Yar, Ikryanoy;
- 2 bridges over the Volga in Astrakhan;
- the rocky road in the Delta;
- decrease in the number of "out-of-the-way" villages



TRANSPORTATION SERVICE AGGLOMERATION

The master plan provides for a change in the model of transport services for the agglomeration, the introduction of an intermodal system of regional transport with regional centers as transport hubs and with an orientation to peripheral transport hubs in the core of the agglomeration

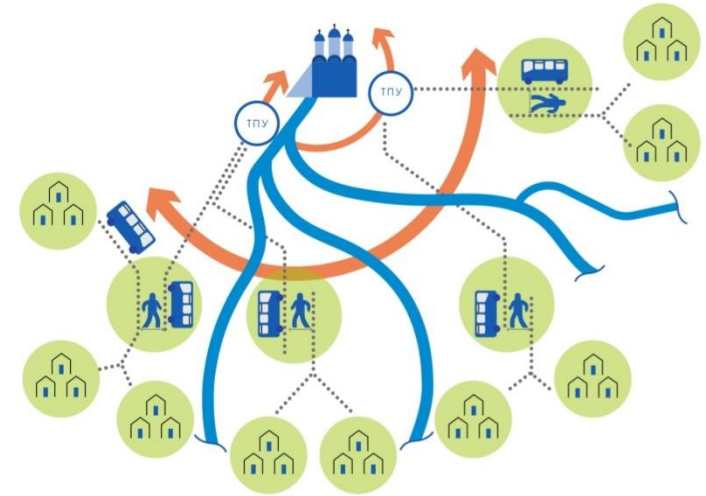


Agglomeration route network diagram



ТРАНСПОРТ И ЛОГИСТИКА TRANSPORT AND LOGISTIC

A fundamental model of transport services for an agglomeration



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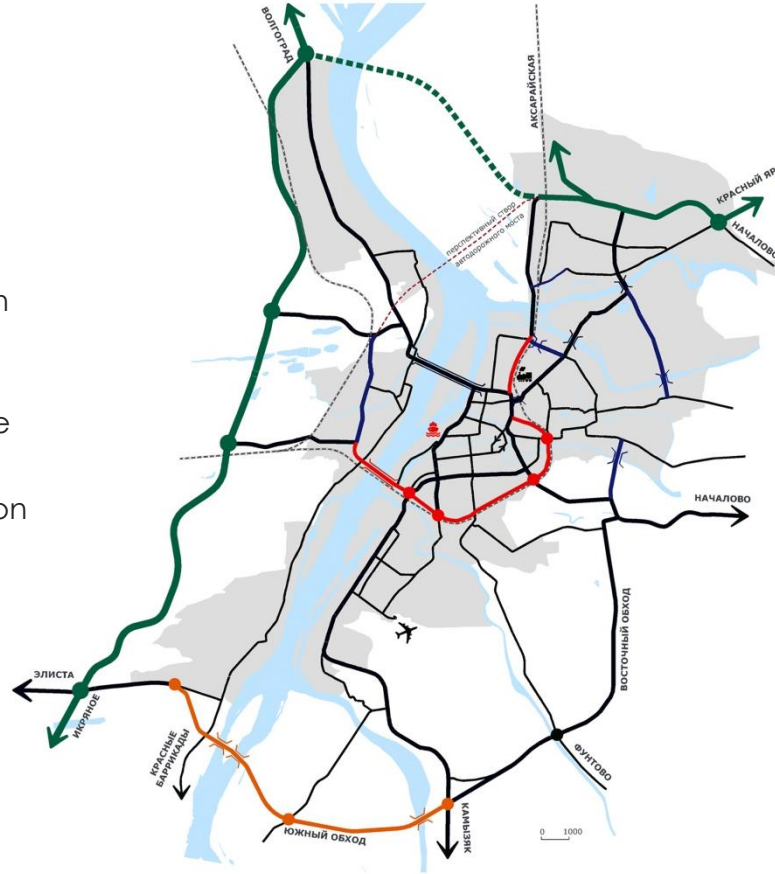
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TRANSPORT FRAME OF THE AGLOMERATION CORE

Provided:

- differentiation of highways for working with urban transport;
- construction of a high-speed highway along the railway line;
- deep high-speed input on the street. Latysheva;
- construction of the new Old Bridge;
- closure of the City Ring through Moldavskaya street

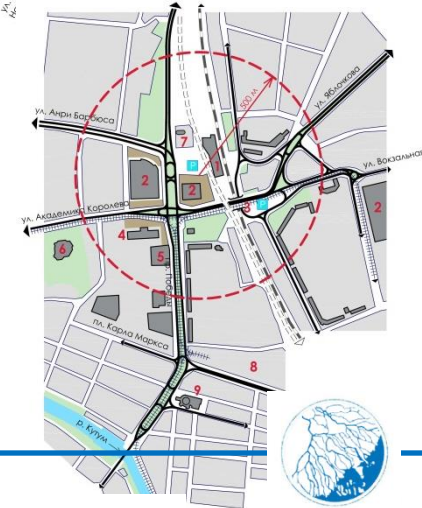


ТРАНСПОРТ И ЛОГИСТИКА TRANSPORT AND LOGISTIC



Scheme of TPU
«Stary Most»

Scheme of TPU
«Vokzal»



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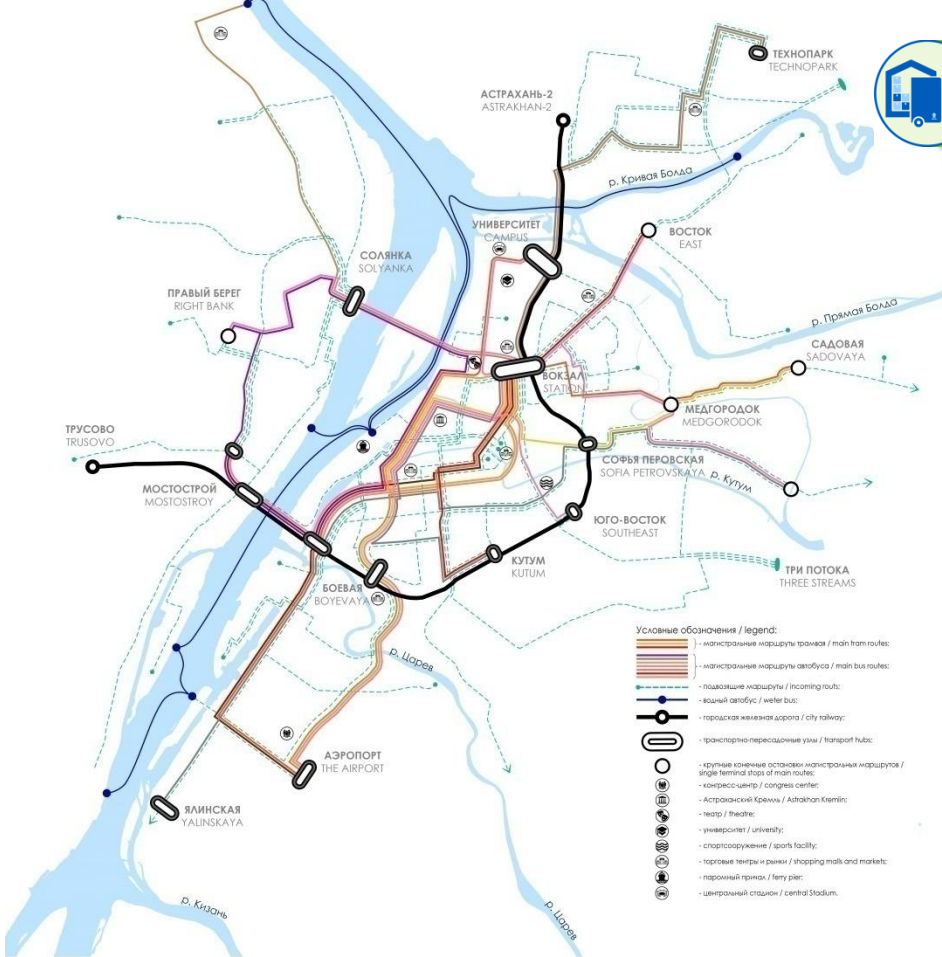
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TRANSPORTATION SERVICE ASTRAKHAN

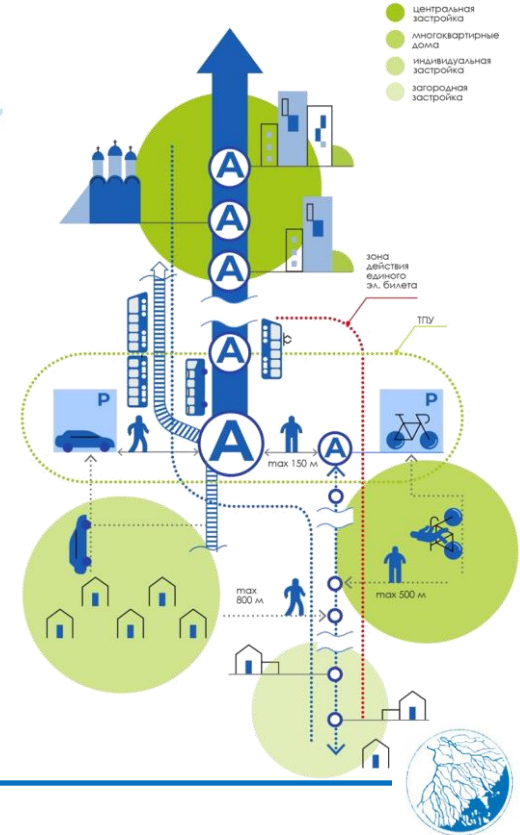
The master plan provides for a change in the ideology of transport services for the center of the agglomeration, a clear differentiation of public transport into main and supply transport, the introduction of an intermodal system with a single electronic ticket



- Условные обозначения / legend:
- магистральные маршруты трамвая / main tram routes;
 - магистральные маршруты автобуса / main bus routes;
 - подъезжие маршруты / incoming routes;
 - водный автобус / water bus;
 - городская железная дорога / city railway;
 - транспортно-пересадочные узлы / transport hubs;
 - крупные конечные остановки магистральных маршрутов / large terminal stops of main routes;
 - конгресс-центр / congress center;
 - Астраханский Кремль / Astrakhan Kremlin;
 - театр / theatre;
 - университет / university;
 - спортивное сооружение / sports facility;
 - торговые центры и рынки / shopping malls and markets;
 - паровый причал / ferry pier;
 - центральный стадион / central stadium.



ТРАНСПОРТ И ЛОГИСТИКА TRANSPORT AND LOGISTIC



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CITY RAILWAY

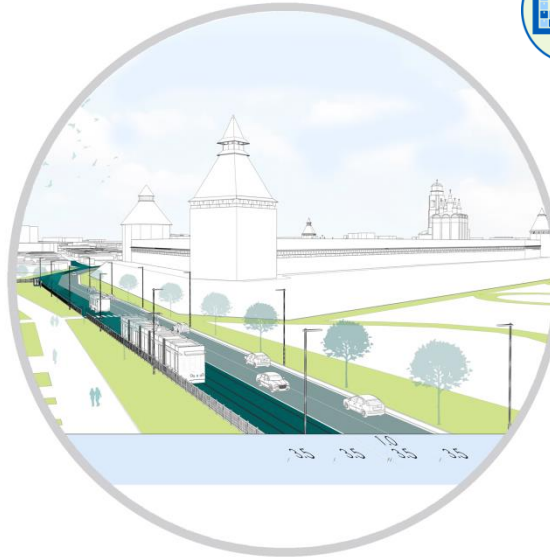
It is planned to create a city railway between the stations Astrakhan-2 and Trusovo with 8 intermediate stops using two-car trains of RA-3 rail buses

MODERN TRAM

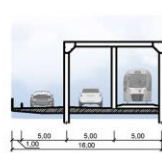
A modern tram should become the basis for intracity transportation as an environmentally friendly transport with a large carrying capacity. It is proposed to operate 4 routes with the city ring and departure lines to the airport, the University and to the former Kirov shipyard

NEW OLD BRIDGE

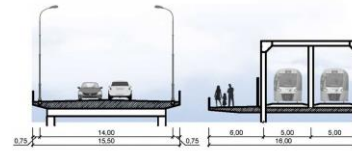
Reconstruction of the Old Bridge for double-track railway traffic and the construction of a new road bridge across the Volga nearby



Profile on the new
Old Bridge



Старый мост / Old bridge

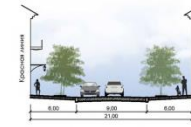


Новый старый мост / New old bridge



Cross-sections for tramway streets

Существующий / Existing



Ул. Академика Королева /
Academician Koroleva st.

Проектный / Planning



Ул. Академика Королева /
Academician Koroleva st.

Существующий / Existing



Ул. Красная Набережная /
Red Embankment st.

Проектный / Planning



Ул. Красная Набережная /
Red Embankment st.

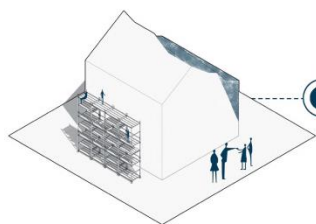


SET OF PRINCIPLES

Making cultural heritage properties active means putting them into use and bringing them to life through different preservation and valorization approaches. Because activities encourage and assure the preservation of the heritage properties, it's important to propose resilient uses of them (to various social, economical and environmental changes).

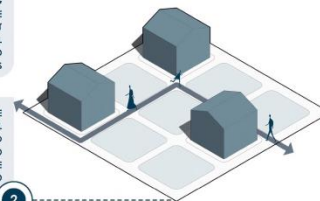


КУЛЬТУРА И КОММУНИКАЦИИ CULTURE AND COMMUNICATION



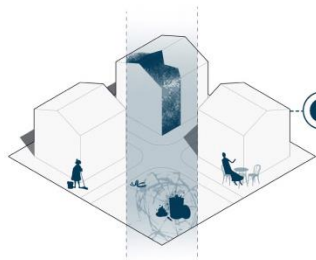
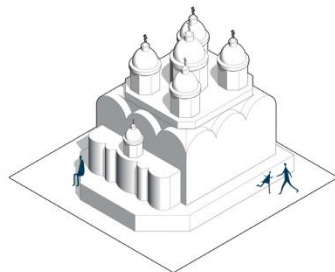
1

ENSURE THE PRIORITIZATION OF RESTORATION ACTIVITIES FOR HERITAGE SITES IN SELECTED REGENERATION ZONES AND TERRITORIES, THROUGH A STRONG STAKEHOLDER ENGAGEMENT APPROACH AND INNOVATIVE KNOWLEDGE EXCHANGE MODELS BETWEEN DIFFERENT URBAN ACTORS GROUPS IN ORDER TO CREATE "WELL PRESERVED SPACES" AND CONDITIONS TO PROVIDE GOOD IMPLEMENTATION PRACTICES



2

SUPPORT A DYNAMIC, INTEGRATED AND RESPONSIBLE TOURISM DEVELOPMENT THROUGH THEMATIC HISTORICAL HERITAGE ROUTES IMPLEMENTATION THAT TAKES INTO ACCOUNT BOTH THE HERITAGE PROPERTIES INSIDE AND OUTSIDE OF EACH SETTLEMENT AND INNOVATIVE AWARENESS RAISING AND LOCAL EMPOWERMENT AND COOPERATION ACTIVITIES AND METHODS.



3

PRESERVE AND PROMOTE THE INTEGRITY AND AUTHENTICITY OF THE HISTORICAL AND CULTURAL ENVIRONMENT OF EACH POINT OF GROWTH IN THE REGION WITH THEIR DIVERSITY AND TYPOLOGIES, AFTER A SOLID ANALYSIS OF THE CHARACTERISTICS AND THEIR HIGH VALUE DEVELOPMENT POTENTIAL FOR ENSURING APPROPRIATE RE-USE AND RE-PURPOSE PRACTICES.



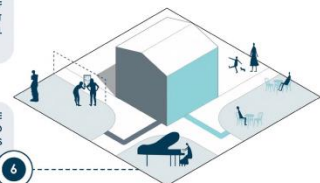
4

DEVELOPMENT OF SUSTAINABLE AND CREATIVE CULTURAL DISTRICTS THAT WILL FUNCTION AS A CONNECTION NETWORK OF DIFFERENT HERITAGE RESOURCES, INTEGRATED WITH COMPLEMENTARY SECTORS INTERVENTIONS (TOURISM, CCI, SOCIAL SERVICES) AND SUPPORTED BY PILOT CO-CREATION ACTIONS WITH LOCAL COMMUNITIES AND PUBLIC AND PRIVATE BODIES.



5

DEVELOP A UNIQUE AND DIVERSIFIED IDENTITY OF ASTRAKHAN AGGLOMERATION, THAT TAKE INTO ACCOUNT THE DIFFERENT CULTURAL IDENTITY AND AUTHENTICITY OF EACH SETTLEMENT AND THEIR SPECIFIC DEVELOPMENT POTENTIAL IN ORDER TO CREATE A HOLISTIC AND WELL BALANCED APPROACH.



6

CAPITALIZE THE POTENTIAL OF HERITAGE TO MAKE THE ASTRAKHAN REGION INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE FOR CURRENT AND FUTURE GENERATIONS BOTH LOCAL COMMUNITIES AND TOURISTS.



