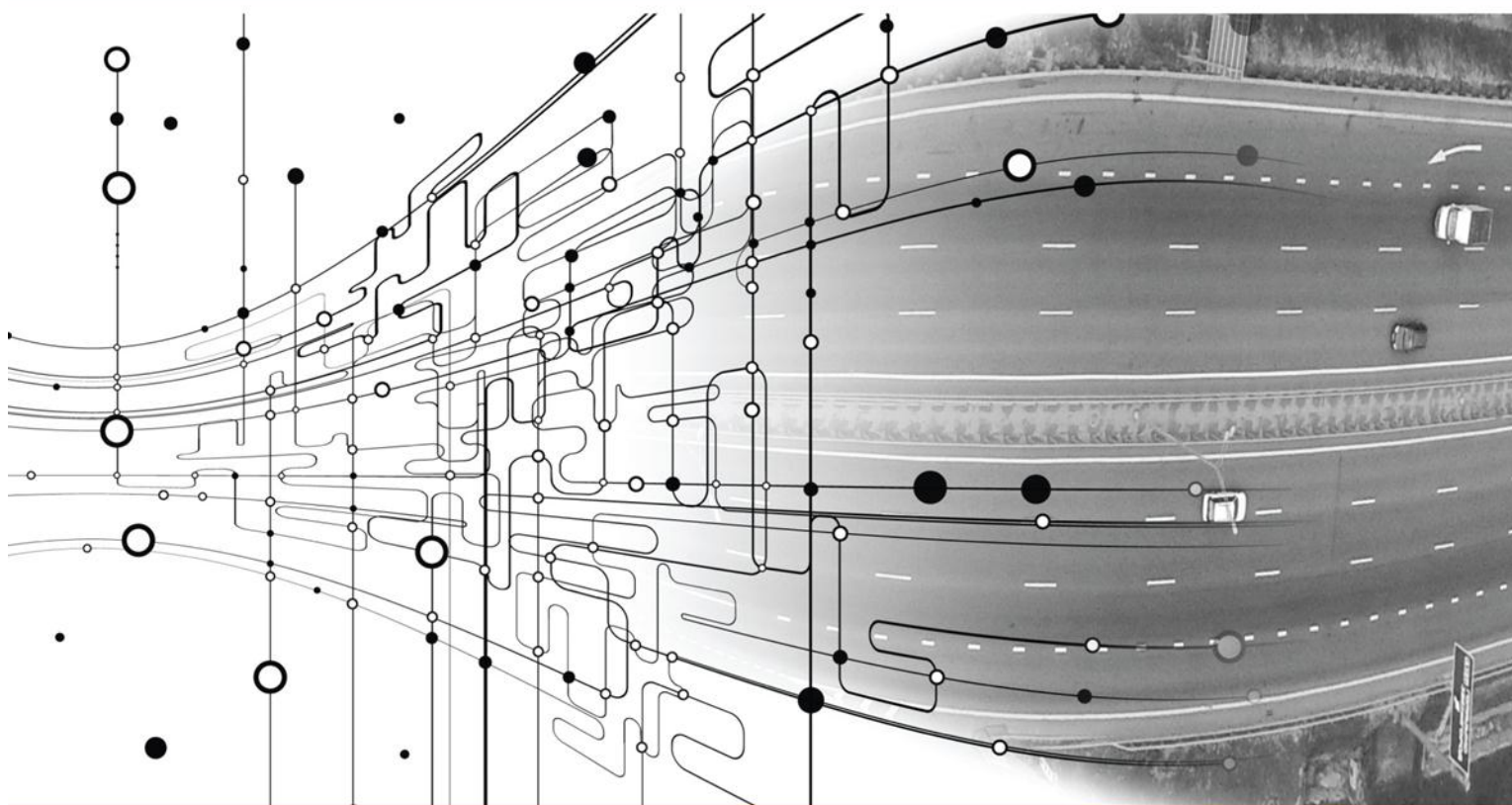


THE CENTRAL RING ROAD OF MOSCOW REGION



INFORMATION MEMORANDUM



Financing, construction and toll operation
of the Central Ring Road (CRR) of Moscow Region,
start-up complex № 4

July 2014, Moscow

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The given information memorandum is executed for the purpose of acquainting market players in good time with information about the given project and the key conditions for its implementation. Avtodor SC reserves the right to amend this memorandum.

Introduction

The investment project for construction and subsequent toll operation of the Central Ring Road of the Moscow Region A-113 consists of five Start-up complexes to be implemented on a public-private partnership basis.

Start-up complex No. 4 of the Central Ring Road (the Project or SC No.4 of the CRR) provides for construction of a section of the CRR in the south-east of the Moscow Region, stretching from the intersection with the M-7 Volga express highway currently under construction to the intersection with the M-4 public highway.

Section SC No. 4 of the CRR was distinguished as a separate investment project because the given section is of major significance both for the Region and for the economy of the Russian Federation in general.

Positive effects of construction:

- › divert some traffic from the overloaded Moscow Ring Road (MKAD) and the M-7 Volga express highway, connecting the districts of the south-east of the Region and thereby having transit traffic bypassing the given roads
- › promote development of the transport infrastructure of the south-east part of the Moscow Region, development of economic links and greater mobility for the population and market players
- › provide high speed transport links with a high through capacity between and within districts
- › create an additional base for tax revenues into budgets at all levels by expanding commercial and investment activities in associated branches of the economy, increase social activity and mobility of the population.

Successful implementation of the construction section SC No. 4 of the CRR will ensure timely completion of the entire Central Ring Road.

From the point of view of the project's attractiveness for private investors, section SC No. 4 of the CRR has a low risk implementation, as it has a distinct value of transport: this section of CRR begins and ends at interchanges with existing federal highways.

Key information

Location:	Noginsk, Pavlovsky Posad, Voskresensk and Ramenskii areas, Elektrostal and Domodedovo
Sector construction length:	96.5 Km
Predicted intensity in 2030:	40.3 thousand vehicles per day
Road category	1A
Estimated traffic speed	140 Km/hr
Number of traffic lanes	4 (construction phase 1)
Total cost of construction under the agreement, bln RUB (including VAT)	63,6
State finance	55%
Private finance	45%
Contract type:	Concession agreement of the life-cycle contract pattern (with payment of the grantor)
Agreement term:	30 years
Tender to be held:	2014–2015
Construction period	2016–2018

Material specifics of project implementation

It is proposed to implement the Project in the format of a concession with payment of the grantor, tolls being collected from road users in favour of the grantor and the concessionaire receiving, at the road operation stage, an annual payment from the grantor covering its road operating costs and costs of repaying its own and borrowed finance utilised, in consideration of returns on the invested funds. The given pattern reflects the most effective distribution of risks in applying the concession pattern to the project, which constitutes part of the Ring Road.

The choice of operator to provide the services of collecting the tolls for the road will be made on the basis of a separate tender by concluding an independent agreement. This is dictated by the advisability of establishing a single operator for the Central Ring Road of the Moscow Region (all start-up complexes).

RELEVANCE OF BUILDING THE CENTRAL RING ROAD

The purpose of building the Central Ring Road of the Moscow Region is to create the conditions for forming a modern transport infrastructure integrated into the network of international transport corridors, to realise the transit potential of our country and also to provide for servicing of traffic flows outside the central part of the Moscow transport hub and reduce the loading on the road network related thereto.

Implementation of the CRR project is included among the priorities of:

› **Transport strategy of the Russian Federation up to 2030**

approved by directive of the Government of the Russian Federation of 22 November 2008 No. 1734-p

› **Federal Target Programme “Development of the Transport System of Russia (2010–2020)”**, approved by resolution of the Government of the Russian Federation of 5 December 2001 No. 848

› **Long-term Action Plan of State Company Russian Highways for 2010–2020**, approved by directive of the Government of the Russian Federation of 31 December 2009 No. 2146-p (as amended by directive of the Government of the Russian Federation of 23 May 2014 No. 876-p)

› **Network plan of measures for implementing the project for construction of the Central Ring Road of the Moscow Region**, approved by the Prime Minister of the Russian Federation of 5 November 2013 No. 6617п-П9.

Construction of the CRR, being one of the priority goals of development of the Moscow Region transport complex, furthers fulfilment of the following key tasks:

- › to integrate the Moscow Region and Russian Federation road network into the international basic road network
- › to divert transit flows from the overloaded central part of the Moscow Region, including along international transport corridors 2 and 9 (hereinafter the ITC)
- › to develop the network of express highways

- › to provide the conditions for forming accelerated development hubs – key growth points for the economy of the Moscow Region
- › to activate links between stable dispersal systems.

Construction of the CRR will provide for formation of direct roads in the Moscow Region in the direction of the ITC.