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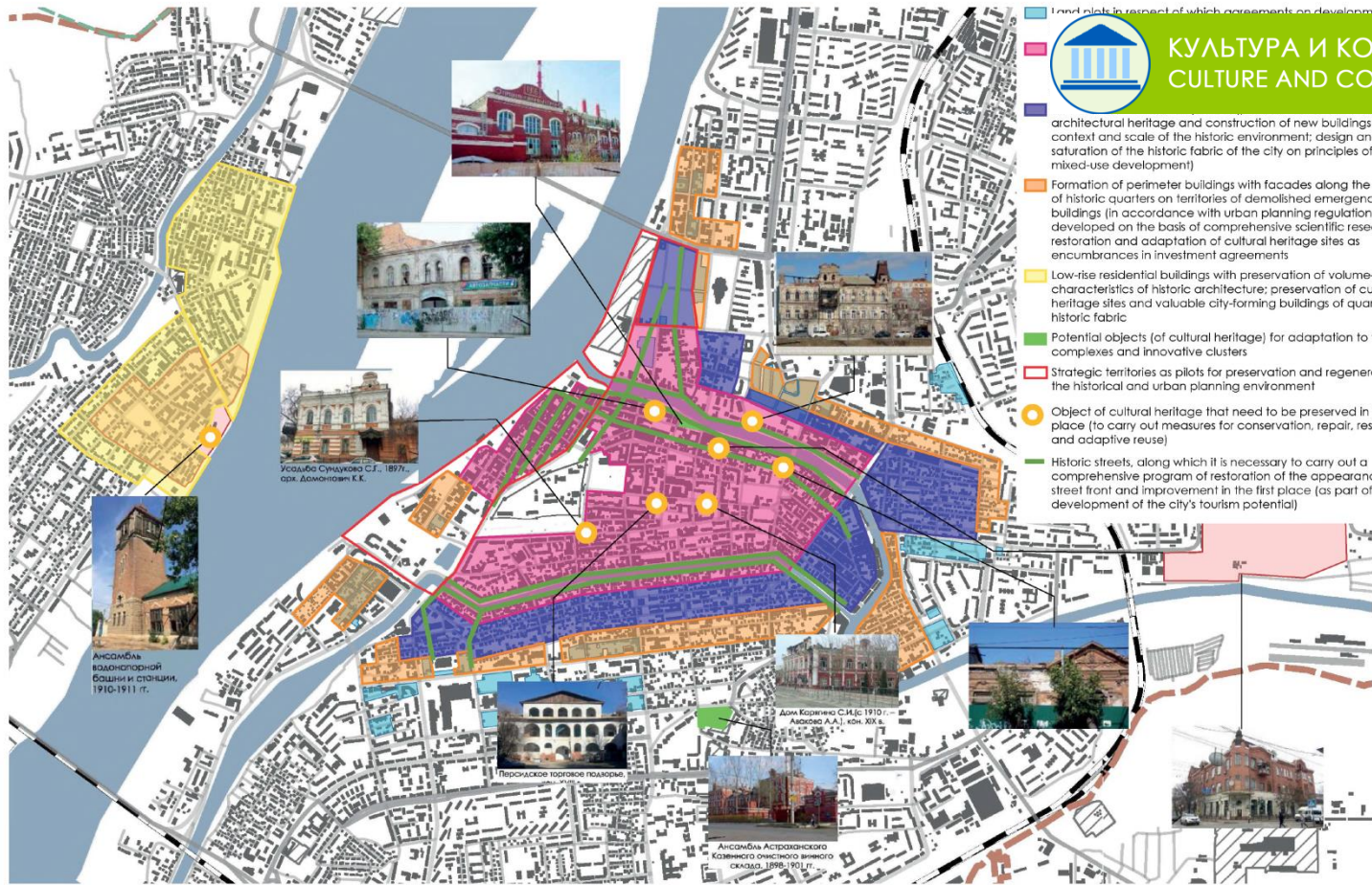


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КУЛЬТУРА И КОММУНИКАЦИИ CULTURE AND COMMUNICATION

- Land plots in respect of which agreements on development of
- architectural heritage and construction of new buildings in context and scale of the historic environment; design and saturation of the historic fabric of the city on principles of mixed-use development)
- Formation of perimeter buildings with facades along the red line of historic quarters on territories of demolished emergency buildings (in accordance with urban planning regulations developed on the basis of comprehensive scientific research); restoration and adaptation of cultural heritage sites as encumbrances in investment agreements
- Low-rise residential buildings with preservation of volume-spatial characteristics of historic architecture; preservation of cultural heritage sites and valuable city-forming buildings of quarterly historic fabric
- Potential objects (of cultural heritage) for adaptation to tourist complexes and innovative clusters
- Strategic territories as pilots for preservation and regeneration of the historical and urban planning environment
- Object of cultural heritage that need to be preserved in the first place (to carry out measures for conservation, repair, restoration and adaptive reuse)
- Historic streets, along which it is necessary to carry out a comprehensive program of restoration of the appearance of the street front and improvement in the first place (as part of the development of the city's tourism potential)



Усадьба Сулакова С.Г., 1897 г., арх. Домингов К.Е.



Ансамбль водонапорной башни и станции, 1910-1911 гг.



Персидское торговое подворье



Дом Караченко С.М. (с 1910 г. — владение А.А.), кон. XIX в.



Ансамбль Астраханского Караченко оповещательного склада, 1898-1901 гг.



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**SCIENTIFIC RESEARCH
AND URBAN COMMUNITY**

Creation of a scientific and practical consortium to finalize the project of a historical settlement and develop a sustainable development project for the center of Astrakhan

Design organizations from St. Petersburg and



Experts and researchers from Astrakhan

URBAN PLANNING REGULATIONS ON THE TERRITORY OF THE HISTORICAL SETTLEMENT



ARCHITECTURAL SOLUTIONS FOR NEW CONSTRUCTION IN THE TERRITORY OF A HISTORICAL SETTLEMENT (ALBUM-DESIGNER FOR INVESTORS AND RESIDENTS)



CREATION OF A SINGLE INFORMATION RESOURCE DEDICATED TO THE ARCHITECTURAL HERITAGE OF ASTRAKHAN IN ORDER TO POPULARIZE AND EXPAND THE TOURIST POTENTIAL OF THE REGION



ATTRACTING VOLUNTEERS OF OBJECTS OF CULTURAL SIGNIFICANCE, NATURAL AND SCIENTIFIC RESEARCH

**ADMINISTRATIVE AND
LEGAL LEVEL**



REVISION AND MODERNIZATION OF THE DRAINAGE SYSTEM, RECONSTRUCTION AND DEVELOPMENT OF THE STORM SEWER SYSTEM. DRAINAGE OF THE TERRITORY



LOWERING THE VERTICAL MARK OF THE LEVEL OF ROADS AND SIDEWALKS (DOOT 30-50 CM.) SYNCHRONIZATION OF PROJECTS FOR ROAD REPAIR AND IMPROVEMENT



DREDGING AND RESTORATION OF THE STRENGTH OF INTERNAL WATERCOURSES (KUTUM AND KANAL RIVERS) IMPROVEMENT OF ECOLOGY



REVISION OF APARTMENT BUILDINGS (INCLUDING CULTURAL HERITAGE SITES) FOR MANAGEMENT EFFICIENCY AND THE ACCUMULATION OF CONTRIBUTIONS FOR MAJOR REPAIRS. INCLUSION OF RESIDENTIAL BUILDINGS IN THE CAPITAL REPAIR PROGRAM



RELOCATION OF PEOPLE FROM EMERGENCY BUILDINGS AND DEVELOPMENT OF PROGRAMS FOR THE RESTORATION, RECONSTRUCTION AND REVITALIZATION OF HISTORICAL QUARTERS (SUSTAINABLE DEVELOPMENT)



CO-FINANCING OF CAPITAL REPAIR WORKS SMALL APARTMENT BUILDINGS (UP TO 5 APARTMENTS) WHICH ARE OBJECTS OF CULTURAL HERITAGE AND VALUABLE GARDEN-FORMING OBJECTS CHITECTURAL ELEMENTS (FACADE DECOR)



SUBSIDIZING RESTORATION WORK AS PART OF A MAJOR OVERHAUL FOR CULTURAL HERITAGE SITES WITH COMPLEX SCULPTURAL AND ART

BUSINESS COMMUNITY



CREATION OF A UNIFIED INFORMATION PLATFORM FOR THE BUSINESS COMMUNITY AND POTENTIAL INVESTORS FOR THE DEVELOPMENT OF THE HISTORICAL BUILDINGS OF THE CITY (PRESERVATION AND USE OF CULTURAL HERITAGE OBJECTS)



COMPREHENSIVE OVERHAUL OF HISTORIC BUILDINGS FOR SALE ON PREFERENTIAL TERMS TO YOUNG PROFESSIONALS AND YOUNG FAMILIES (PUBLIC-PRIVATE PARTNERSHIP)



INVESTMENT AGREEMENT FOR THE IMPLEMENTATION OF HISTORICAL QUARTERS WITH THE DEVELOPMENT OF VACANT LAND, RESTORATION OF OBJECTS OF CORN HERITAGE AND RECONSTRUCTION OF VALUABLE HISTORICAL BUILDINGS



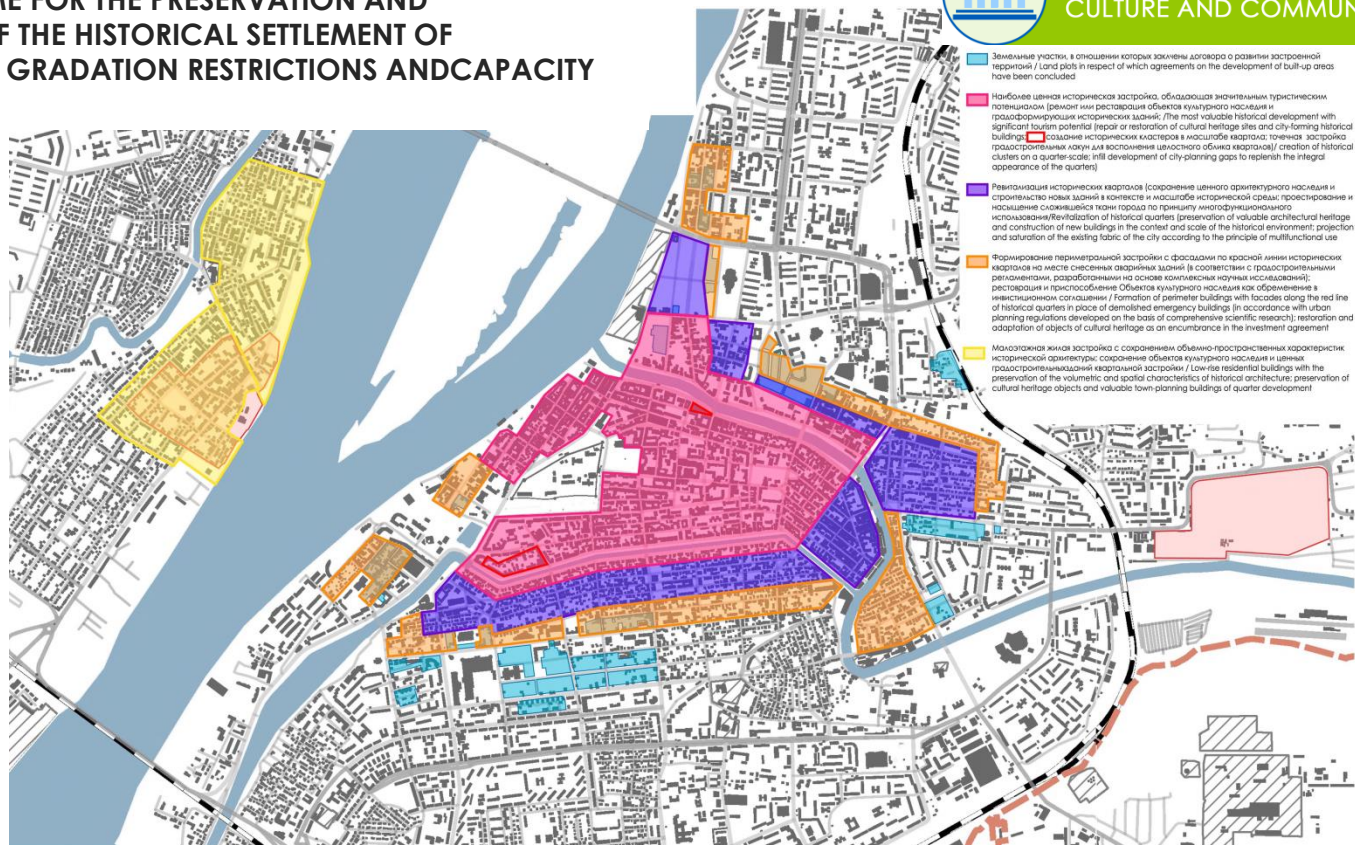
RENT OF CULTURAL HERITAGE SITES FOR 1 RUBLE (PROVISION OF PREFERENTIAL RENT FOR 49 YEARS AFTER REPAIR AND RESTORATION WORK)



STRATEGY SCHEME FOR THE PRESERVATION AND DEVELOPMENT OF THE HISTORICAL SETTLEMENT OF ASTRAKHAN WITH GRADATION RESTRICTIONS AND CAPACITY OF TERRITORIES



КУЛЬТУРА И КОММУНИКАЦИИ
CULTURE AND COMMUNICATION



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INTERNATIONAL EXHIBITION CENTER

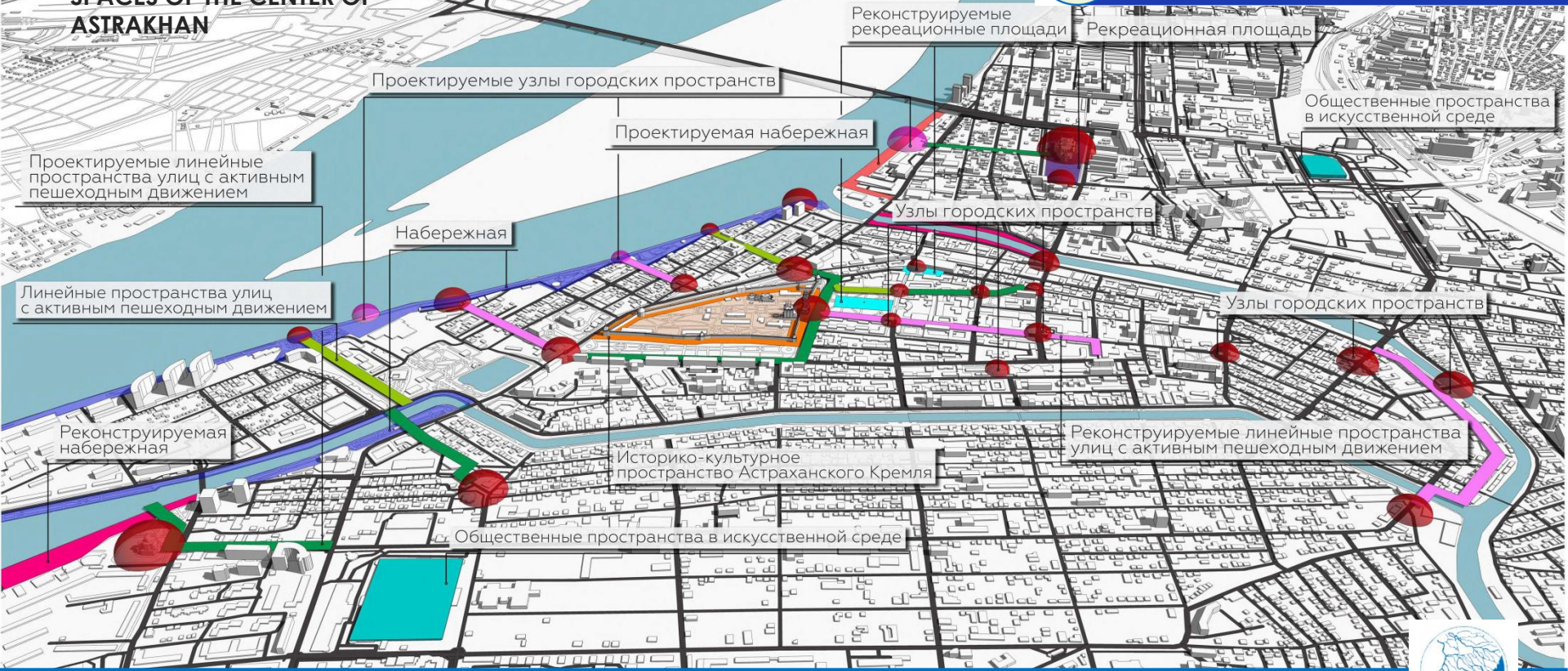
To organize a new space for business communications and cultural exchange, it is proposed to build an international exhibition complex on the Airport Highway. The complex consists of an exhibition hall of 20,000 square meters, a congress center, a hotel with 150 seats. Communication with the international airport is carried out using shuttles.



STRUCTURE OF PUBLIC SPACES OF THE CENTER OF ASTRAKHAN



НОВАЯ СРЕДА ДЛЯ ЖИЗНИ
NEW LIVING ENVIRONMENT



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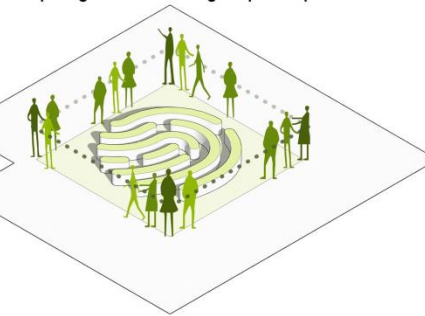
Public spaces as a weaver of the urban/rural fabric



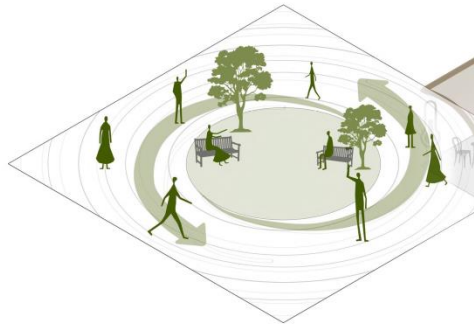
Public space as multicultural support to the sustainable tourism economy - Public space the intersection of cultures, identities, ways of life.



Public space as a result of community developed/oriented initiatives - citizens as protagonists in modeling the public space.



Public space as a dynamic connector for a new permeability of the city

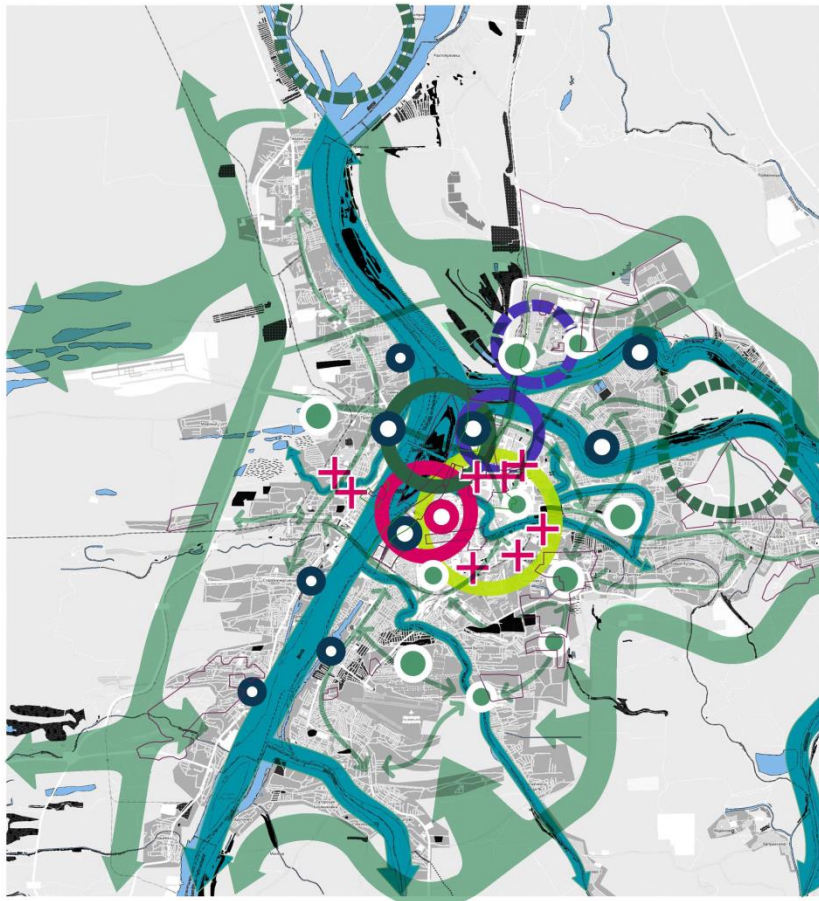


Public spaces with high degree of green areas - places for climate mitigation actions and ecosystemic services improvement.



Systemic approach on green infrastructure - Creating a comprehensive network of green planted spaces





- LEGEND**
- Regenerated collective housing area
 - Cultural and historic representative area
 - Modern public space in relation to education and business centers/ mixed-use developments
 - Natural area - the Island
 - Natural area - green field (afforestation)
 - Urban gardens
 - Waterfronts landscape developments
 - Green protective belts
 - Blue network



НОВАЯ СРЕДА ДЛЯ ЖИЗНИ NEW LIVING ENVIRONMENT

Cultural area: public spaces are suitable for pedestrians, with shared streets highlighting the revitalized buildings and heritage. The urban environment is dynamic, with a high density of services, amenities, restaurants, cafes. Public spaces support a wide variety of public events.

Regenerated Urban Development: A sustainably transformed community area. Green spaces are used by the local community in different ways: parks, community gardens, productive gardens, community gardens. The general urban policy in this area is a closed economy at the local level - public spaces are a resource for various urban value chains.

Public spaces in new modern urban centers: characterized by the integration of intelligent technologies and adaptation to different contexts and requirements. The spaces are designed to be multifunctional - a place to interact, work and explore. Natural areas are an integral part of public spaces throughout the city: the two main natural areas embedded in the urban fabric are regional attractions - a place to observe and explore nature in the heart of the city.



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Transformation through community gardening (Ikryanoye village)



Water front green corridor transformation (Krasny Yar village)



Urban regeneration through street reconfiguration (Narimanov)



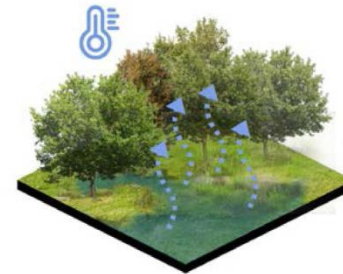
Simple ecologic placemaking intervention (Kamyzyak village)



URBAN GARDENING



BIODIVERSITY



MICROCLIMATE



INTERACTION WITH EXISTING PIPES

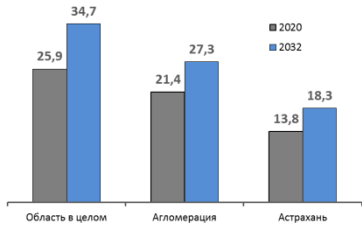
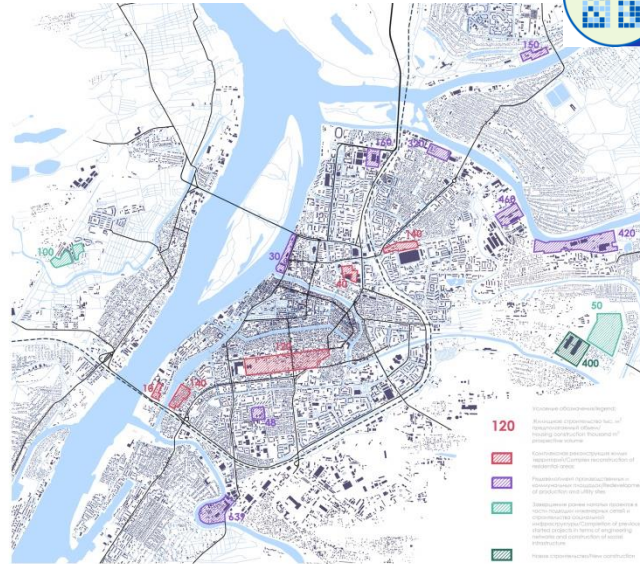


HOUSING CONSTRUCTION

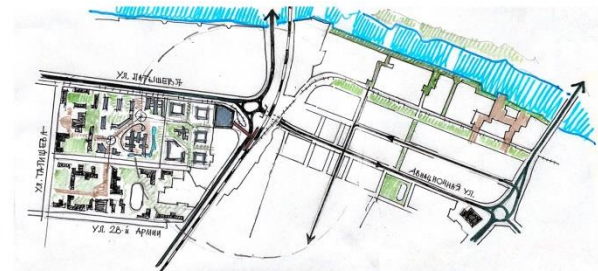
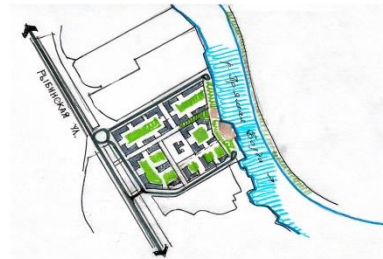


НОВАЯ СРЕДА ДЛЯ ЖИЗНИ
NEW LIVING ENVIRONMENT

It is proposed to develop various forms of housing construction
Housing stock growth up to 2032: 5900 thousand sq. M.,incl.
Astrakhan 76%
Housing availability throughout the agglomeration:
2020: 25.74 sq.m. / person
2032: 32.36 sq.m. / person.



Housing stock, mln. Sq. m.



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NEW INFRASTRUCTURE

Infrastructure development activities are summarized by areas (industries) and administrative units

УСЛОВНЫЕ ОБОЗНАЧЕНИЯ / CONVENTIONAL DESIGNATIONS

ГРАНИЦЫ / BOUNDARIES

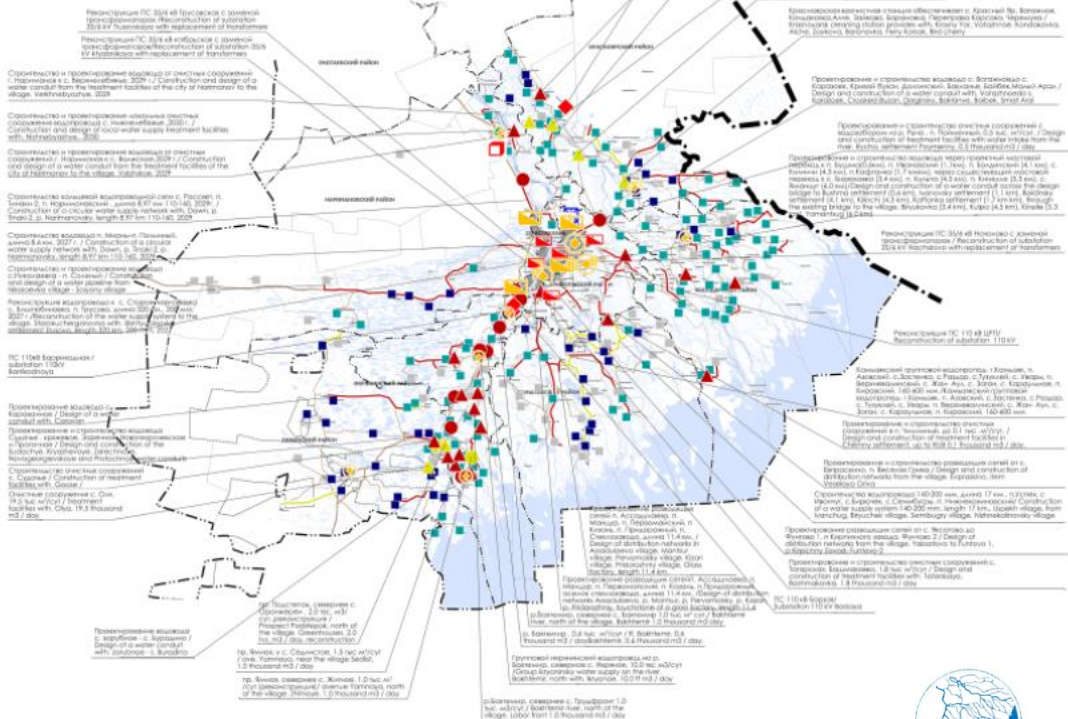
- Границы Российской Федерации / Border of the Russian Federation
- Границы субъекта РФ / Border of the subject of the Russian Federation
- Границы муниципального района / Border of the municipal district
- Границы городского округа / Border of the urban district
- Границы городского поселения / Settlement (Settlement of the urban district)
- Границы сельского поселения / Border of a rural settlement

ОБЪЕКТЫ ИНЖЕНЕРНОЙ ИНФРАСТРУКТУРЫ / ENGINEERING INFRASTRUCTURE FACILITIES

- Высоковольтные линии электропередачи (первая очередь) / High-voltage power lines (1st stage)
- Строительство солнечной электростанции (первая очередь) / High-voltage power lines (1st stage)
- Очистные сооружения (планируемые к реконструкции) - первая очередь / Treatment facilities (planned for reconstruction) - 1st stage
- Очистные сооружения (планируемые к размещению) - первая очередь / Treatment facilities (planned for placement) - 1st stage
- Водозаборы (планируемые к реконструкции) - первая очередь / Water intakes (planned for reconstruction) - 1st stage
- Водозаборы (планируемые к размещению) - первая очередь / Water intakes (planned for placement) - 1st stage
- Водоводы (планируемые к размещению) - первая очередь / Water pipelines (planned for placement) - 1st stage
- Водоводы (планируемые к размещению) - первая очередь / Water pipelines (planned for placement) - 1st stage
- Подстанции (строительство) - первая очередь / Substations (construction) - 1st stage
- Подстанции (реконструкция) - первая очередь / Substations (reconstruction) - 1st stage
- Подстанции (реконструкция) - долгосрочный период / Substations (reconstruction) - long term
- Реконструкция очистных сооружений канализации (первая очередь) / Reconstruction of sewage treatment facilities (1st stage)
- Реконструкция очистных сооружений канализации (долгосрочный период) / Reconstruction of sewage treatment facilities (long-term period)
- Реконструкция объектов теплоснабжения (первая очередь) / Reconstruction of heat supply facilities (1st stage)
- Строительство объектов теплоснабжения (долгосрочный период) / Construction of heat supply facilities (long-term period)
- Строительство газораспределительная станция (первая очередь) / Construction of gas distribution station (1st stage)
- Реконструкция газораспределительная станция (долгосрочный период) / Reconstruction of gas distribution station (long term)
- Централизованное водоснабжение питьевое / Centralized drinking water supply
- Централизованное техническое водоснабжение / Centralized technical water supply
- Отсутствие централизованного водоснабжения / Lack of centralized water supply

АВТОМОБИЛЬНЫЕ ДОРОГИ / CAR ROADS

- Дороги Федерального значения / Federal roads
- Дороги регионального и межмуниципального значения / Regional and inter-municipal roads



ИНФРАСТРУКТУРА INFRASTRUCTURE



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FORMATION OF A "GREEN" AND "BLUE" STRATEGY FOR THE NUCLEUS OF AGGLOMERATION



ЗДОРОВЬЕ
HEALTH



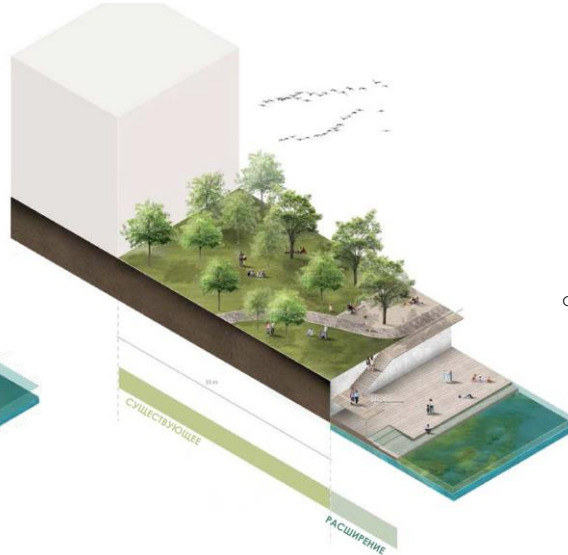
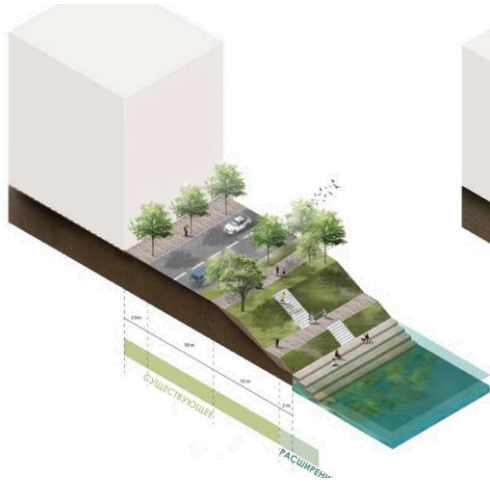
DESIGN PRINCIPLES FOR BLUE AND GREEN FRAME ELEMENTS



ЗДОРОВЬЕ
HEALTH

The banks of the old canals

Bank of the Volga



Creation of green embankments along the Volga



Selective water expansion



Formation of soft boundaries along the banks of the Volga



Create a coherent and continuous green network along waterways



Expansion of the shore: spaces on the water



Creation of green buildings along the Volga on vacated land plots



Making promenades on the water



Continuing boulevards



Creation of green access points in certain places, such as a city beach



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FORMATION OF GREEN LINKS ON THE BASIS OF THE STREET- ROAD NETWORK



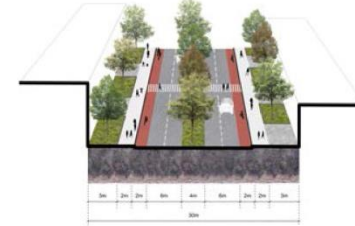
ЗДОРОВЬЕ
HEALTH



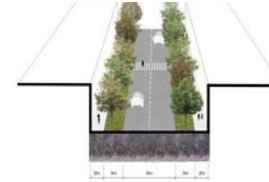
Main city road



Intra-city road



Minor road



Local road



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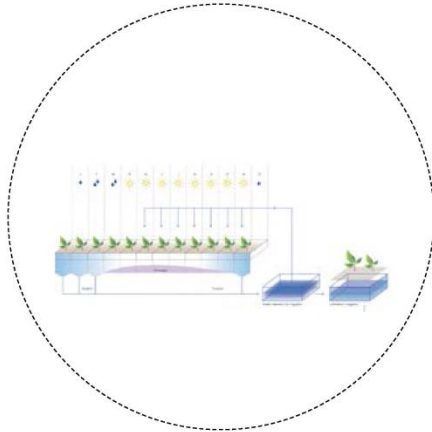
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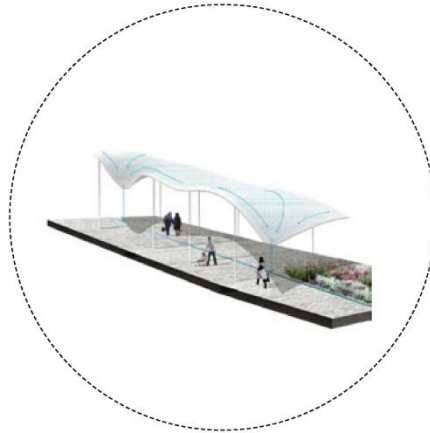
WATER RECYCLING IN URBAN ENVIRONMENTS



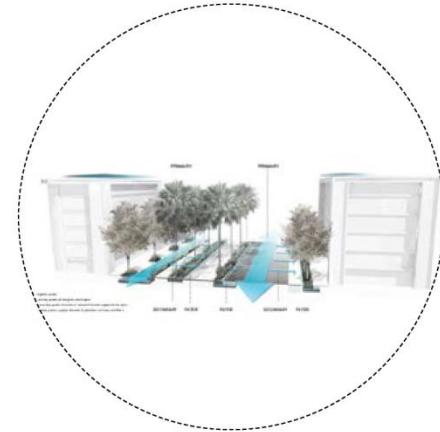
ЗДОРОВЬЕ
HEALTH



Irrigation system using collected rain water



Pergola and kiosk design allows condensation to be collected at night



Integrated water retention and irrigation system



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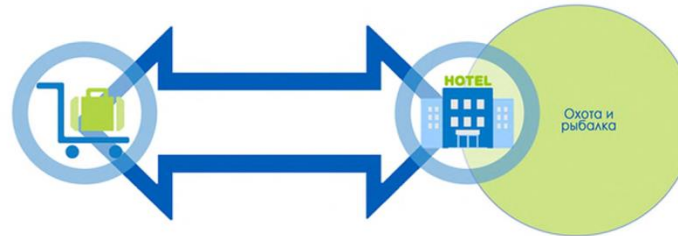
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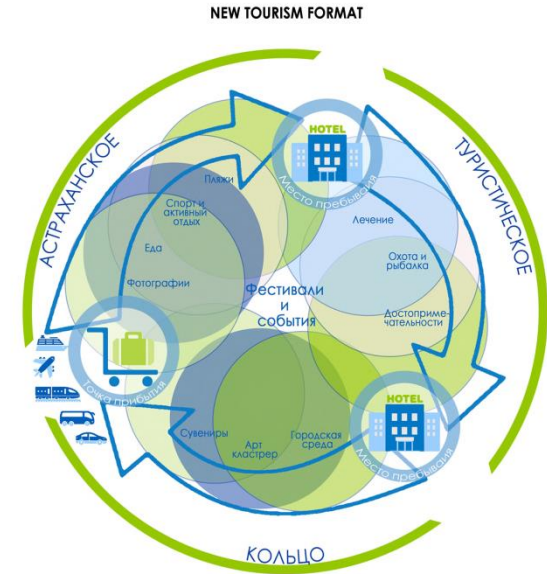


CHANGE OF THE TOURISM ORGANIZATION MODEL

The current model of organizing mass inbound tourism in the agglomeration assumes a linear scheme "Airport - fishing - airport", which is not able to create a multiplier effect and bring significant income to the budget. The master plan involves the creation of a branched circular model of the organization of tourist services, in which further growth of tourism is concentrated not in the delta based on fishing, but in the core of the agglomeration based on a combination of cultural, educational, event and ecological tourism.