Project goals and objectives

TIMELINE FOR CRR PROJECT IMPLEMENTATION

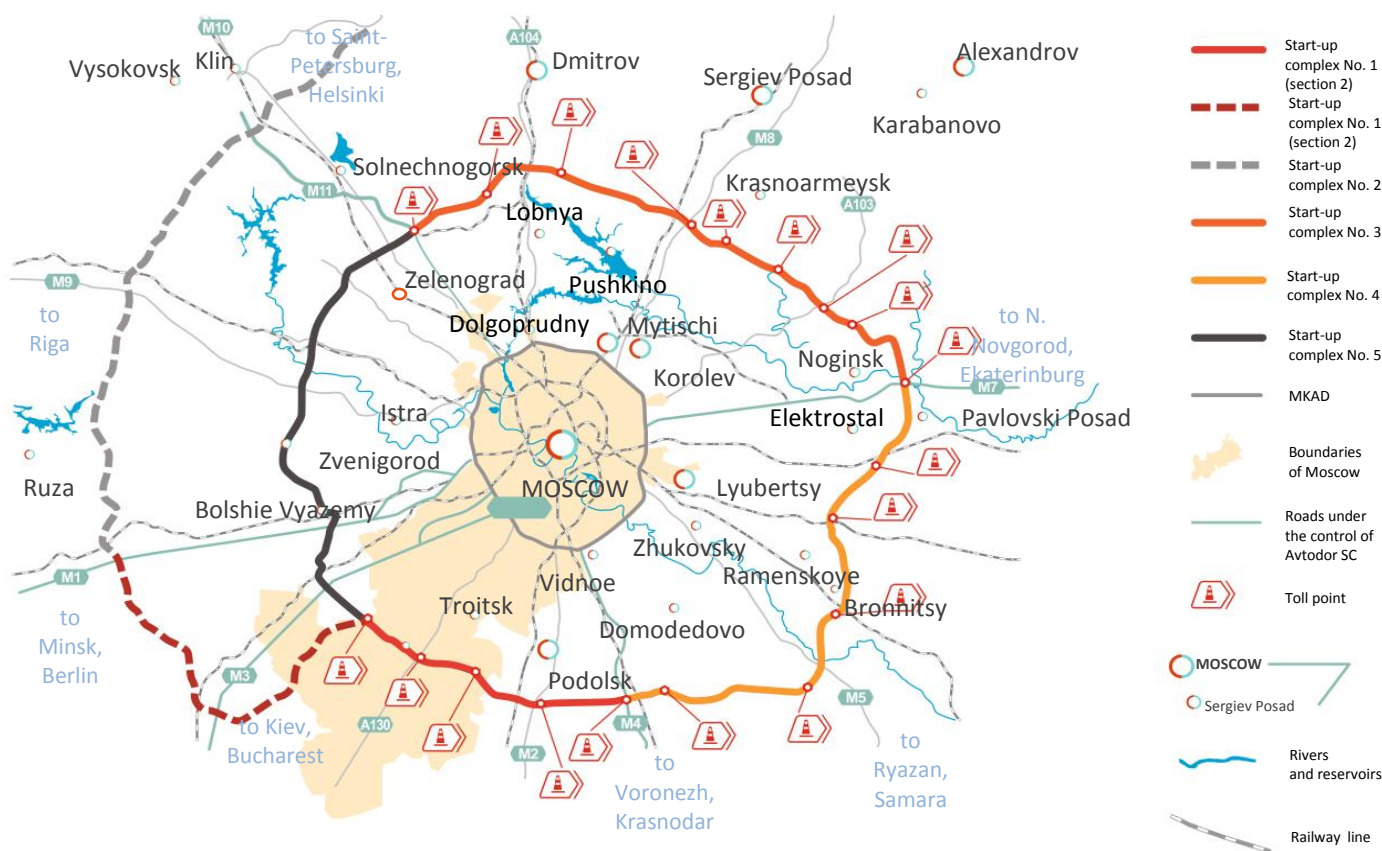
2003	Resolution of the Moscow Region Government of 30 December 2003 No. 743/48 On approval of the key spheres for stable town-planning development of the Moscow Region
2004	Directive of the Government of the Russian Federation of 29 December 2004 No. 1724-p On development of the pre-design documentation for construction of the Central Ring Road of the Moscow Region
2005 - 2006	Development of the investment feasibility of constructing the CRR (OOO IP Development , Macquarie, CMS Cameron Mc Kenna, OAO Lengiprotrans, Obermeyer, Pricewaterhousecoopers, Steer Davies Gleave, NIiPI Urban Planning of the Moscow Region)
2007	Approval of the concept for the project by the Expert Council for PPP of the Ministry of Transport of the Russian federation Resolution of the Government of the Moscow Region of 11 July 2007 No. 517/23 On approval of the scheme for territorial planning of the Moscow Region – key provisions for town-planning development clause 3.1.1. Securing the boundaries of the CRR zone
2008	Directive of the Government of the Russian Federation of 23 June 2008 No. 897-p on approving the passport of the investment project “Development of the design documentation for implementation of the project for Construction of the Central Ring Road of the Moscow Region” implemented with state support out of funds from the Investment Fund of the Russian Federation
2008 - 2013	Development of the design, financial and legal documentation for the project (OAO Soyuzdorproekt, OAO CRR, OOO Soyuzdorproekt, OOO KIK Transproekt, Ernst & Young, Freshfields Bruckhaus Deringer, Steer Davies Gleave, OOO Spetsmetroproekt, ZAO Institute Promos, OOO Rosekostroy, OOO Ekoproekt+)
2009	Inclusion of the project in the Federal Target Programme “Development of the Transport System of Russia (2010–2015)” (as amended by Resolution of the Government of the RF of 20 May 2008 No. 377). Came into effect on 1 January 2010. Inclusion of the project in the Avtodor SC Long-term Action Plan (2010–2020) , approved by Directive of the RF Government of 31 December 2009 No. 2146-p (as amended on 24 April 2013 No. 672-p)
2011	Conclusion of an agreement for preparation of the construction site for the Moscow Region CRR, start-up complex No. 3 (27 December 2011)
2012	Assignment of the President of the Russian Federation of 12 April 2012 No. Пр-930 on launching construction of the CRR project
2013	Conclusion of an agreement for preparation of the construction site for the Moscow Region CRR, start-up complex No. 4 (3 April 2013) Assignment of the President of the Russian Federation of 5 July 2013 No. Пр-1474 on co-financing the project for construction of the Moscow Region CRR involving funds from the National Wealth Fund Assignment of the President of the Russian Federation of 12 August 2013 No. Пр-2028 on implementation of projects for development of the Moscow and Moscow Region transport infrastructure
2014	Directive of the Government of the Russian Federation of 22 May 2014 No. 874-p и №875-p on conclusion of concession agreements with respect to the CRR SC No. 3 and SC No. 4 Results compiled of the open, single-stage tender for a long-term investment agreement for construction, maintenance, repair and overhaul of the Moscow Region CRR, start-up complex No. 1, first construction sector. (23 May 2014).

BRIEF DESCRIPTION

Route

The 96.5-Km road, constituting part of Start-up complex No. 4, will be part of the Central Ring Road A-113 (the CRR) currently under construction.

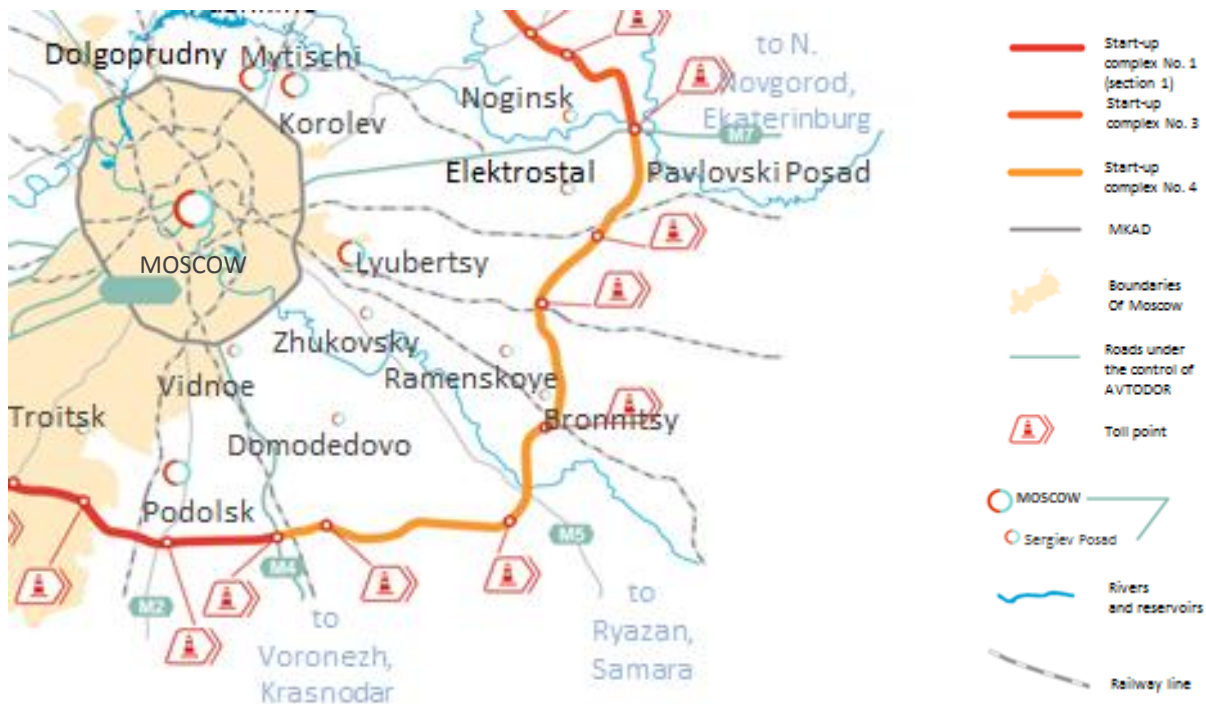
Construction of the A-113 Central Ring Road of the Moscow Region



According to the design documentation, SC No. 4 of the CRR is to start at the intersection of the CRR with the M-7 Volga road at traffic interchange No. 1 at Km 0. Part of traffic interchange No. 1 is included within Start-up Complex No. 3 and part within Start-up Complex No. 4 of the CRR.