ТУРИЗМ
TOURISM



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EVENT TOURISM PROGRAM IN ASTRAKHAN AGGLOMERATION



ТУРИЗМ
TOURISM



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INTEGRATIONEVENTS PROGRAMINTO THE GLOBAL AND RUSSIAN CONTEXT

Let's be friends ...

... with the Kremlin ...

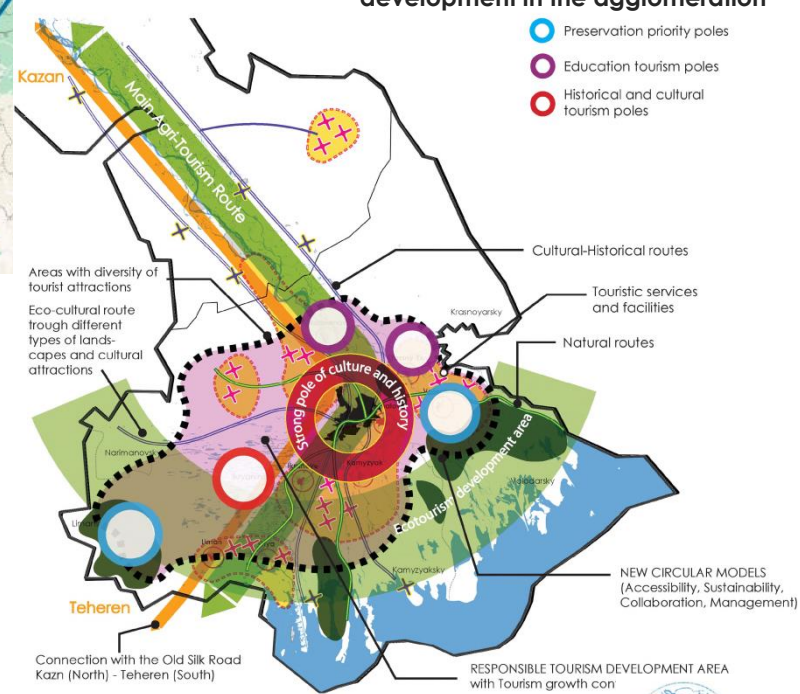
... with deltas...



ТУРИЗМ
TOURISM

Spatial model of tourism development in the agglomeration

- Preservation priority poles
- Education tourism poles
- Historical and cultural tourism poles



Амазонка
Amazon



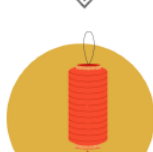
Фестиваль самбы
Samba festival

Миссисипи
Missisipi



Фестиваль джаза
Jazz festival

Сицзян
Хйiang



Фестиваль фонариков
Mid autumn festival

Дунай
Danube



Фестиваль рыбного борща
Fish borscht festival

Рейн
Rhine



Пивной фестиваль
Beer festival



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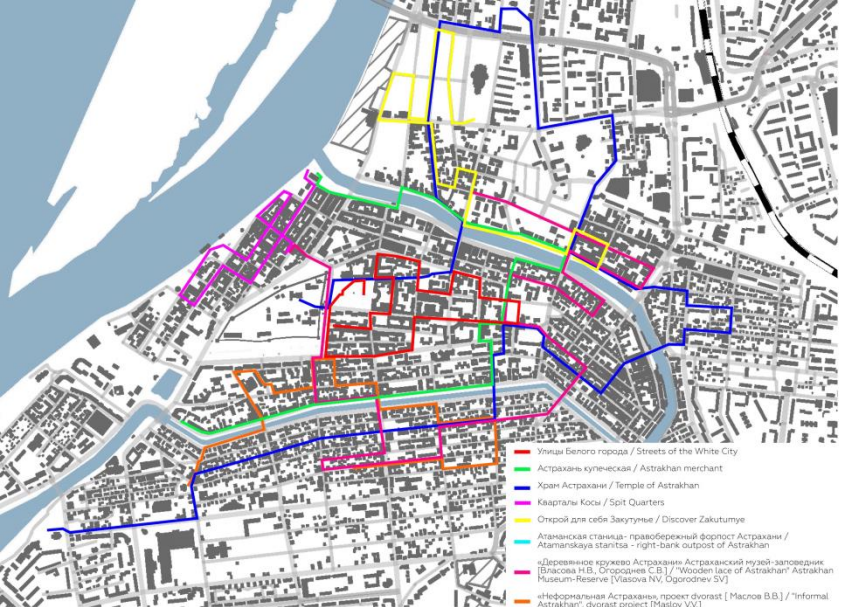


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- Улицы Белого города / Streets of the White City
- Астрахань купеческая / Astrakhan merchant
- Храм Астрахани / Temple of Astrakhan
- Кварталы Косы / Spit Quarters
- Открыл для себя Закутумье / Discover Zakutumye
- Атаманская станция- правобережный форпост Астрахани / Atamanskaya stanitsa - right-bank outpost of Astrakhan
- «Деревянное кружево Астрахани» Астраханский музей-заповедник [Власова Н.В., Спиринцев С.В.] / "Wooden lace of Astrakhan" Astrakhan Museum-Reserve [Vlasova N.V., Ogorodnev S.V.]
- «Неформальная Астрахань, проект двора» [Маслов В.В.] / "Informal Astrakhan", dvorast project [Maslov V.V.]

Scheme of tourist routes in the historical center of Astrakhan



ТУРИЗМ
TOURISM



- Граница охранной зоны исторического поселения г. Астрахани / The border of the security zone of the historical settlement of Astrakhan
- Достопримечательности (значимые объекты культурного наследия и исторические здания) / Attractions (significant cultural heritage sites and historical buildings)
- Основные улицы, по которым проходят туристические маршруты / The main streets along which the tourist routes pass

Scheme of the tourist frame of the historical center of Astrakhan



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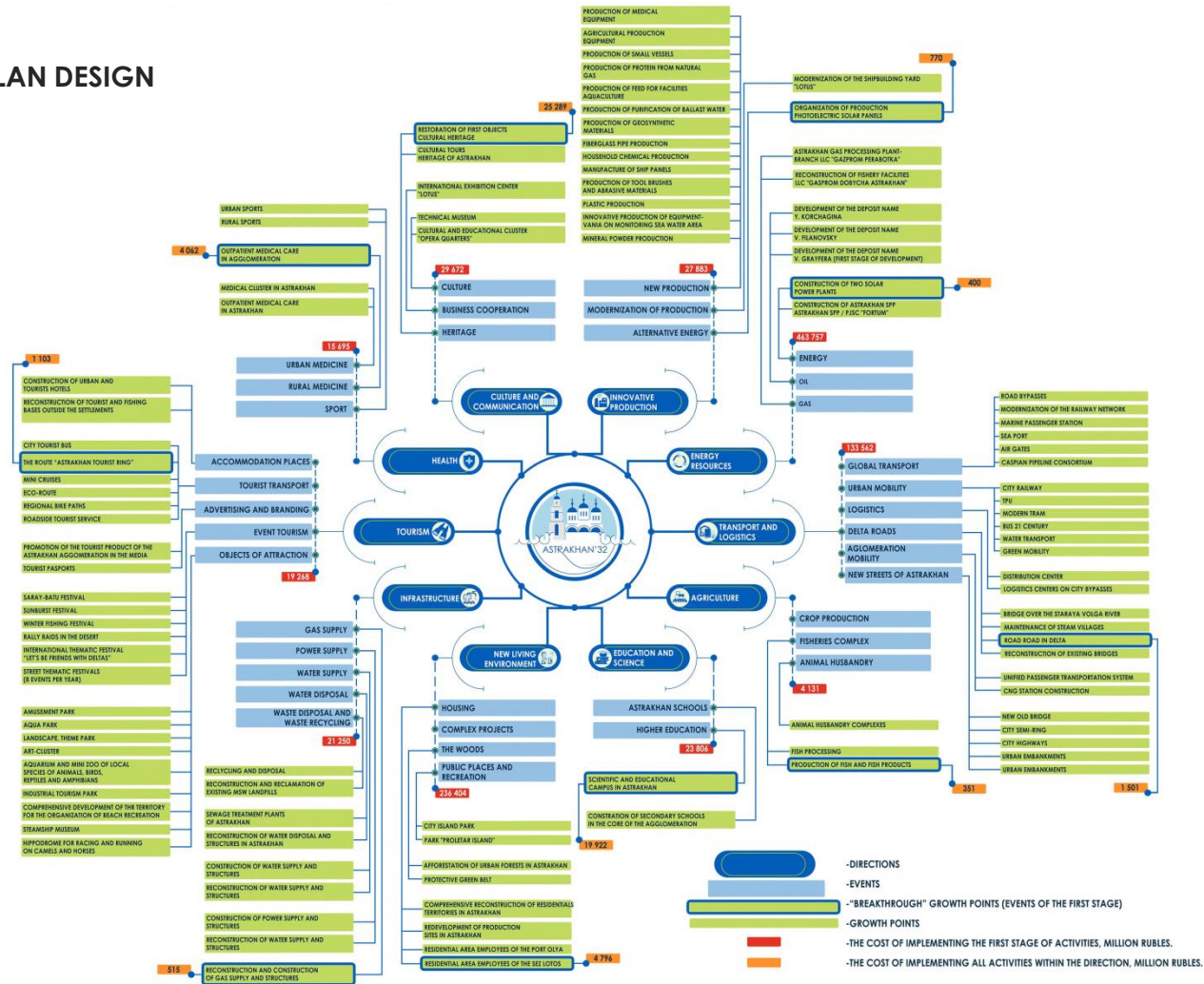
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SYSTEM MASTER-PLAN DESIGN MEASURES



ORGANIZATIONAL SCHEME OF FUNCTIONING OF AGGLOMERATION

The **Astrakhan agglomeration** is an inter-municipal combination of an urban district and six municipal districts (in the future, transformed into municipal districts).

The legal status of an agglomeration can be changed in the light of changes in federal legislation, if a law is adopted regulating the activities of agglomerations.

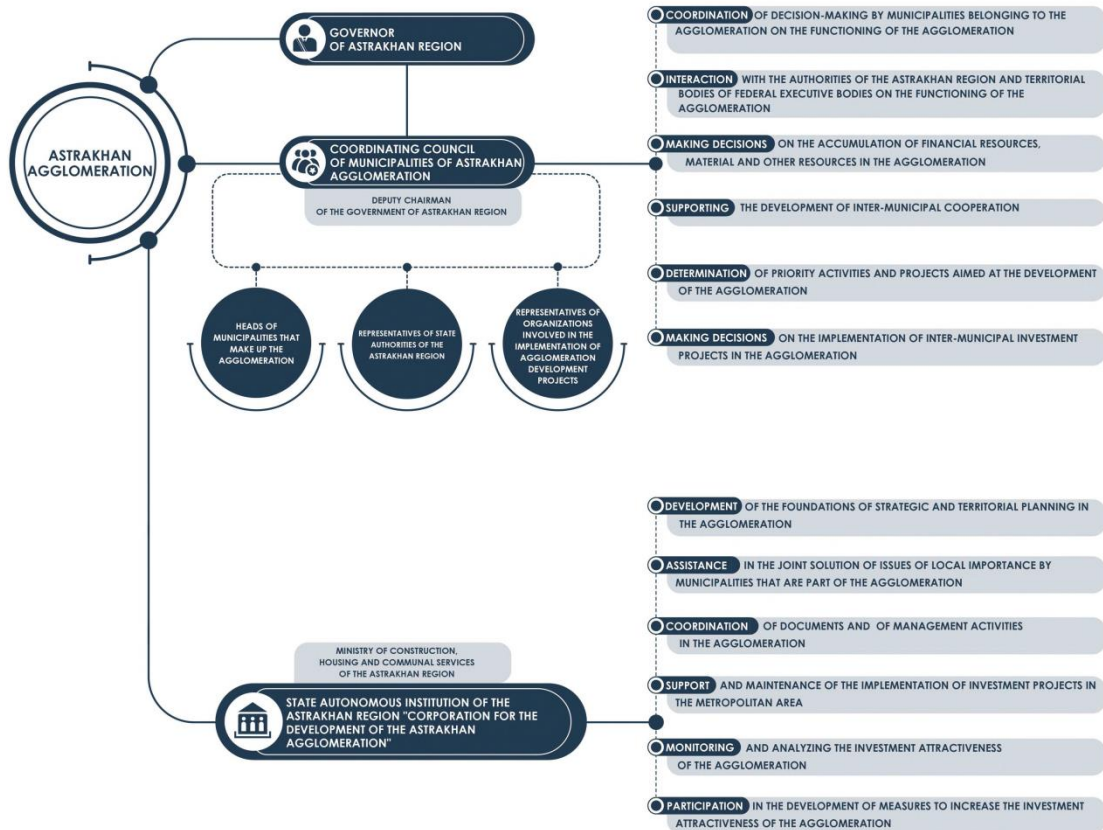
The governing body of the agglomeration is the **Coordination Council of the municipalities** of the agglomeration, which unites the heads of municipalities that are part of the agglomeration, representatives of the government authorities of the Astrakhan region, as well as representatives of organizations involved in the implementation of projects for the development of the agglomeration. The Council's activities are aimed at coordinating the adoption of decisions by municipalities, on the territory of which the agglomeration is located, on the functioning of the agglomeration.

The unification of various actors within the Council makes it possible to accumulate financial resources, material and other resources, to provide support in the development of inter-municipal cooperation.

In addition, in order to implement projects for the development of the Astrakhan agglomeration, the **Corporation for the development of the Astrakhan agglomeration** is being created in the form of a state autonomous institution of the Astrakhan Region.

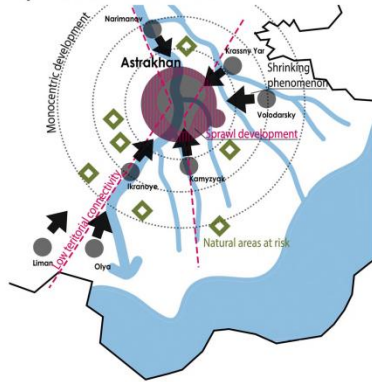
The corporation is one of the few examples of the formation of state structures for managing agglomerations and is a management body for the development of an agglomeration, whose main activities include developing the foundations of strategic and territorial planning, jointly resolving issues of local importance, agreeing documents and coordinating management activities.

DIAGRAM OF THE ORGANIZATION OF ASTRAKHAN AGGLOMERATION

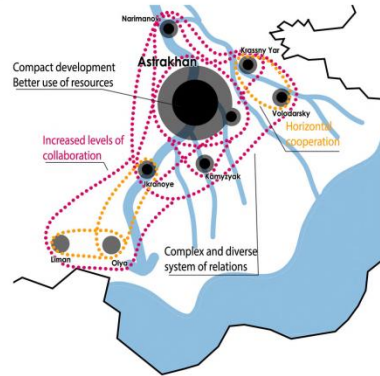


METHODOLOGY FOR CREATING A SUSTAINABLE AND RESILIENT AGGLOMERATION

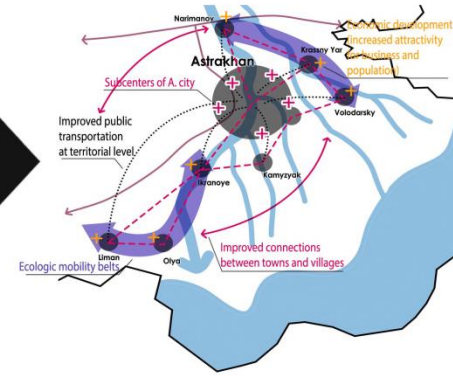
CURRENT STATE - Monocentric development/ Sprawl/ Natural areas at risk



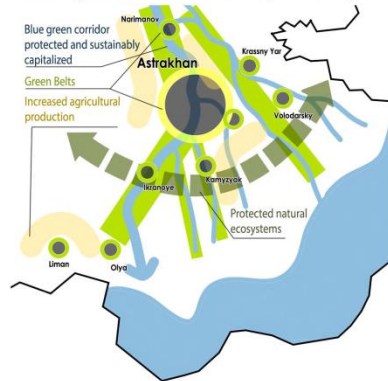
STEP 1 - Systemic approach Improve collaboration and cooperation between settlements



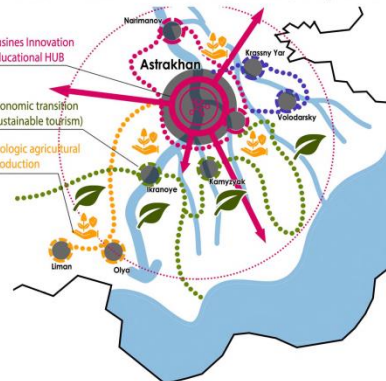
STEP 2 - Improved connectivity Enabling economic development



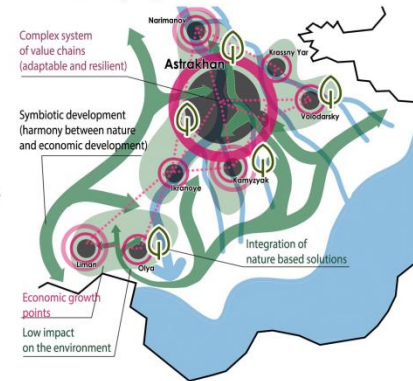
STEP 3 - Natural environment protection Protecting natural environment/ Compact development



STEP 4 - New economy Business-Innovation-Education HUB/ Tourism/ Eco-production



STEP 5 - Resilient agglomeration One territorial synergetic cluster



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SPATIAL DEVELOPMENT MODEL - SYMBIOSIS

CREATING A RESILIENT TERRITORY

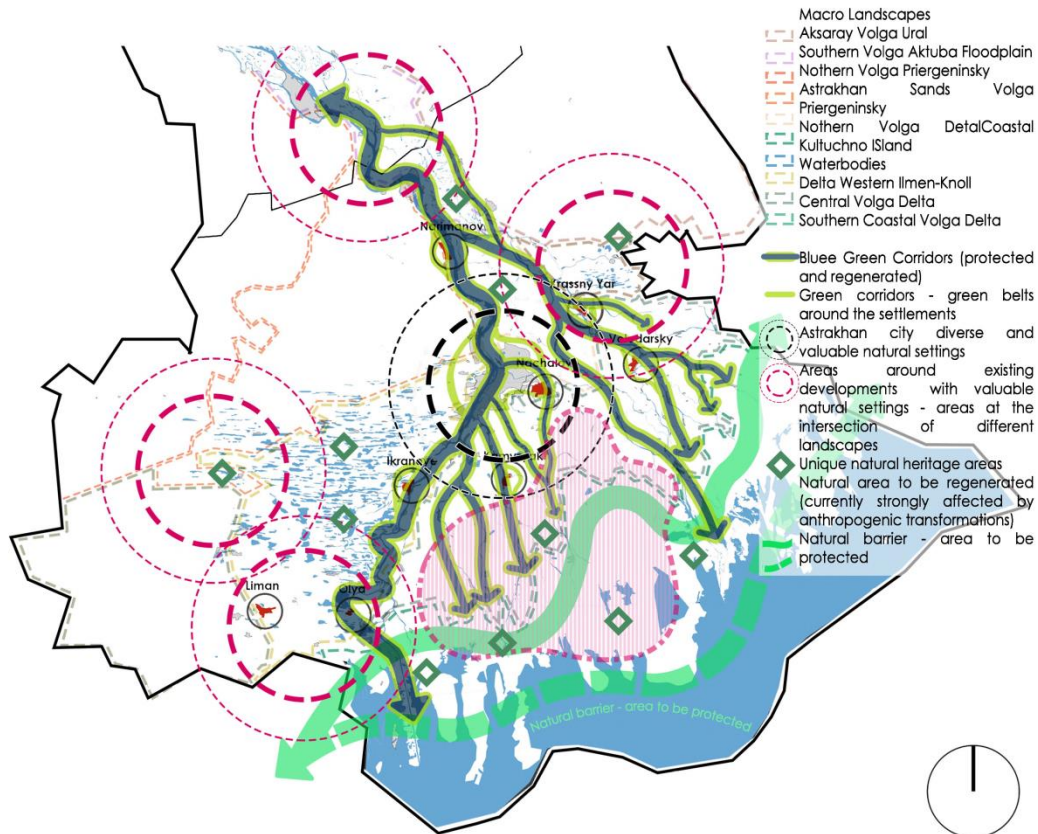
The natural settings of Astrakhan Agglomeration are some of the most unique. The area is characterized by strong diversity and contrast. The development principle is proposing to capitalize on this resource and make it a major component of the agglomeration identity.

It is important that key strategic and valuable areas are protected and enhanced through ecologic solutions. There are a series of unique areas - hot spots - areas at the intersection of the different landscape units, also in the proximity of an important settlement.

These areas represent key areas to be protected from the anthropogenic activity and transformation, creating a sustainable and ecologic relation between the natural environment and the build environment. The settlements are proposed to be surrounded by strategically placed green belts, allowing for creating a more dense and compact development and also creating an improved micro-climate and a more balanced and ecologic territorial system.

The natural environment represents a powerful resource that enables the new economic transition, through ecologic production and experimental tourism. The natural systems are proposed to be connecting through a system of macro-ecological corridors. Another aspect of great value is the link between the macro green and blue infrastructure and the new improved green and blue urban infrastructure developed through nature-based solutions.

ECOLOGIC NETWORK ENHANCEMENT - A RESILIENT AGGLOMERATION



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NATURE INTEGRATION

PUTTING NATURE FIRST

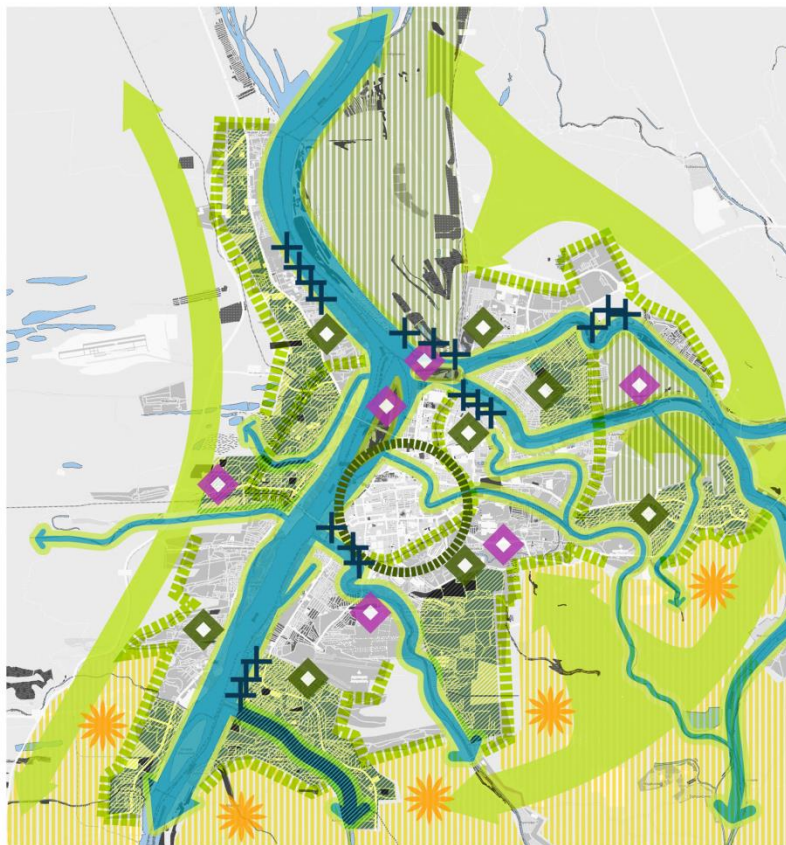
The priority of Astrakhan urban areas, in what concerns the ecologic component, natural environment, and ecosystemic services, is to create a complex and adaptive green-productive land-use system, allowing for a permeable transition between natural component - greenfield areas and the built environment, and allowing for protection against harsh climatic conditions.

This concept is possible by creating a series of natural green (and productive belts) around the city, together with strategic interventions to increase the green area percentage in the low-density areas. Implementing this measure will result in more compact, dense, and sustainable land use, mitigating the urban sprawl phenomenon.

Nature-based solutions are proposed to be integrated within the city fabric and local value chains system. The key principle is that these nature-based solutions will be strongly intertwined within local neighborhood-level sustainable value chains, urban global-level sustainable value chains, and equally important urban-rural sustainable value chains. In this perspective, value chains must be seen as mechanisms that aim at an anthropic-nature symbiosis, creating a balanced urban system and a balanced development at the level of the settlement network. The same logic is applied in a fractal manner within the system, aiming for a state of balance between the subcomponents of the systems (Natural, ecological, anthropogenic, and socio-economic).

The urban green system has to be also improved with the help of strategic intervention creating a complex system of urban parks and gardens.

GREEN TRAZNITION DEVELOPMENT PRIORITIES



Main priorities

- Green productive belt (urban policy for specialized management of the unbuilt areas and natural areas around the urban area)
- Main green axis - improving and extending the urban green infrastructure
- Blue green corridors - ecologically integrated in the city fabric
- Natural areas integrated in the city fabric and protected
- Low density areas with potential of increasing the green space percentage - vulnerable areas to harsh climatic conditions

Nature based solution integration

- Encouraging ecologic agriculture production (for ex. permaculture)
- Community productive gardens
- Green urban regeneration of the collective housing - urban block area (integrating nature-based solutions in a circular economy approach that is community driven)
- Water regeneration through nature-based solution (phytoremediation)

source: Amsterdam structural vision 2040



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NATURE INTEGRATION

DYNAMIC, DIVERSE, AND COMPACT URBAN FABRIC

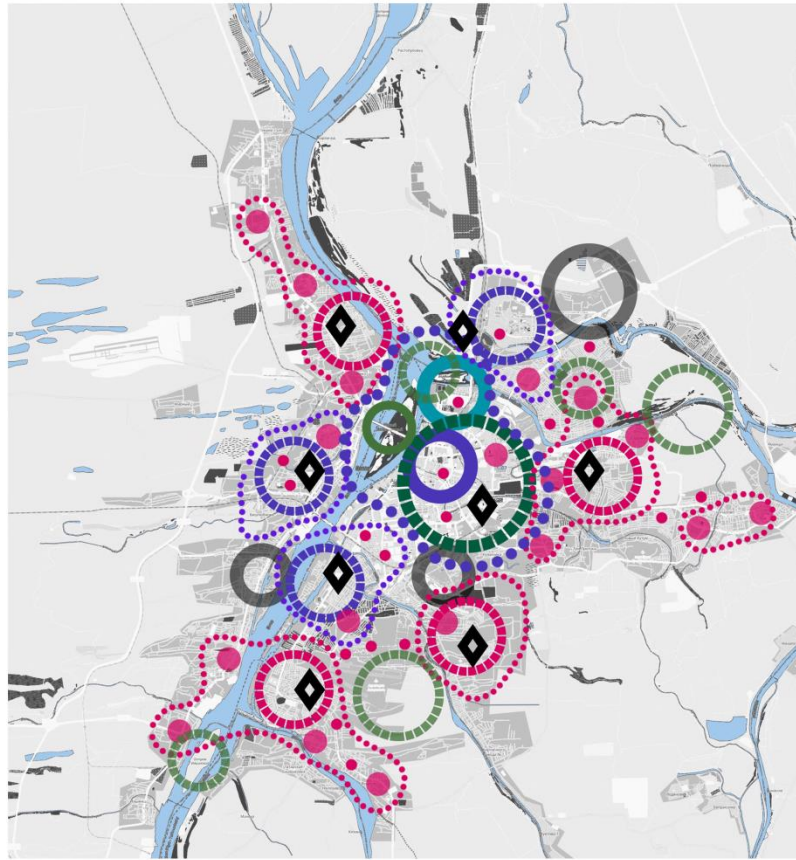
The efficient and sustainable development of the city of Astrakhan presents as a necessity the increase of the quality of life and implicitly of the urban facilities, especially in the peripheral areas. In order for this goal to be achieved, the urban development area of Astrakhan also follows the principle of polycentric development.









It is proposed that Astrakhan urban area develops a comprehensive system of centers and subcenters, mixed-use and specialized centers, that serve the territory homogeneously. The central area represents a dynamic urban environment, having a mix of complex and performant specialized centers (educational, cultural, regenerated urban blocks, natural park - the island). In the pericentral area, there are proposed a series of mixed-use centers, economic development poles. Transitioning to the peripheral area, each neighborhood is served by a main mixed-use pole and a series of secondary centers - community civic centers/hubs.

The new polycentric structure is determined by the mobility network of the city. According to the main nodes of transportation, strategic high-rise densification developments are proposed.

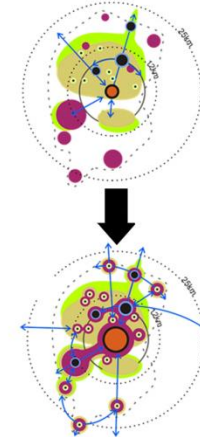
Following the polycentric development principle, the Astrakhan city (and urban area) is able to engage in a regeneration process of the disadvantaged areas, by increasing their attractiveness with urban services, facilities, new mixed-use developments.

POLYCENTRIC AND DYNAMIC DEVELOPMENT



-  Dynamic regenerated urban blocks (mixed-use, high quality of the urban environment, increased green areas, integration of innovative nature-based solutions)
-  Educational HUB
-  Cultural HUB
-  Mixed-use business areas - economic development poles
-  Main natural center - the island
-  Secondary mixed-use urban poles
-  Neighborhood level community centers/hubs
-  Strategic high-rise densification developments

The Spatial Development Framework 2040 (SDF) for Johannesburg
Inverted polycentricity to a Compact Polycentric City
source: <https://www.joburg.org.za/>



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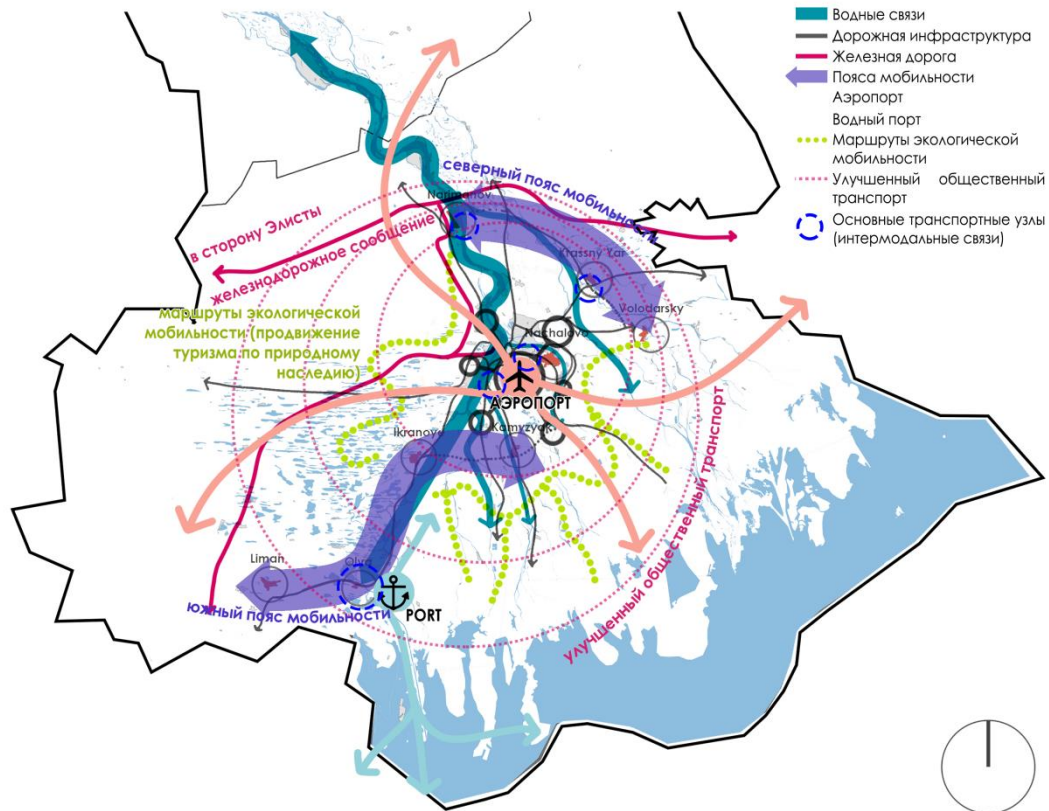


МОДЕЛЬ ПРОСТРАНСТВЕННОГО РАЗВИТИЯ - СВЯЗИ

МОБИЛЬНОСТЬ, ИКТ-СТРУКТУРЫ, ТУРИСТИЧЕСКИЕ (ЕСТЕСТВЕННЫЕ) СЕТИ

Принцип многоуровневой связанности может быть эффективно применен только вместе с полицентричным подходом к разработке. Благодаря многоуровневой связи, Астраханская агломерация обслуживается широким спектром возможностей мобильности. При таком подходе к развитию г.Астрахань становится центральным транспортным узлом с прочными связями с первым кольцом населенных пунктов и южным коридором Икряное-Оля-Лиман. Коридоры экологической мобильности соединяют населенные пункты на оси Север-Юг, обозначенной Волгой. Предлагается создать тентакулярную дорожную сеть по замкнутой системе с помощью северного пояса (Нариманов - Володарки) и южного пояса (Лиман - Камызяк). Водный транспорт дополнит автомобильный транспорт. Вместе с воздушным сообщением и расширенной железнодорожной сетью (в направлении Элисты) и улучшением общественного транспорта, Астраханская агломерация укрепляет свои стратегические позиции и позволяет улучшить сообщение между населенными пунктами, положительно влияя на местную экономику каждого спутника и обеспечивая более устойчивое территориальное развитие с меньшим воздействием на окружающую среду. Туристические сети объединяют природные, культурные и исторические достопримечательности в рамках тематических маршрутов. Внедряются информационные и коммуникационные технологии в организации территориальных данных и управлении администрированием пространств.