SC No. 4 of the CRR ends at the intersection with the M-4 Don highway at traffic interchange No. 7 at Km 96. Часть traffic interchange No. 7 is included in within Start-up Complex No. 1 of the CRR and part within SC No. 4 of the CRR.

CRR Start-up Complex No. 4



In the Start-up Complex No. 4 section, the CRR runs across four municipalities of the Moscow Region:

- › Noginsky
- › Pavlovo-Posadsky
- › Voskresensky
- › Ramensky.

and two urban districts:

- › Elektrostal
- › Domodedovo.

The design and estimate documentation for SC No. 4 of the CRR has been developed and has received positive opinions from FAU Glavgosexpertiza of Russia (No. 1074-10/ГТЭ-6683/04 of 8 November 2010, No. 1079-10/ГТЭ-6683/10 of 8 November 2010).

The construction is funded out of state budget subsidies, the National Wealth Fund of the Russian Federation and extra-budgetary finance sources.

For more detail on the technical documentation, go to the Avtodor SC website at:

http://www.russianhighways.ru/about/technical_documentation/

Technical characteristics

Key technical and economic indicators of the Project:

Type of construction	New construction
Road category	IA
Construction length	96.5 Km
Estimated traffic speed	140 Km/hr
Number of lanes	4 (construction phase 1)*
Pavement width*	2 x 7.5 m
Median strip width	6 m
Shoulder width	3.75 m
Pavement type	Heavy duty
Surface type	Stone matrix asphalt-concrete
Bridgeworks, No./m, including:	66/10512.2
– bridges, No./m	17/1515.66
– overpasses, No./m	40/3251.38
– flyovers, No./m	9/5745.16
Multi-level traffic interchanges	6 (construction phase 1)**
Area of hard pavement	2.5 Sq. Km
Total lane length	386 Km
Forecast average traffic intensity in 2030	40.3 thousand vehicles per day
Construction period	2016–2018

* For the future development of the road, the design envisages, within the scope of the second construction phase, bringing the number of main lanes up to 6 and 8 the road pavement width up to 22.5 m and 30 m, respectively

** For the future development of the road, the design envisages, within the scope of the second construction phase, construction of three additional traffic interchanges

DESIGN FEATURES

The design documentation was executed by OAO Soyuzdorproekt, one of Russia's leading institutes for road design and survey work.

The design solutions adopted took into account special terms of reference developed for the given facility and the technical conditions issued by the holders of the roads and utilities crossed.

In developing the key design solutions, economic surveys were made to assess the future traffic intensity.

The following factors were taken into account in designing the road route options:

- › Geological, hydro-meteorological, geo-technical and ecological conditions
- › Location of special use regime territories, including specially protected natural territories, for the purpose of minimising any negative impact on the natural environment
- › The scheme for the territorial urban construction planning
- › Laying the route in consideration of the possibility of drawing the maximum transport flows and launching start-up complexes independently of one another
- › Protection of archaeological legacy and war graves
- › Prevention of the road construction zone affecting households and garden allotments and, if this proved impossible, minimal demolition for construction purposes.

The road route selected as a result of a feasibility comparison of the different options requires adjustment of the design documentation for the purpose of partially changing the route, preparing the construction site in good time and launching construction of SC No. 4 of the CRR (Decision of the State Arbitration Court of the Moscow Region of 19 May 2014 on case No. A41-55500/13). It is planned to complete the redesigning by 31 December 2014.

CULTURAL LEGACY AND ENVIRONMENTAL PROTECTION

Cultural legacy

Avtodor SC focuses particularly on preserving historical memories when implementing express road network projects. For this purpose, it has developed and implements a complex of measures for thoroughly studying the territory intended for road construction.

Over 400 archaeological legacy sites are currently known on the territories of the Noginsky, Pavlovo-Posadsky, Voskresensky and Ramensky districts and the Domodedovo and Elektrostal urban districts, 158 of these being under state protection as federal significance archaeological monuments and as identified archaeological monuments.

In the immediate vicinity of the CRR route, the following identified archaeological sites are located: Petrovskoye ancient settlement (XIV–XVII c.), Skripino-1 ancient settlement (XII–XVI c.), Morozovo burial mound (XI–XIII c.).

In order to safeguard the identified archaeological monuments sites, in accordance with the Federal Law “On cultural legacy facilities (historical and cultural monuments) of the peoples of the Russian Federation” (No. 73-Φ3 of 25 June 2002, art. 33), the CRR was chosen to bypass the boundaries of the given archaeological monuments.

The mandatory work in advance of building the CRR, in order to preclude heavy trucks crossing over and construction materials being stores, etc., the physical protection of the given archaeological monuments is ensured by fencing off the relevant territories and monitoring fulfilment of monument protection requirements during construction work.

Environment

For the purpose of preserving valuable natural ecosystems and biological diversity, the currently planned route does not touch on nature reserves. The most valuable, key territories in nature terms, fulfilling habitat-forming, water-regulating, and water-

collecting functions within geosystems of different levels and having major ecological significance as biodiversity reserves are not included within the route boundaries.

SC No. 4 of the CRR crosses quite developed parts of the Moscow Region. 70% of the route runs across forested land, the forest being mainly category one. Open areas consist of arable land and, occasionally, wasteland and pasture.

Where possible, the planned route bypasses most population centres – towns, settlements and villages. The acoustic discomfort zone includes mainly country-house plots (allotment partnerships) and detached residential estates.

The design solutions for environmental protection are determined proceeding from the contemporary ecological requirements set by the legislation of the RF. The design envisages measures for protecting ground and surface waters, the air, flora and fauna against the physical impact by the road.

The construction design provides for measures reducing the negative impact of the road on the environment, including:

- noise-protection screens and noise-protection glazing where there is a high noise level
- local purification plant for 100% purification of the run-off from the road surface:
 - local collector type purification plant
 - hydro-botanical areas or mesh filters
 - local flow-type purification plant
 - special artificial structures – ecological crossings for migrating animals (ecoducts).

KEY TECHNICAL ASPECTS

In accordance with the design documentation, Avtodor SC prepares the road construction site, including:

- › updating of the technical conditions and other documents
- › updating permits required for preparing the construction site
- › transferring utilities
- › clearing the land plots of real estate property and other facilities in the way of construction.

The list and scope of the construction site preparation works are established on the basis of the design documentation and specified by the contractor during development of the detailed design documentation.

Continuation of the route has been agreed with all the municipalities crossed by the road and has been included in the Moscow Region Territorial Planning Scheme.

Construction of SC No. 4 of the CRR will involve demolition of 110 wooden buildings in a total volume of 28 889 m³ and 40 permanent structures in a total volume of 28 266 m³.

Land dedication for permanent and temporary use

SC No. 4 of the CRR crosses four districts and two urban districts of the Moscow Region.

The permanent dedication is intended to accommodate the roadbed (including channels and culverts), traffic interchanges, rest areas, toll collection points, engineering facilities (including utilities, support walls and the like).

The temporary dedication is envisaged by the design beyond the permanent dedication strip for storing topsoil in a pile, locating areas for construction camps, storing heaps of gravel and other materials.

Total land area required for construction of SC No.4, including:	689.84 ha
Permanent use	542.38 ha
Temporary use	147.46 ha

Reinstallation of utilities

Utilities within the construction site of the road and traffic interchanges are subject to reinstallation.

The public partner itself carries out the reinstallation of the utility networks on the basis of the design documentation and engineering surveys. All the technical solutions for removing the utilities are developed on the basis of the technical conditions of the utility owners and comply with the requirements of the effective regulatory documents.

Utilities for reinstallation, including:	266 facilities
Communications cables, No./Km	143/533
High-voltage electric power cables, No./Km	87/47.65
Sewerage, No./Km	4/5.5
Water pipes (including culverts), No./Km	4/2.36
Low pressure gas pipelines, No./Km	1/0.042
Gas distribution pipelines, No./Km	15/6.25
Gas mains, No./Km	5/5.6
Oil pipelines (including petroleum products), No./Km	3/1.22
Utilities at intersections with railways	4

Soil and geological conditions and the road surface

The route of SC No. 3 of the CRR lies in the moderate continental climate belt, relating to construction climate zone II; in terms of the nature and degree of humidity, the given area relates to localities of types 2 and 3; in terms of soil and geological conditions, it is suitable for construction of an express highway.

In accordance with the road category and the future traffic intensity, a heavy-duty road surface is envisaged all along the CRR, covered with stone matrix asphalt-concrete.

Results of engineering and geodesic surveys

SC No. 4 of the CRR is located in the east and south-east of the Moscow Region and in geomorphological terms, in the east it crosses the Meshcherskaya depression and in the south-east across the Moskvoretsko-Okskaya plain. The Meshcherskaya depression is represented on the relevant territory by the Klyazminsko-Moscow residual hilly plain. The Moskvoretsko-Okskaya plain is represented by the Moskvoretskaya right-bank moraine-erosion plain and the Oksko-Protvinskaya moraine-erosion plain.