МНОГОУРОВНЕВЫЕ СВЯЗИ



МОДЕЛЬ ПРОСТРАНСТВЕННОГО РАЗВИТИЯ - СИМБИОЗ

СОЗДАНИЕ ЖИЗНЕСПОСОБНОЙ ТЕРРИТОРИИ

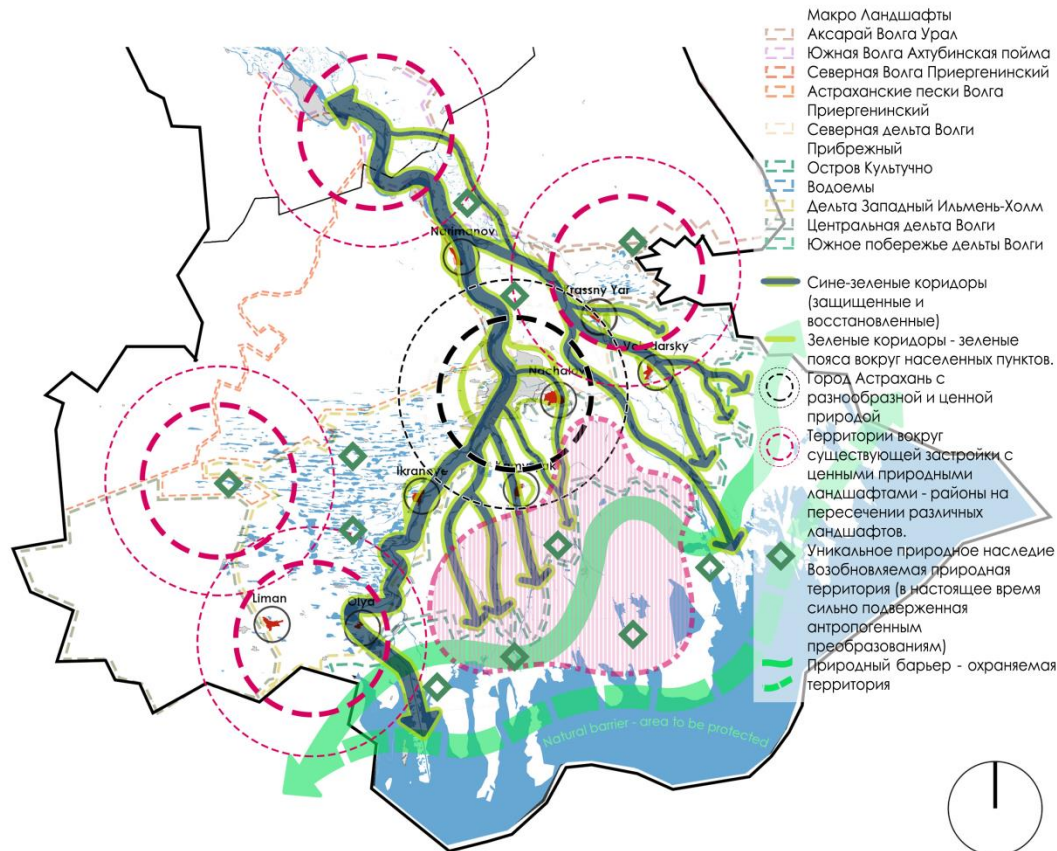
Астраханская агломерация обладает уникальными природными условиями. Район отличается сильным разнообразием и контрастом. Принцип развития предлагает извлечь выгоду из этого ресурса и сделать его основным компонентом идентичности агломерации.

Важно, чтобы ключевые стратегические и ценные территории были защищены и улучшены с помощью экологических решений. Есть ряд уникальных областей - горячих точек - областей на пересечении различных ландшафтных единиц, а также в непосредственной близости от важного населенного пункта.

Эти области представляют собой ключевые зоны, которые должны быть защищены от антропогенной деятельности и трансформации для создания устойчивой и экологической связи между природной средой и застройкой. Поселки предлагается окружить зелеными поясами, что позволит создать более плотную и компактную застройку, а также создать улучшенный микроклимат и более сбалансированную и экологичную территориальную систему.

Природная среда представляет собой мощный ресурс, который делает возможным новый экономический переход через экологическое производство и экспериментальный туризм. Природные системы предлагается соединить системой макроэкологических коридоров.

УЛУЧШЕНИЕ ЭКОЛОГИЧЕСКОЙ СЕТИ - ЖИЗНЕСПОСОБНАЯ АГЛОМЕРАЦИЯ



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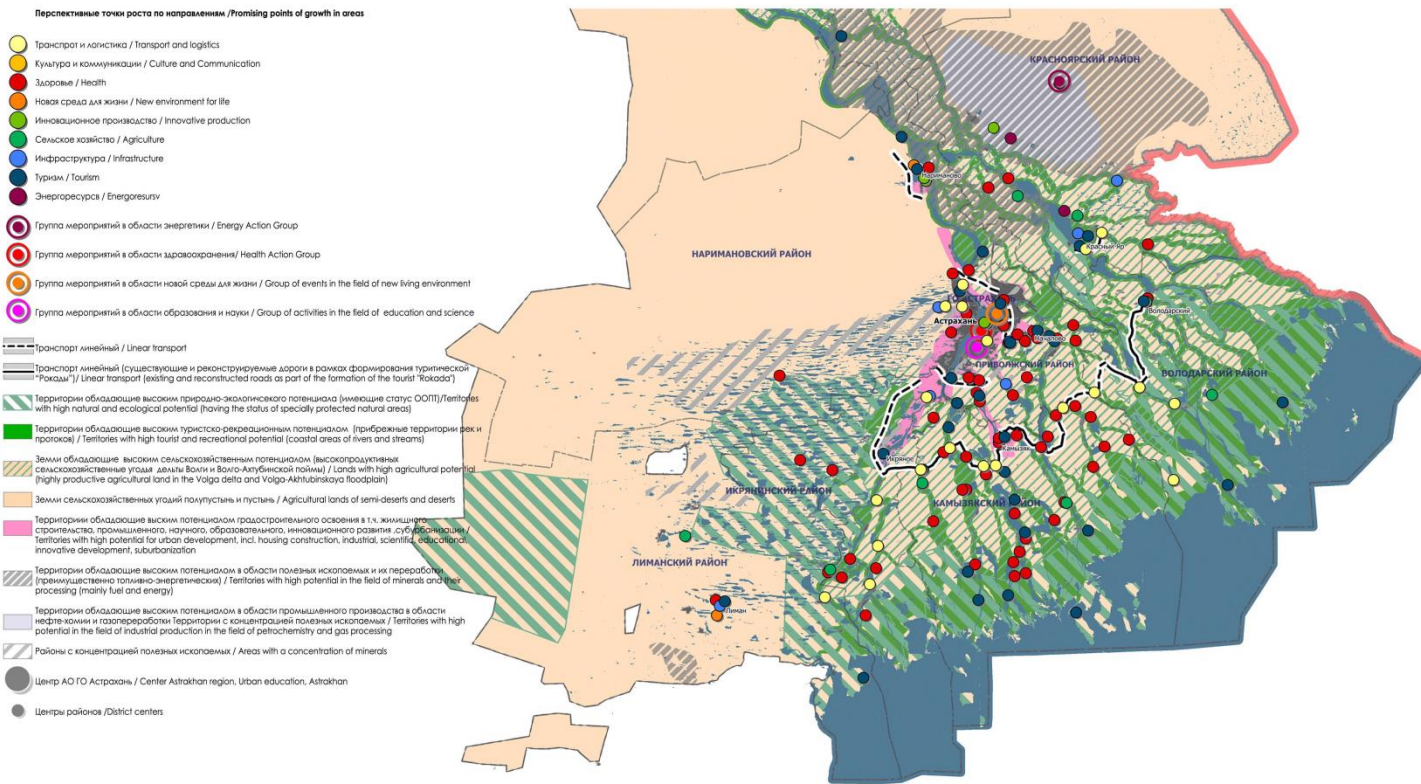
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AREAS FOR ADVANCED DEVELOPMENT IN THE TERRITORY OF AGGLOMERATION



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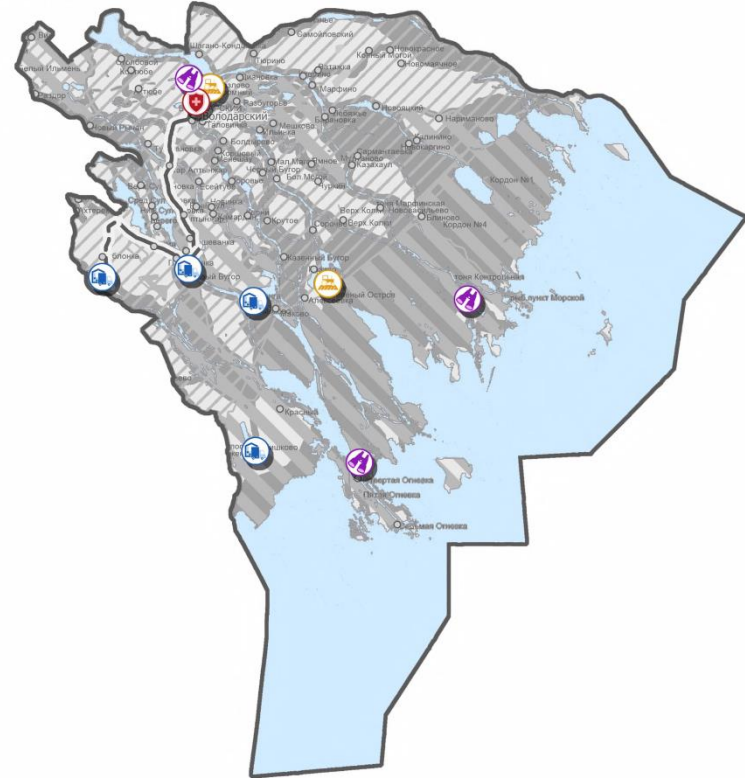


AREAS FOR ADVANCED DEVELOPMENT IN THE TERRITORY OF VOLODAR DISTRICT

Conventional designations

-  Транспорт и логистика / Transport and logistic
-  Туризм / Tourism
-  Здоровоохранение / Health care
-  Сельское хозяйство / Agriculture
-  Культура и коммуникации / Culture and communication
-  Инфраструктура / Infrastructure
-  Инновационное производство / Innovative production
-  Энергоресурсы / Energy resources
-  Новая среда для жизни / New environment for life
-  Группа мероприятий в области / Group of activities in the field of education and science
-  Группа мероприятий в области энергетики / Energy Events Group
-  Группа мероприятий в области / здравоохранения / Health Action Group
-  Группа мероприятий в области / новой среды для жизни / Group of events in the field of new living environment

VOLODARSKY DISTRICT



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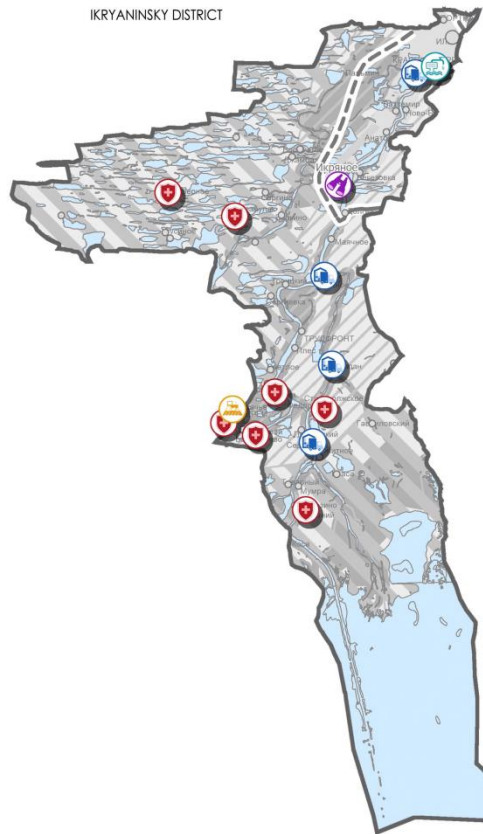
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AREAS FOR ADVANCED DEVELOPMENT IN THE TERRITORY OF IKRYANINSKY DISTRICT

Conventional designations

-  Транспорт и логистика / Transport and logistic
-  Туризм / Tourism
-  Здоровоохранение / Health care
-  Сельское хозяйство / Agriculture
-  Культура и коммуникации / Culture and communication
-  Инфраструктура / Infrastructure
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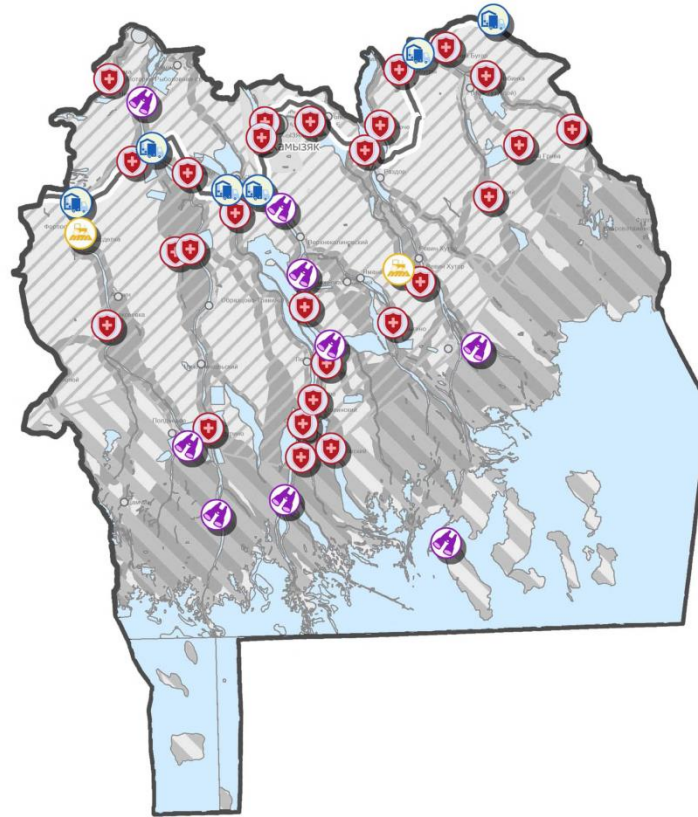
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AREAS FOR ADVANCED DEVELOPMENT IN THE TERRITORY OF KAMYZYAK DISTRICT

Conventional designations

-  Транспорт и логистика / Transport and logistic
-  Туризм / Tourism
-  Здоровоохранение / Health care
-  Сельское хозяйство / Agriculture
-  Культура и коммуникации / Culture and communication
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-  Группа мероприятий в области новой среды для жизни / Group of events in the field of new living environment

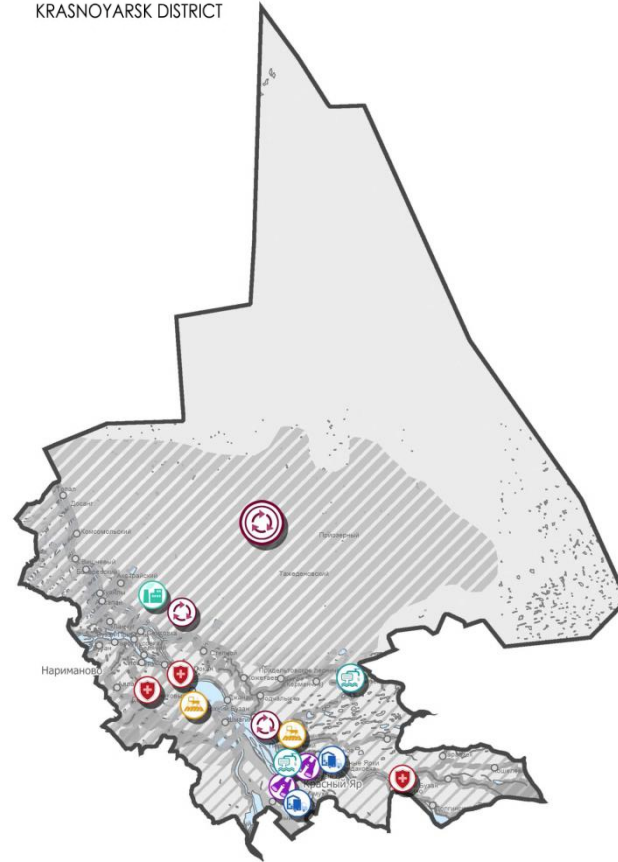


AREAS FOR ADVANCED DEVELOPMENT IN THE TERRITORY OF KRASNOYARSKY DISTRICT

Conventional designations

-  Транспорт и логистика / Transport and logistic
-  Туризм / Tourism
-  Здоровоохранение / Health care
-  Сельское хозяйство / Agriculture
-  Культура и коммуникации / Culture and communication
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KRASNOYARSK DISTRICT



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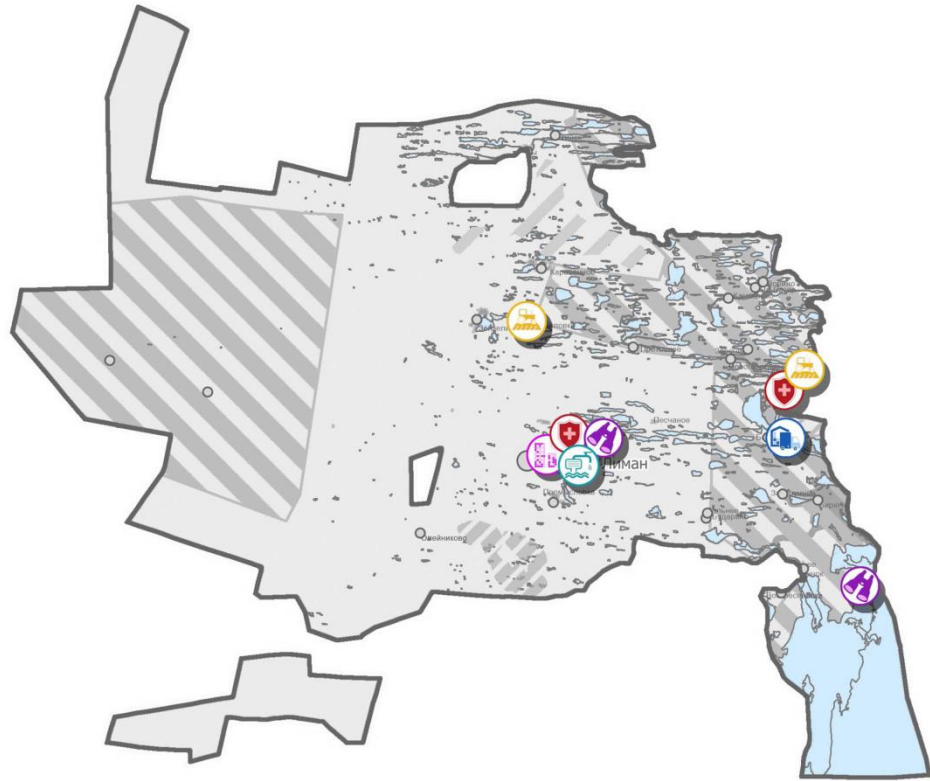
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AREAS FOR ADVANCED DEVELOPMENT IN THE LIMAN DISTRICT

Conventional designations

-  Транспорт и логистика / Transport and logistic
-  Туризм / Tourism
-  Здоровоохранение / Health care
-  Сельское хозяйство / Agriculture
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-  Группа мероприятий в области / новой среды для жизни / Gr events in the field of new living environment



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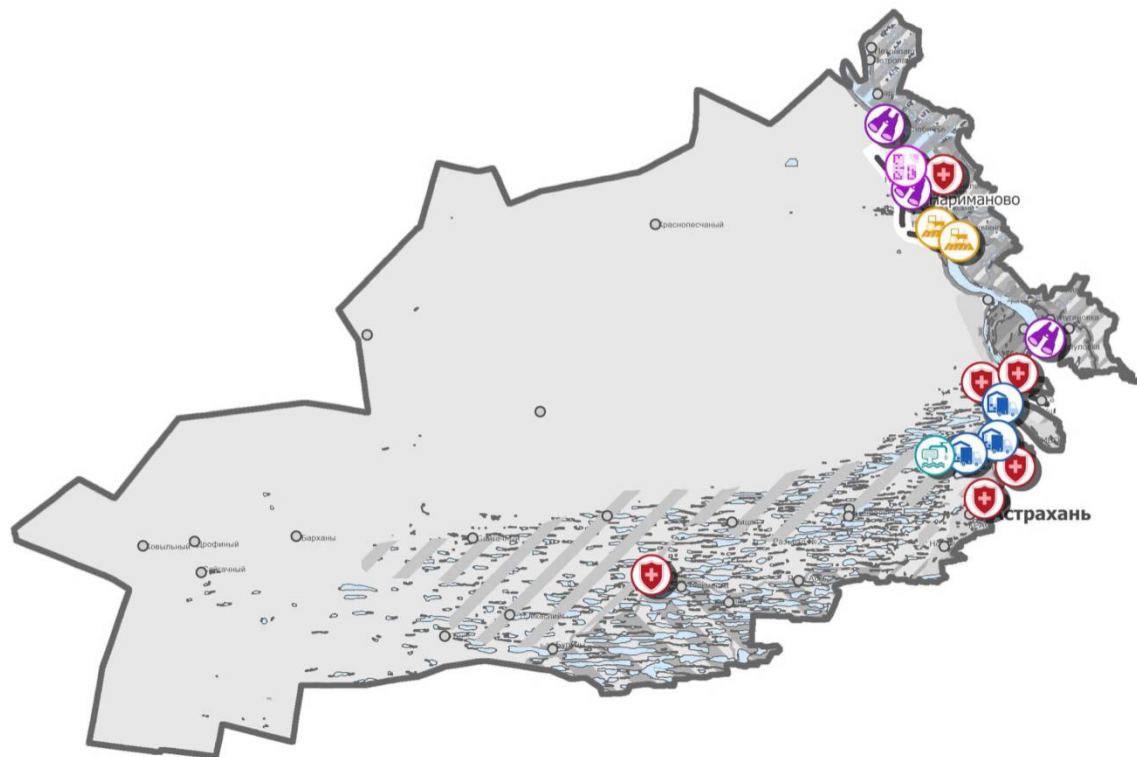


AREAS FOR ADVANCED DEVELOPMENT IN THE TERRITORY OF NARIMANOV DISTRICT

NARIMANOVSKY DISTRICT

Conventional designations

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-  Туризм / Tourism
-  Здравоохранение / Health care
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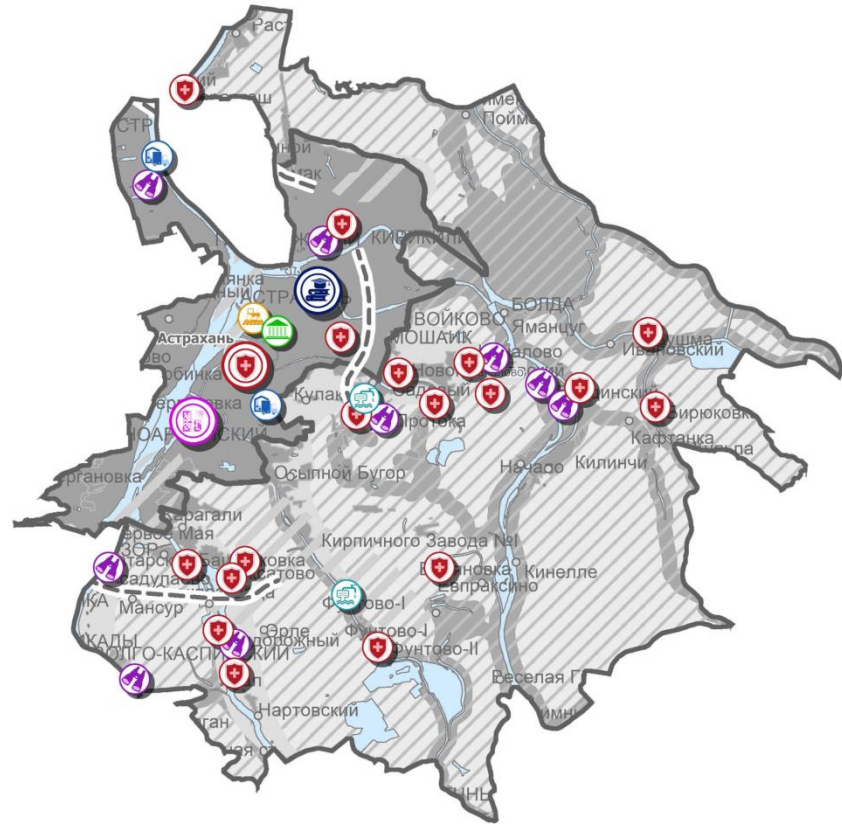
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AREAS FOR ADVANCED DEVELOPMENT IN THE TERRITORY OF THE VOLGA DISTRICT AND ASTRAKHAN

Conventional designations

-  Транспорт и логистика / Transport and logistic
-  Туризм / Tourism
-  Здравоохранение / Health care
-  Сельское хозяйство / Agriculture
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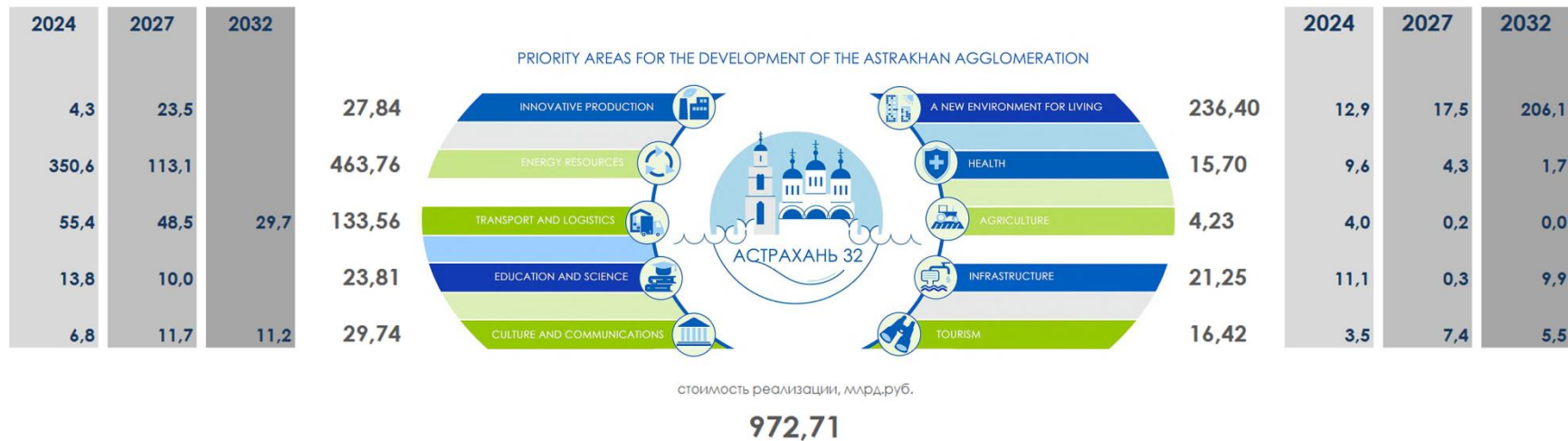
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COST OF IMPLEMENTATION OF THE MASTER-PLAN MEASURES 972 BILLION RUB.





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FOUR PARTNERS - FOUR PROJECTS



ECO-PARK «GORODSKOY»



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NATURAL SYSTEM AS A BASIS

Principle: employing the formative power of nature

EROSION PROTECTION AND SEDIMENTATION



TOPOGRAPHY

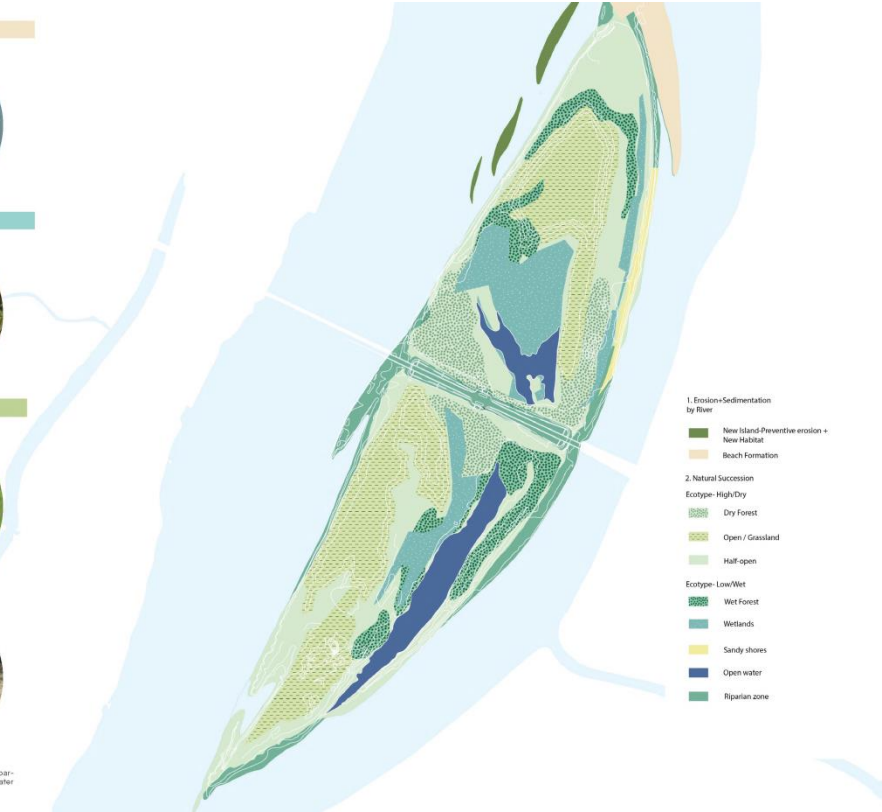


NATURAL SUCCESSION



Ecotypes high and dry: open grassland, dry forest, half-open parkland

Ecotypes low and wet: sandy shores, riparian zones, wetlands, wet forest, open water



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AVAILABILITY NETWORKS

Principle: multi-modal accessibility, loops for hiking and biking, experience of landscape types

WATERBUS AND LANDING POINTS



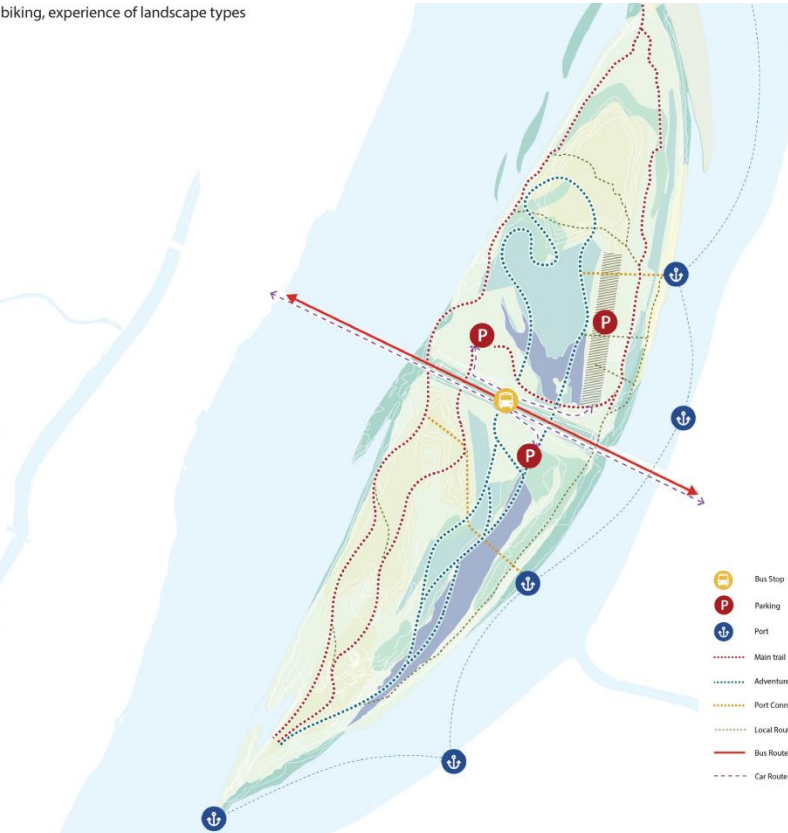
MAIN TRAIL ON HIGHER GROUNDS



ADVENTURE TRAIL ACROSS WETLANDS AND WOODS



LOCAL PATHS



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LEISURE PROGRAM AND ACTIVITIES

Principle: south-side island: ecology experience and outdoor wilderness activities
 north-side island: water activities and social-cultural program

SOCIAL ACTIVITY



NATURE ACTIVITY



WATER ACTIVITY



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SMALL ARCHITECTURAL FORMS, STRUCTURES

BUILDING: museum/tourist center/parking exit



STRUCTURE: port pavilion /watching tower/ birdwatching house



FURNITURES



bench

garbage bin

information board



lighting 1



lighting 2



way-finding



- Way finding
- Information board
- WC
- Pavilion/Watch tower
- Benches
- Lighting 1
- ⋯ Lighting 2



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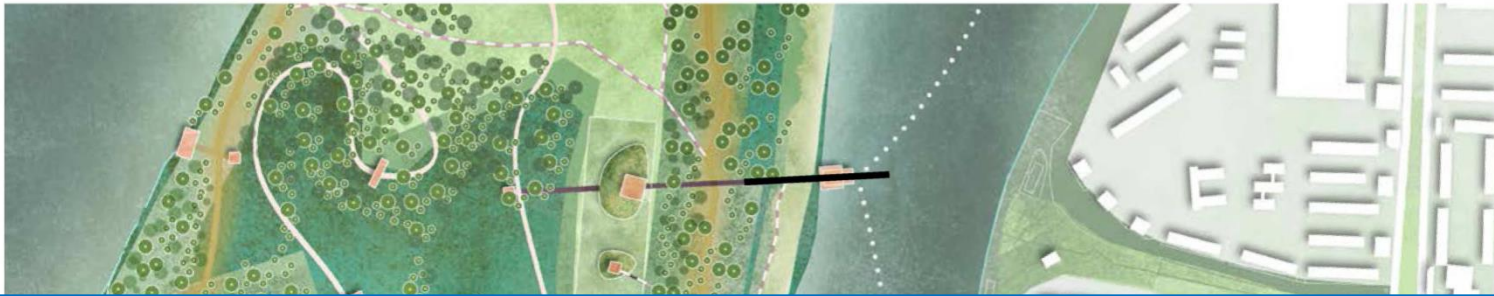
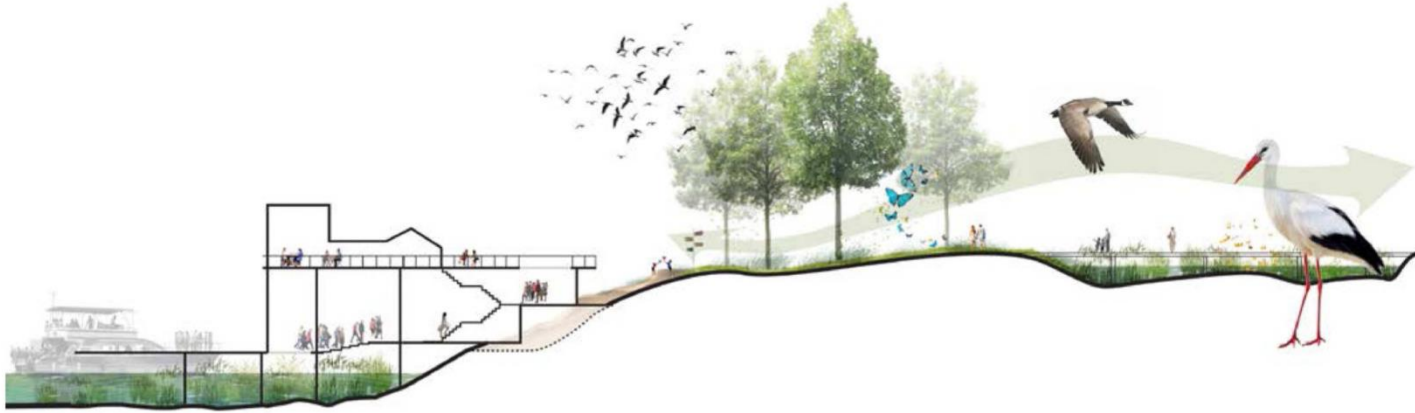
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ACCESS BY WATER