The planned road crosses a multitude of rivers and small streams. These are the rivers Solonoga, Khodtsa, Vokhonka, Gzhelka, Dorka, Moskva, Otra and Gnilusha and their tributaries. On the given sectors, the road crosses the flood plains and terraces of the given rivers.

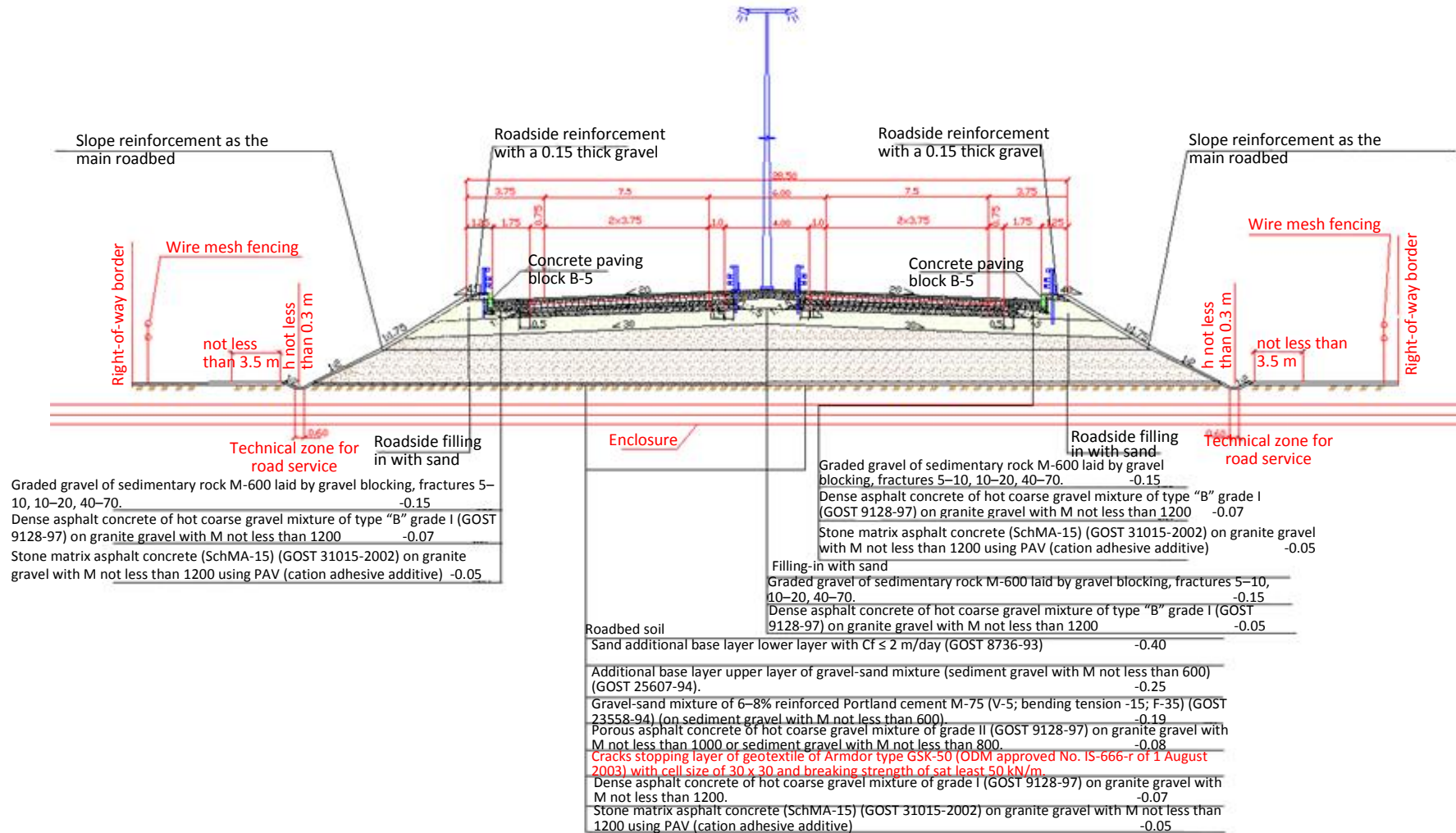
The absolute surface elevations vary between 111.50 m in the river valleys to 173.50 m in the inter-river areas.

Cross section of the road structure

In cross-section, the CRR pavement is equal to the number of traffic lanes, each 3.75 m wide, a 6-m-wide median, including 2x1 m safety lanes, a 4 m strip for locating metal barriers on both sides, lighting poles, electricity cable conduits and fibre-optic cable conduits, overpass supports, road sign support frames and water culverts on curves.

On sectors where traffic interchange slip-roads join the road, a 3.75-m-wide cross express land is envisaged. The mid-point shoulders with an aggregate width of 2x3.75 m, including a 2.5 m strengthened part (0.75 m wide – strengthened with asphalt-cement with a structure of the same type as the main pavement; 1.75 m wide – strengthened with asphalt-cement and a lighter-weight structure), providing for short-term emergency stops, and part of the shoulder 1.25 m wide, strengthened with gravel material for installation of the barrier.

Cross section of the road surface (construction stage 1) Body of road (4 lanes)



Lanes and key structural specifics

To economise on initial investments, it was decided to implement the CRR project in two stages.

Stage 1 involves construction of 4 traffic lanes with a 6 m median, thereby minimising the toll service demand risk, i.e., divergence by the forecast traffic indicators from the actual traffic intensity once the road is put into operation.

During stage 2, the number of traffic lanes will be brought up to six and eight on different sections, in accordance with the estimated traffic intensity. The decision on the time schedule for putting construction stage 2 into operation will be taken after stage 1 is started up, on the basis of the actual data at the time on the amount of traffic and the observed growth of intensity.

The CRR route on the SC No. 4 has 38 angles of curvature with a minimum radius of 1200 m and a maximum radius of 15434 m.

Bridges and fly-overs

The Project provides for construction of 66 bridge structures.

Bridge structures on the main CRR route, including:	44	5616.44 m
Bridges and ecoducts	17	1515.66 m
Flyovers	23	1554.6 m
Overpasses	4	2546.18 m
Bridge structures across the CRR and at exits, including:	22	4895.76 m
Flyovers	17	1696.78 m
Overpasses	5	3198.98 m

Aggregate table of bridge structures

All the bridge structures, including big bridges, relate to responsibility level two (GOST R 54257-2010 "Reliability of construction structures and foundations. Main regulations and requirements").

Bridge structures, length m	Number
Bridges and ecoducts up to 100 m	14
Bridges and ecoducts 100–200 m	2
Bridges and ecoducts over 200 m	1
Flyovers and overpasses up to 100 m	29
Flyovers and overpasses 100–200 m	9
Flyovers and overpasses over 200 m	11

Small artificial structures

For the purpose of organising surface run-off, the design provides for 130 reinforced concrete water pipes with a total length of 6 864.55 m, including:

Water pipes. including:	130 (length - 6 864.55 m)
circular reinforced concrete pipes d=1.0 m	16 (length – 630.9 m)
circular reinforced concrete pipes d=1.5 m	89 (length – 4762.68 m)
circular, twin-slab, reinforced concrete pipes d=1.5 m	1 (length – 41.23 m)
rectangular reinforced concrete pipes with a 2.0x2.0 m opening	19 (length – 1104.6 m)
rectangular reinforced concrete pipes with a 3.0x2.5 m opening	3 (length – 168.55 m)
rectangular reinforced concrete pipes with a 4.0x2.5 m opening	1 (length – 63.40 m)
Rectangular, twin-slab, reinforced concrete pipes with a 2.0x2.0x2.0 m opening	1 (length – 93.19 m)