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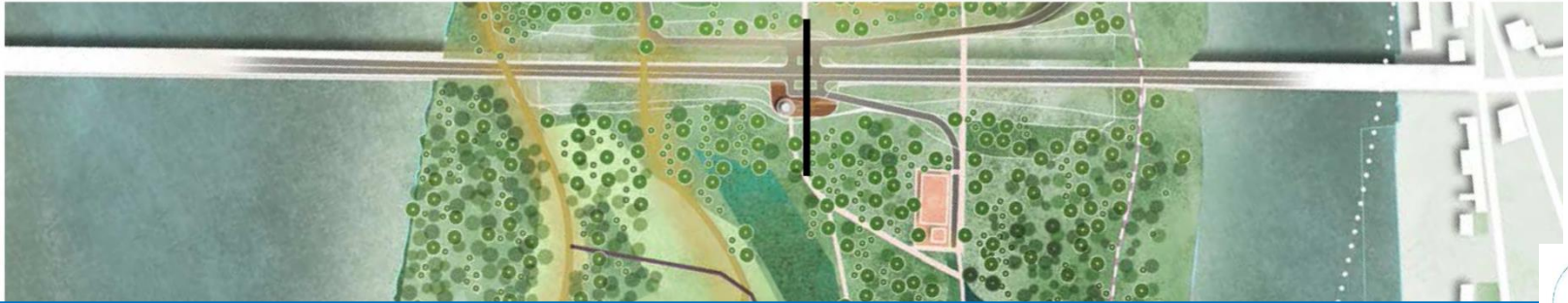
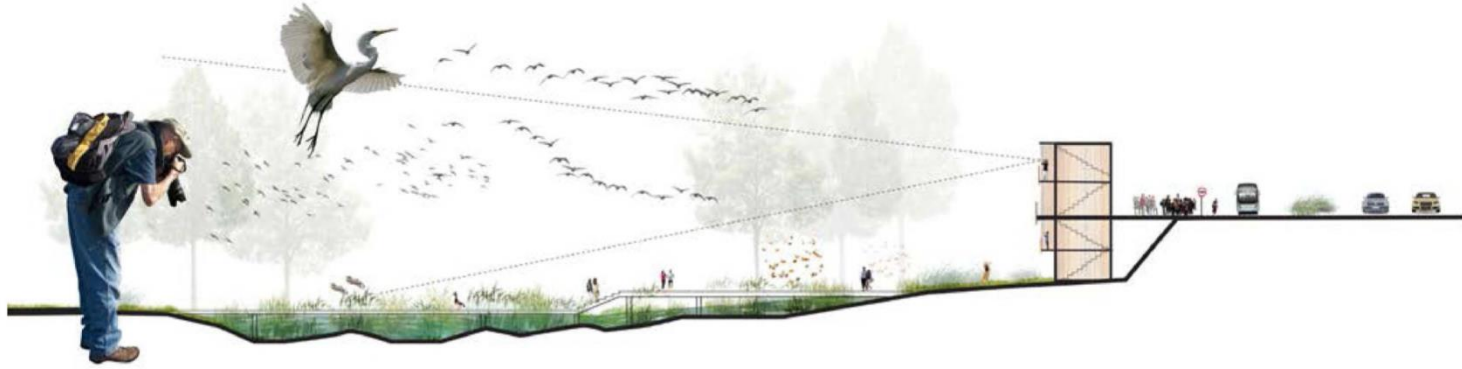
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ACCESS BY BUS, BIKE



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CULTURAL CLUSTER
«OPERA QUARTERS»

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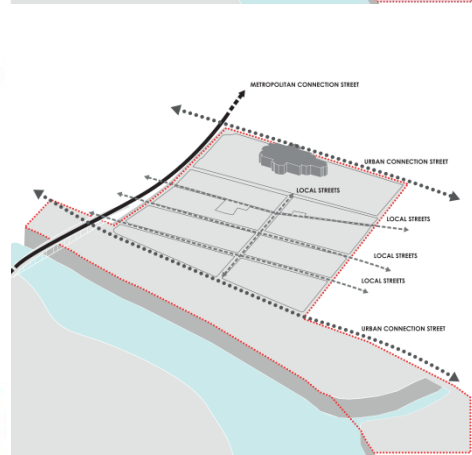
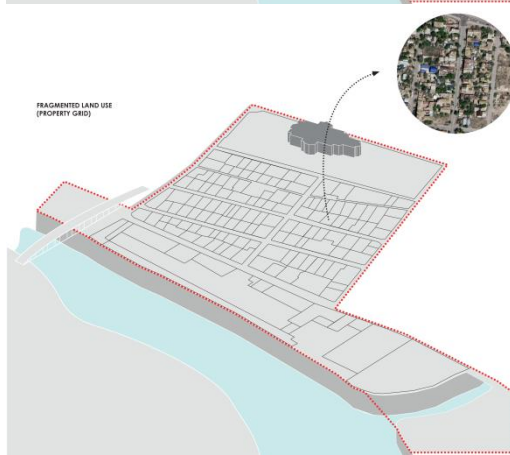
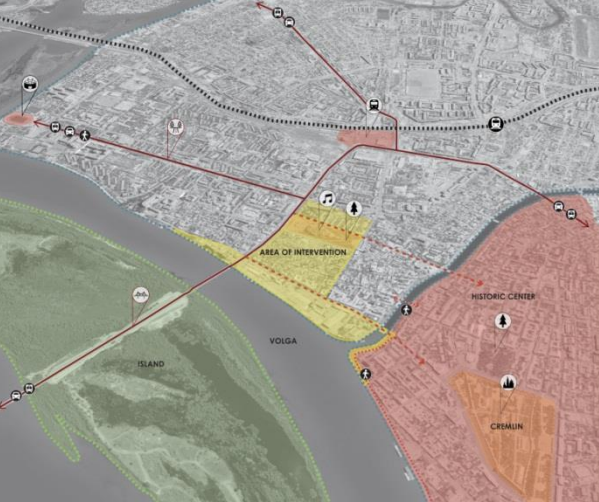


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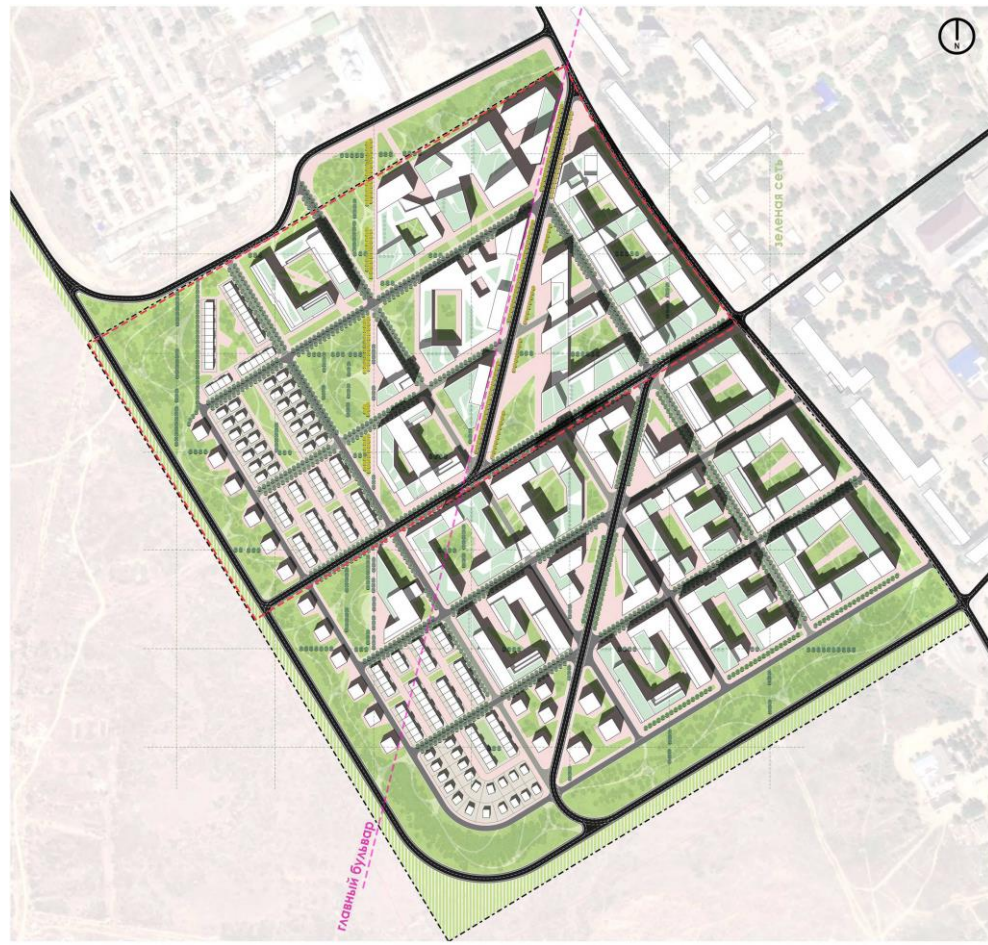
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RESIDENTIAL AREA IN THE CITY OF NARIMANOV



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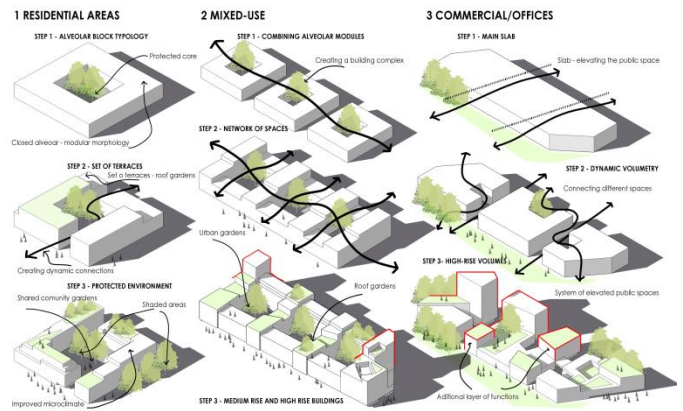
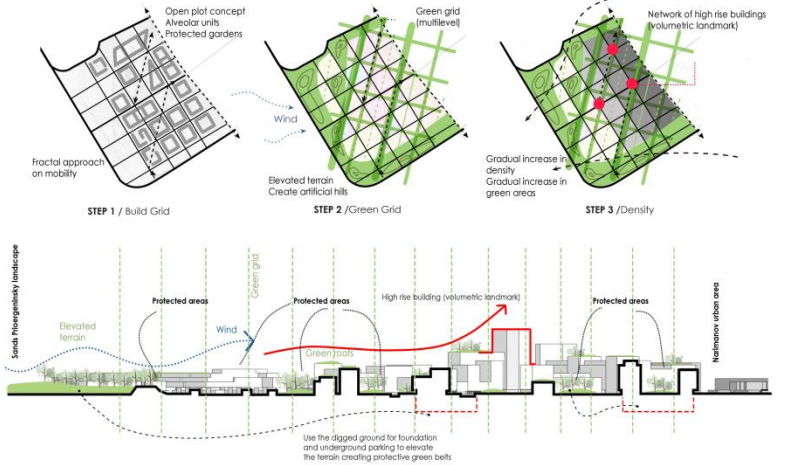


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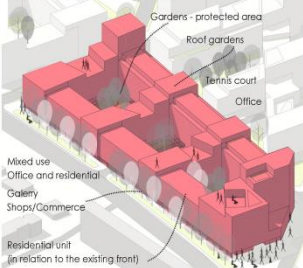
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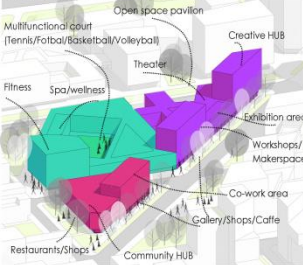


MACRO ZONING PROPOSAL - ILLUSTRATIONS OF THE MAIN CENTERS AND MIXED USE AREAS

Mixed use type 1



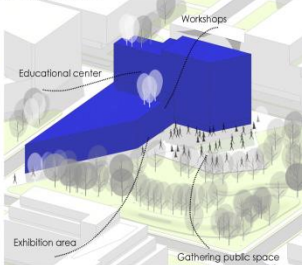
Sports center/Cultural center/Community center



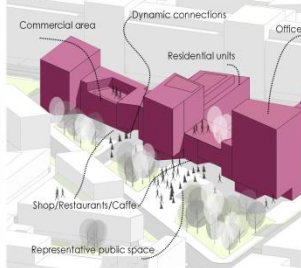
Mixed use type 4



Educational center



Mixed use type 5

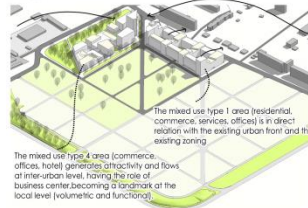


Mixed use type 2 and 3



ILLUSTRATION OF THE DEVELOPMENT OF THE MACRO AREA

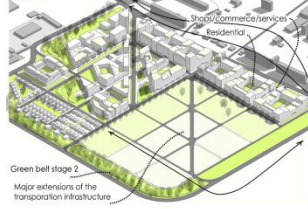
PHASE 1



The mixed use type 4 area (commerce, offices, hotel) generates attractiveness and flows at inter-urban level, having the role of business center, becoming a landmark at the local level (volumetric and functional).

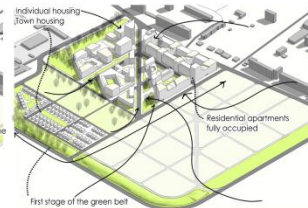
Phase 1 of development is focused on building the functions that generate major attractiveness at the level of Narimanov and beyond, in the collaboration of Narimanov with Astrakhan (the main territorial urban center). 1

PHASE 4



In stage 4, the priority is the further development of the urban front in relation to the existing urban fabric. The new development is more oriented on residential units, accommodating the new population coming to Narimanov.

PHASE 2



The previous development generated enough resources to continue the expansion with major public facilities (to be capitalized by the entire city, not only by the new development).

PHASE 5



In stage 5, due to the success of the previous developments, there are enough resources and users for a major development of mixed use areas, replicating typologies tested and implemented before.

PHASE 3



In the stage 3, the first plot is fully functional and developed. Additional facilities are added and social housing is built for the purpose of attracting youth and young families in Narimanov.

PHASE 6



The final stage of the development is characterized by rapid development, resulted from the resources and attractiveness generated so far. The new neighborhood of Narimanov becomes the new identity and image of the city - a dynamic, sustainable, diverse urban environment.



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RESIDENTIAL AREA In the village of LIMAN



THE SCHEME OF THE FUNCTIONAL AND PLANNING ORGANIZATION OF THE TERRITORY.
A DIAGRAM SHOWING THE PLANNING OBJECTS OF A SOCIAL NETWORK, COMMERCIAL,
MUNICIPAL, HOUSEHOLD AND OTHER NECESSARY INFRASTRUCTURE.



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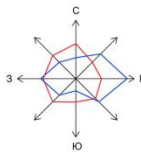
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SCHEME OF PRINCIPAL DECISIONS FOR ENGINEERING SUPPORT AND ENGINEERING PROTECTION OF THE TERRITORY



Fragment 1.
Closed courtyard area
for a group of manor
houses

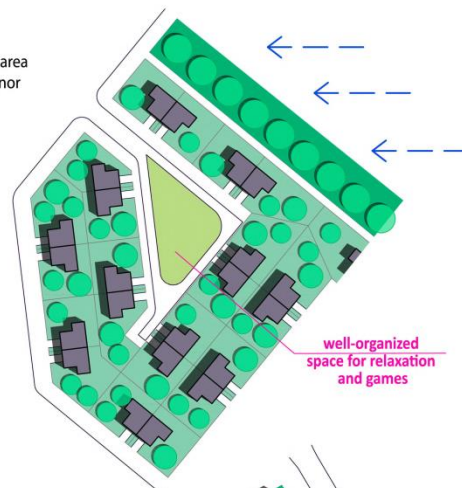
Activities to create a comfortable environment:

- planting a forest belt on the eastern side to protect buildings from winter winds;
- organization of closed courtyard spaces;
- formation of a green frame

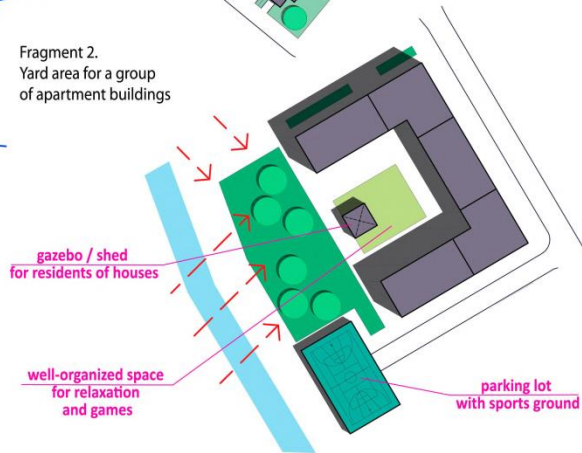


Symbols:

- transformer substation 10 / 0.4 kV
- boiler room
- distribution point
- gas distribution cabinet



Fragment 2.
Yard area for a group
of apartment buildings



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3D-VISUALIZATION OF CONCEPTUAL VOLUME-PLANNING SOLUTIONS,
INCLUDING FACADE AND DESIGN SOLUTIONS



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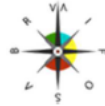


ASTRAKHAN AGGLOMERATION MASTER PLAN

CONSORTIUM OF THE SOUTHERN
URBAN PLANNING CENTER:



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Urban planner

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