Traffic interchanges

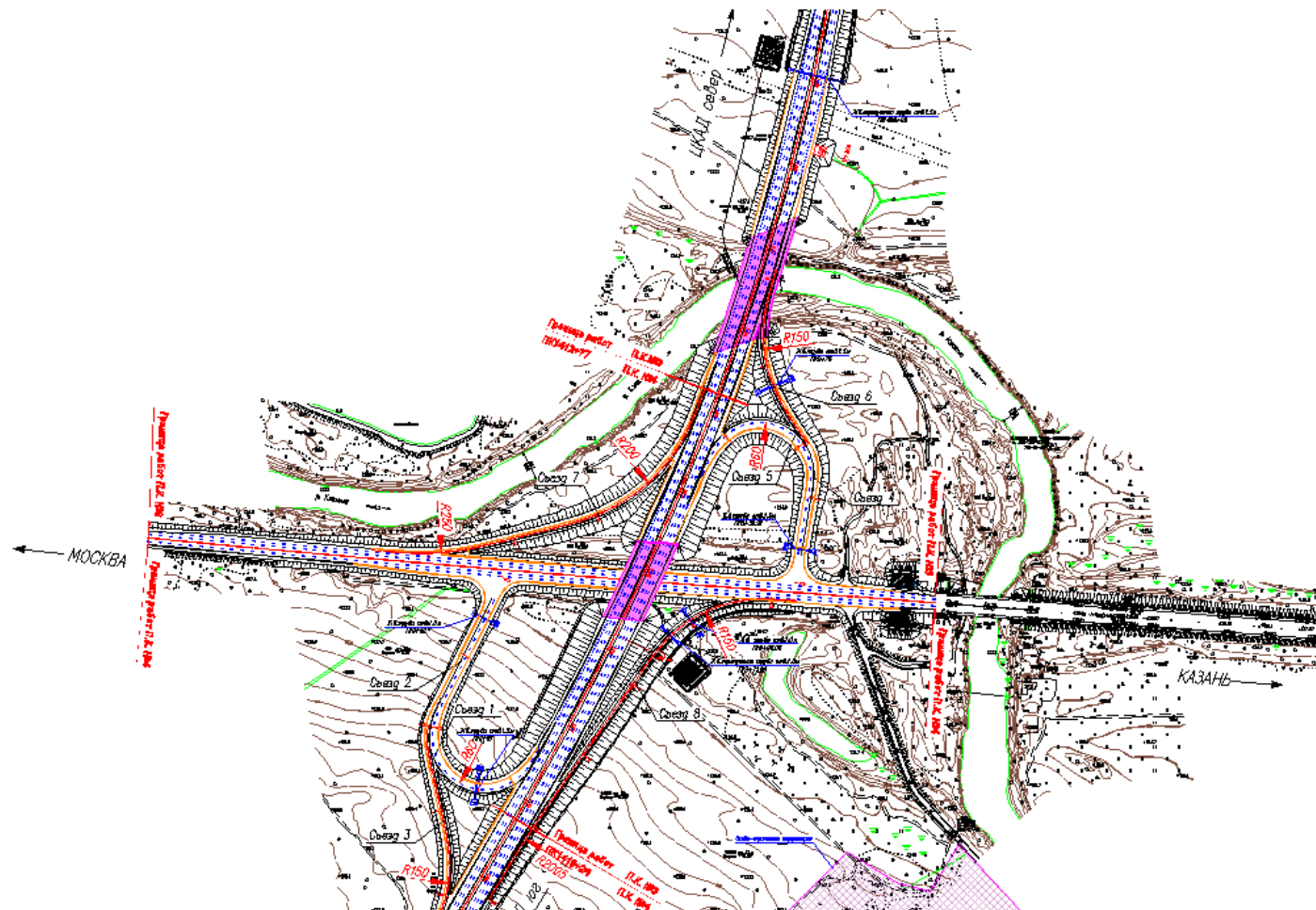
The design provides for seven traffic interchanges on different levels:

Traffic interchange No. 1	Intersection with the M-7 Volga
Traffic interchange No. 2	Intersection with the Moscow Small Ring (MSR)
Traffic interchange No. 3	Intersection with the Yegoryevskoye Highway
Traffic interchange No. 4	Intersection with the MSR-Chechevilovo-MBK road
Traffic interchange No. 5	Intersection with the M-5 Urals
Traffic interchange No. 6	Intersection with the MSR and the Vostryakovo-Obraztsovo road (approach road to Domodedovo Airport)
Traffic interchange No. 7	Intersection with the M-4 Don

Traffic interchange No. 1

At the intersection of the M-7 Volga with the CRR at Km 0 in the Noginsky District.

In terms of its technical and economic indicators and in consideration of opening of the Moscow-Noginsk-Orekhovo-Zuevo-Nizhny Novgorod road, the project uses the interchange type option “incomplete clover-leaf” with traffic lights at the junction with the M-7 Volga.



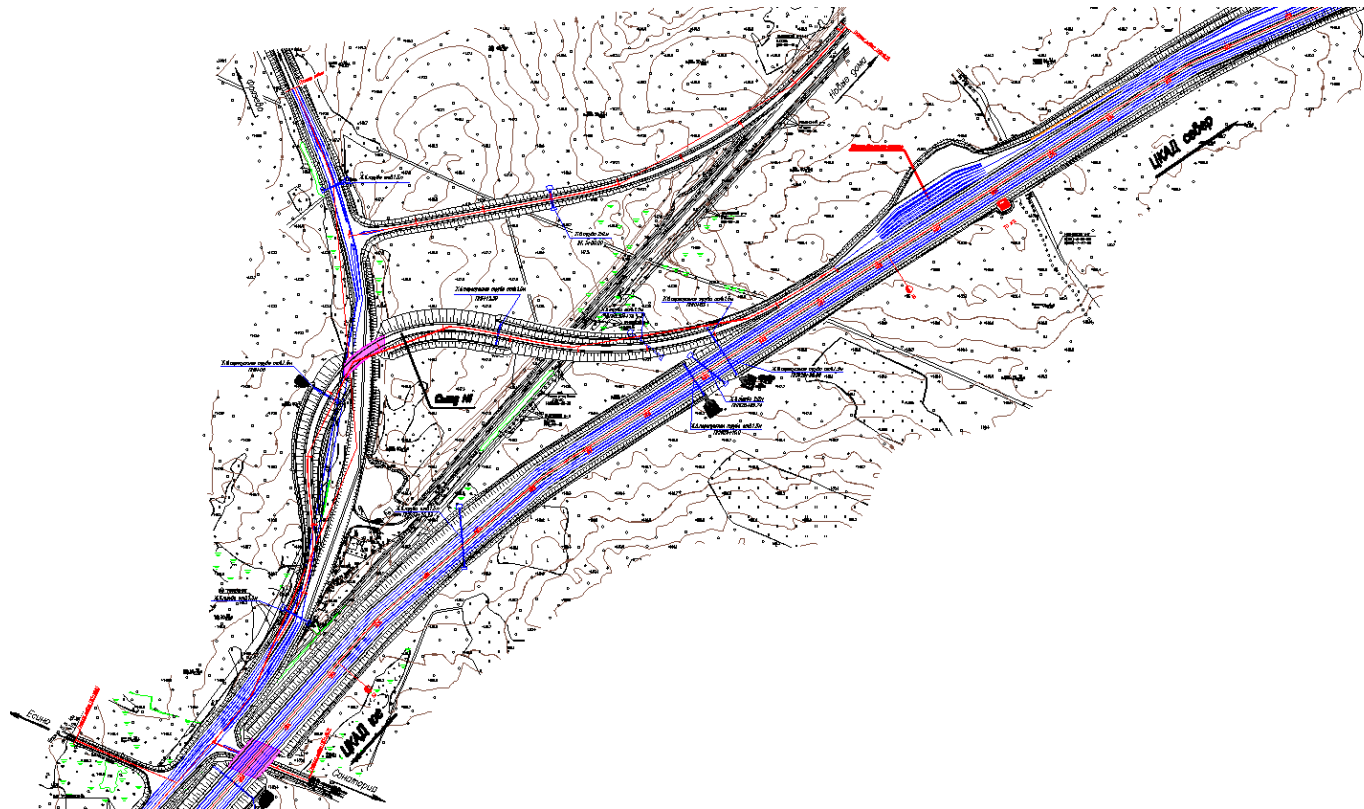
8 slip-roads are planned at the traffic interchange, including:

- › **Slip-road No. 1:** linking the CRR-northbound to the M-7 Volga (towards the Region)
- › **Slip-road No. 2:** linking the CRR-northbound to the M-7 Volga (towards the Region), linking the M-7 Volga (from Moscow) to the CRR-southbound
- › **Slip-road No. 3:** linking the M-7 Volga (from Moscow) to the CRR-southbound
- › **Slip-road No. 4:** linking the CRR-southbound to the M-7 Volga (towards Moscow), linking the M-7 Volga (from the Region) to the CRR-northbound
- › **Slip-road No. 5:** linking the CRR-southbound to the M-7 Volga (towards Moscow)
- › **Slip-road No. 6:** linking the M-7 Volga (from the Region) to the CRR-northbound
- › **Slip-road No. 7:** linking the CRR-northbound to the M-7 Volga (towards Moscow)
- › **Slip-road No. 8:** linking the CRR-southbound to the M-7 Volga (towards the Region)

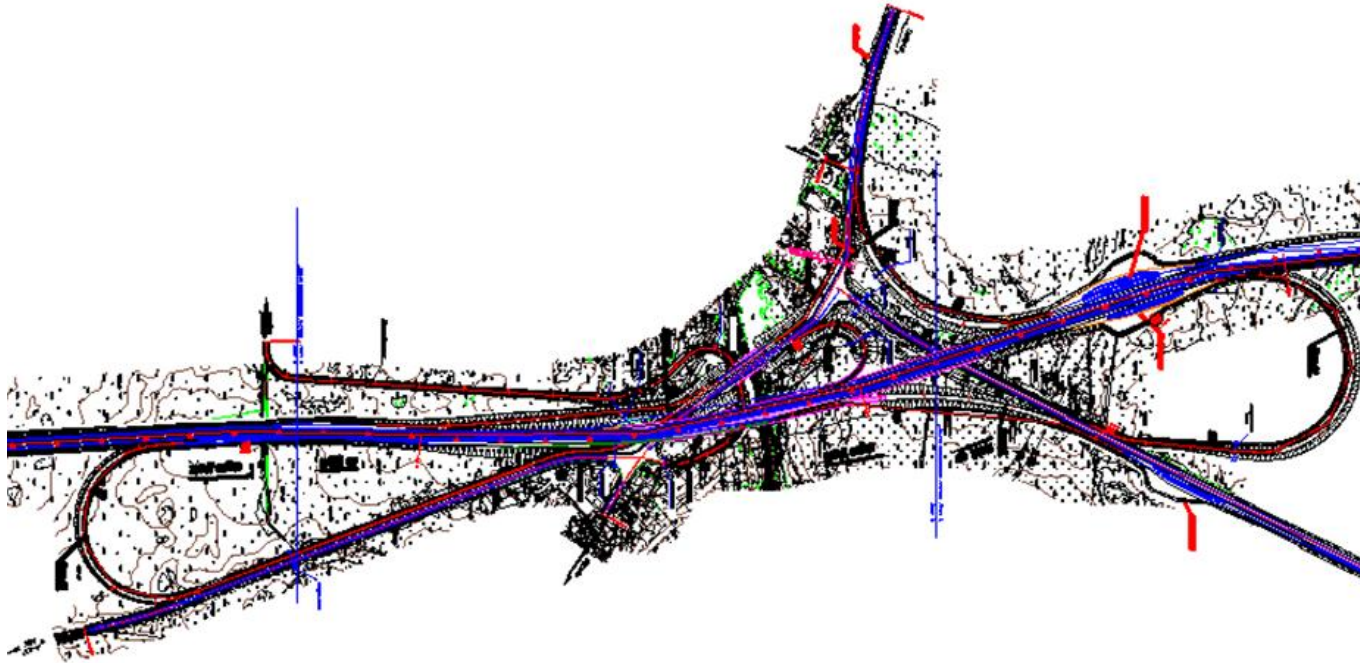
Traffic interchange No. 2 and Traffic interchange No. 3

At the intersection between the CRR and the Moscow Small Ring at Km 20 in the Noginsky District and Yegoryevskoye Highway at Km 30 in the Ramensky District, two traffic interchanges connected into a single transport hub are planned, in view of the comparatively short distance between them (10 Km).

Traffic interchange No. 2



Traffic interchange No. 3



9 slip-roads are planned on the combined transport hub*, including:

- › **Slip-road No. 1:** linking the CRR-northbound to the A-107 MSR-southbound and further to the R-105 Yegoryevskoye Highway
- › **Slip-road No. 2:** linking with the A-107 MSR-northbound in the direction of the CRR-southbound
- › **Slip-road No. 3:** linking with the A-107 MSR-southbound in the direction of the CRR-northbound
- › **Slip-road No. 4:** linking directions of the CRR-southbound to the A-107 MSR-southbound and further to the R-105

Yegoryevskoye Highway

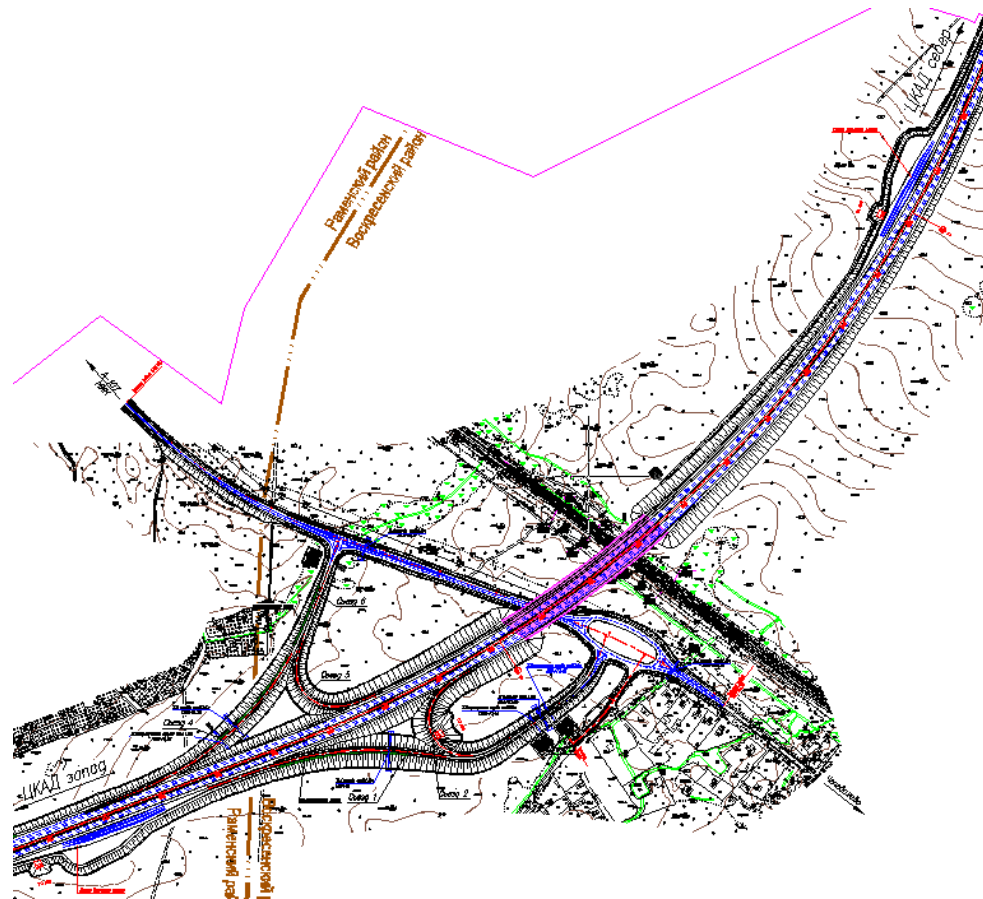
- › **Slip-road No. 5:** linking directions of the CRR-southbound in the direction of the A-107 MSR-northbound
- › **Slip-road No. 6:** linking directions of the CRR-northbound to the R-105 Yegoryevskoye Highway in the direction of Moscow
- › **Slip-road No. 7:** linking directions of the R-105 Yegoryevskoye Highway (from the Region) to the CRR-southbound
- › **Slip-road No. 8:** linking directions of the R-105 Yegoryevskoye Highway (towards the Region) to the CRR-northbound
- › **Slip-road No. 9:** linking directions of the R-105 Yegoryevskoye Highway (towards the Region) to the CRR-southbound.

* Construction stage 1 provides for construction of all the interchange slip-roads apart from No. 2 and No. 5, which will be built at the stage of complete (future) development of the CRR

Traffic interchange No. 4*

At the intersection with the MSR-Chechevilovo-MBK road at Km 49 on the boundary between the Voskresensky and Ramensky districts.

Considering the low traffic intensity on the MSR-Chechevilovo-MBK road, the traffic interchange type “incomplete clover-leaf” is recommended, with a single junction at one level, with traffic lights and a roundabout junction on one level.



6 slip-roads are planned at the traffic interchange, including:

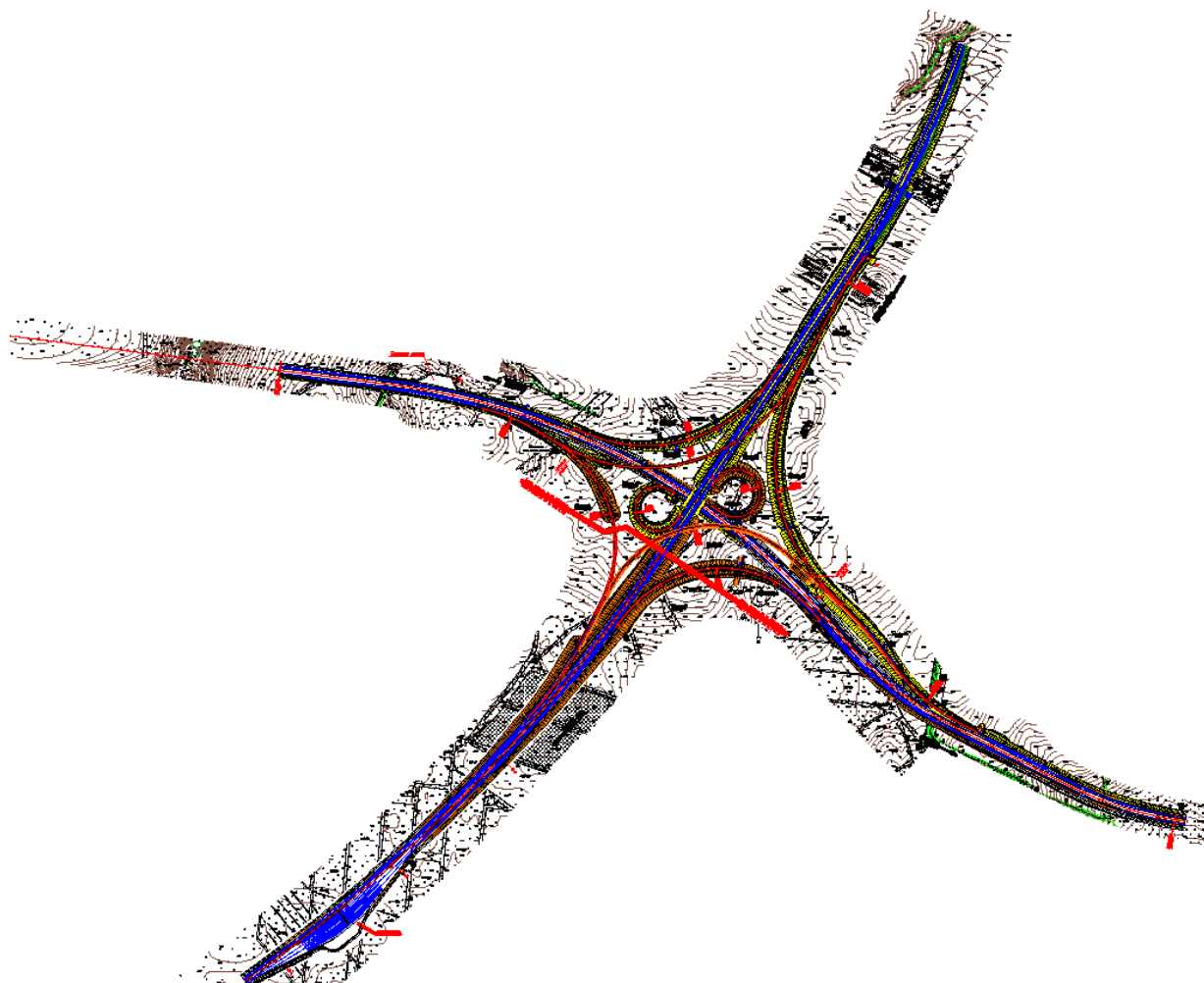
- › **Slip-road No. 1:** linking the CRR-southbound to the MSR-Chechevilovo-MBK road
- › **Slip-road No. 2:** linking with the MSR-Chechevilovo-MBK road in the direction of the CRR-northbound
- › **Slip-road No. 3:** linking the CRR-southbound to the MSR-Chechevilovo-MBK road, linking the MSR-Chechevilovo-MBK road in the direction of the CRR-northbound
- › **Slip-road No. 4:** linking the MSR-Chechevilovo-MBK road in the direction of the CRR-southbound
- › **Slip-road No. 5:** linking the CRR-northbound to the MSR-Chechevilovo-MBK road
- › **Slip-road No. 6:** linking the MSR-Chechevilovo-MBK road in the direction of the CRR-southbound, linking the CRR-northbound to the MSR-Chechevilovo-MBK road.

* Construction of traffic interchange No. 4 is provided for during complete (future) development of the CRR

Traffic interchange No. 5*

At the intersection with the M-5 Urals at Km 64 in the Ramensky District.

The design provides for construction of a traffic interchange on three levels with directional slip-roads in the directions with the heaviest traffic.



8 slip-roads are planned at the traffic interchange, including:

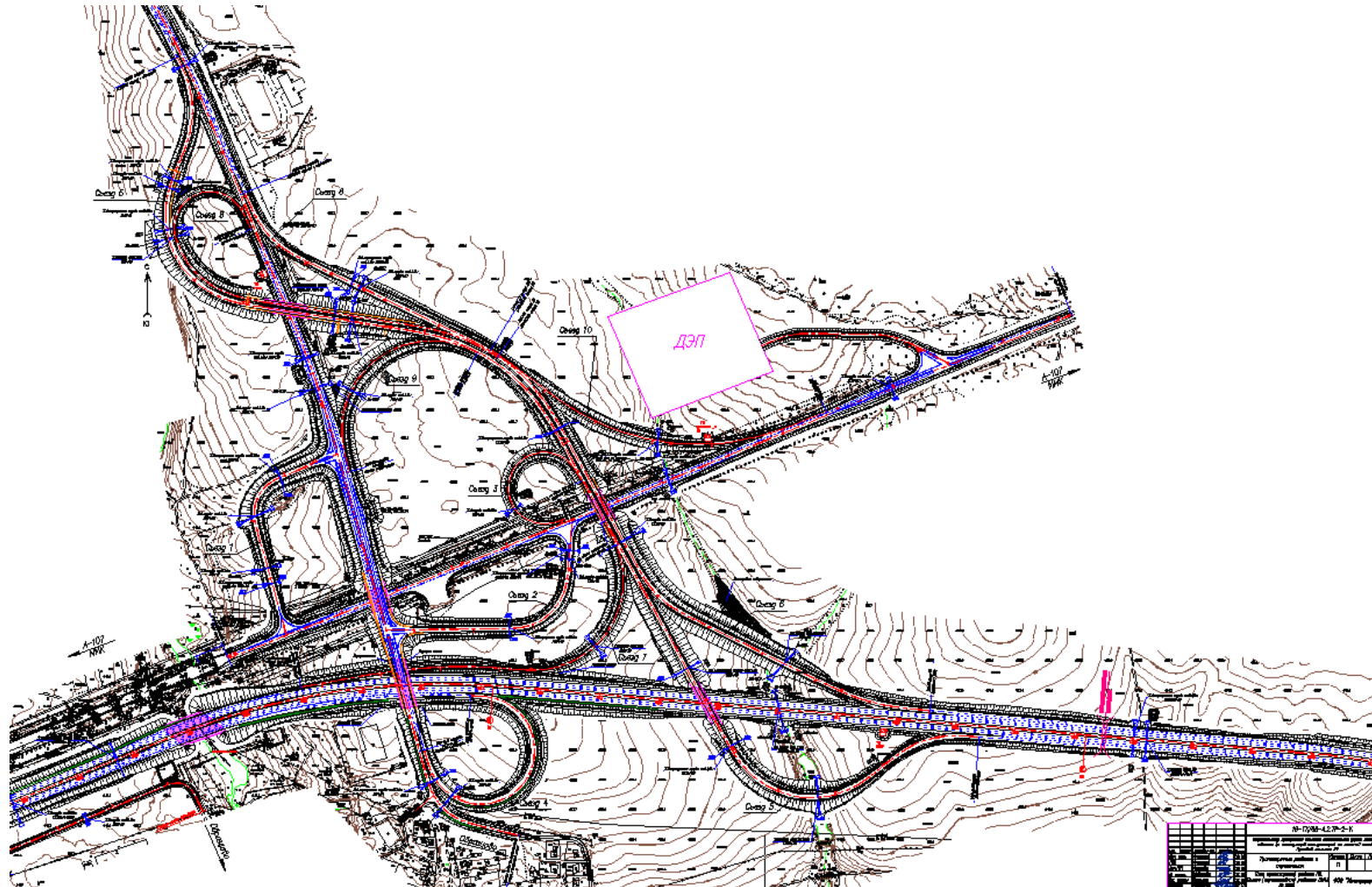
- › **Slip-road No. 1:** linking the CRR-southbound to the M-5 Urals in the direction of the Region
- › **Slip-road No. 2:** linking the M-5 Urals in the direction from the Region to the CRR-northbound
- › **Slip-road No. 3:** linking the CRR-northbound to the M-5 Urals in the direction of Moscow
- › **Slip-road No. 4:** linking the M-5 Urals in the direction from Moscow to the CRR-southbound
- › **Slip-road No. 5:** linking the M-5 Urals in the direction from Moscow to the CRR-northbound
- › **Slip-road No. 6:** linking the M-5 Urals in the direction from the Region to the CRR-southbound
- › **Slip-road No. 7:** linking the CRR-northbound to the M-5 Urals in the direction of the Region
- › **Slip-road No. 8:** linking the CRR-southbound to the M-5 Urals in the direction of Moscow.

* Construction stage 1 of Start-up Complex No. 4 provides for construction of "incomplete clover-leaf" type traffic interchange No. 5, connecting to the traffic lights on the existing road

Traffic interchange No. 6*

At the intersection between the Moscow Small Ring and the Vostryakovo-Obraztsovo road (approach road to Domodedovo Airport) at Km 88 in the Domodedovo Urban District.

The design provides for construction of two "pipe"-type traffic interchanges to the CRR and the approach to the airport.



10 slip-roads are planned at the traffic interchange, including:

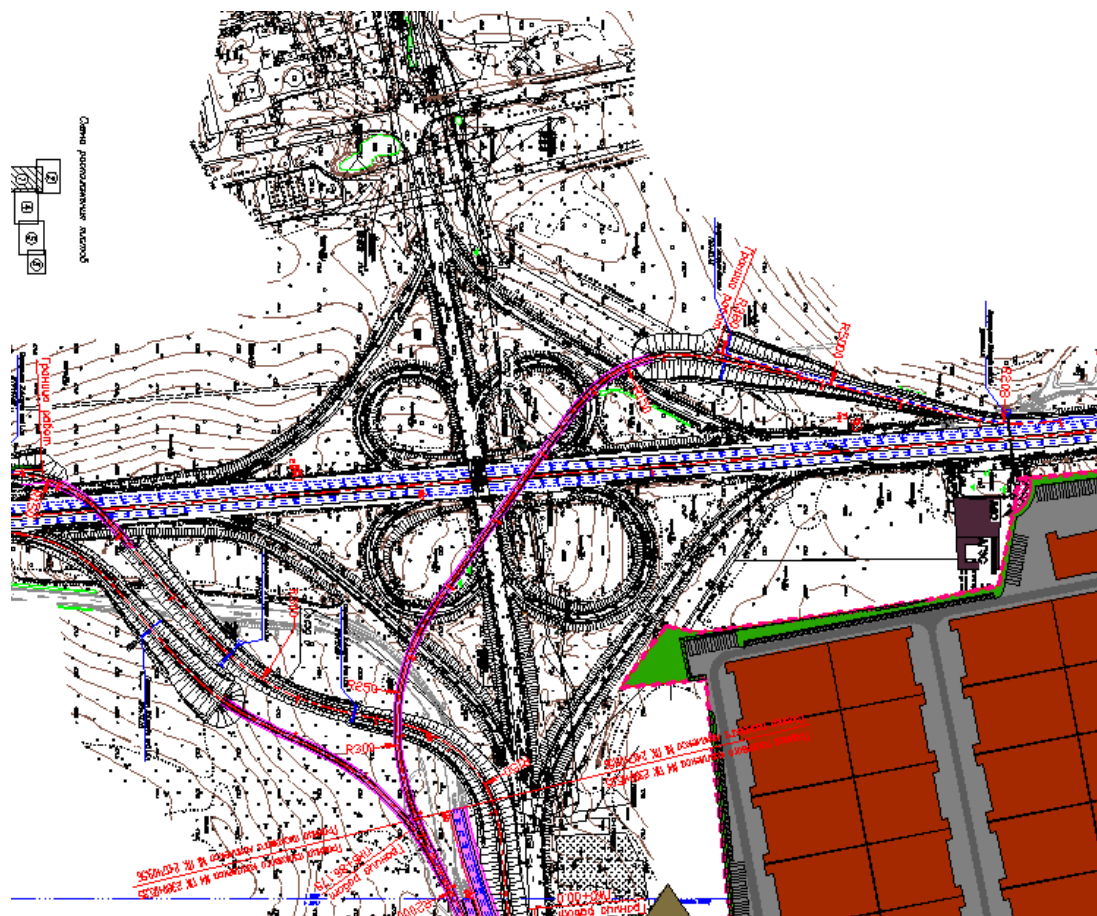
- › **Slip-road No. 1:** linking the A-107 MSR and the Vostryakovo-Obraztsovo road
- › **Slip-road No. 2:** linking the A-107 MSR and the Vostryakovo-Obraztsovo road
- › **Slip-road No. 3:** linking the A-107 MSR from the MSR-eastbound direction to the CRR
- › **Slip-road No. 4:** linking the CRR-westbound in the direction of Domodedovo Airport
- › **Slip-road No. 5:** linking Domodedovo Airport in the direction of the CRR-eastbound
- › **Slip-road No. 6:** linking the CRR-eastbound in the direction of Domodedovo Airport
- › **Slip-road No. 7:** linking Domodedovo Airport in the direction of the CRR-westbound
- › **Slip-road No. 8:** linking the CRR-eastbound to the Vostryakovo-Obraztsovo road in a southerly direction
- › **Slip-road No. 9:** linking the Vostryakovo-Obraztsovo road from the direction of Obraztsovo to the CRR-westbound
- › **Slip-road No. 10:** linking the A-107 MSR from the direction of MSR-eastbound in the direction of Domodedovo Airport.

* Construction stage 1 of Start-up Complex No. 4 provides for partial construction of traffic interchange No. 6. At the intersection of the road to Obraztsovo and the A-107 MSR, a "constricted" traffic interchange is envisaged, allowing construction of an overpass across the CRR as part of the road to Obraztsovo.

Traffic interchange No. 7

At the intersection with the M-4 Don highway at Km 95 in the Domodedovo Urban District.

The design provides for a traffic interchange option envisaging construction of a 1.7 Km long flyover in the vicinity of the intersection with the road. Also, to link with the M-4 Don, flyover directional slip-roads are to be built for exiting in all directions.



15 slip-roads are planned at the traffic interchange *, including:

- › **Slip-road No. 1:** linking the CRR-westbound to the M-4 Don in the direction of Moscow
- › **Slip-road No. 2:** linking the CRR-eastbound to the M-4 Don in the direction of Moscow
- › **Slip-road No. 3:** providing a turnaround across the M-4 Don from the direction of the Region for exiting on to the CRR-westbound
- › **Slip-road No. 4:** linking the A-107 MSR from the direction of the MSR-eastbound to the M-4 Don in the direction of Moscow
- › **Slip-road No. 5:** providing a turnaround across the M-4 Don from the direction of the Region for exiting on to the CRR-westbound
- › **Slip-road No. 6:** linking the M-4 Don from the Moscow direction to the CRR-westbound
- › **Slip-road No. 7:** linking the M-4 Don from the direction of the Region to the CRR-eastbound
- › **Slip-road No. 8:** linking A-107 MSR from the direction of the MSR-eastbound to the M-4 Don in the direction of the Region
- › **Slip-road No. 9:** linking the M-4 Don from the Moscow direction to the CRR-eastbound
- › **Slip-road No. 10:** linking the CRR-westbound to the M-4 Don in the direction of the Region
- › **Slip-road No. 11:** linking the A-107 MSR from the direction of the MSR-eastbound to the CRR-westbound
- › **Slip-road No. 12:** linking the A-107 MSR with Metkino and Belye Stolby and allowing slip-roads to be organised to a logistics centre under construction
- › **Slip-road No. 13:** linking the A-107 MSR from the direction of the MSR-westbound to the CRR-eastbound
- › **Slip-road No. 14:** linking the CRR-eastbound to the A-107 MSR in the direction of the MSR-eastbound
- › **Slip-road No. 15:** allowing a turnaround on the A-107 MSR for traffic coming travelling in an easterly direction.

* Within the scope of Start-up Complex No. 4, construction is envisaged of slip-roads No. 7, 8, 9, 12, 13 and 14. The other slip-roads constitute part of Start-up Complex No. 1

Terms of reference

Technical means for traffic control

To ensure traffic safety and organisation on the road, all the requisite measures are planned in accordance with GOST R 52289 (Technical means for traffic organisation. Rules for use of road signs, markings, traffic lights, road barriers and guidance systems).

Installation and tuning of toll collection and automatic traffic control system equipment does not constitute part of the concession agreement and will be performed by an operator engaged by Avtodor SC. Toll collection (operator activities) and operation of the given intellectual traffic systems will also be carried out by an operator engaged by Avtodor SC.

GENERAL PROVISIONS

Subject of the tender – conclusion of a concession agreement for financing, construction and operation on a toll basis of a section of the road, the toll being collected in favour of the grantor and not constituting the subject matter of the concession agreement.

During holding of the tender, conclusion and fulfilment of the concession agreement, the authorities of the grantor are exercised by State Company Russian Highways. Financing of the project is envisaged by the Avtodor SC Long-term Action Plan (2010–2020).

The tender winner will enjoy the right to conclude a concession agreement with the grantor on the terms of its tender bid meeting the requirements of the tender documentation and the decision on concluding the concession agreement.

Purpose of the agreement – to create and provide for due operation of the road throughout its life-cycle in accordance with the latest technical operational parameters, ecological and traffic safety requirements.

Subject of the concession agreement – “**Central Ring Road of the Moscow Region. Start-up complex No. 4**”, including the engineering structures of the transport infrastructure as provided for in the design and estimate documentation (roadbed, road surface, bridges, culverts, fly-overs, overpasses, technical means for traffic control, other road facilities and components of the road system, other than toll collection points).

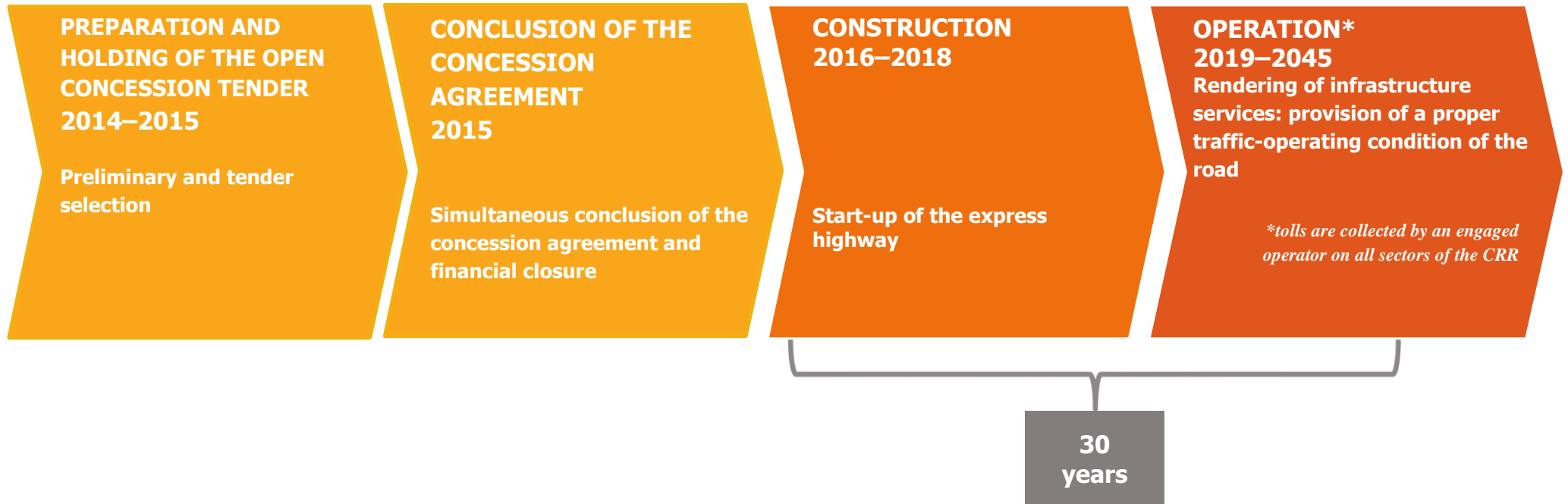
Agreement term: 30 years from conclusion of the agreement.

Property relations:

- Title to the road will belong to the grantor
- The grantor shall grant the concessionaire the right to possess and use the road for operation thereof for the period of the agreement.

All agreement materials will be executed in Russian.
Russian will be the official project language.

Project implementation



OBLIGATIONS OF THE CONCESSIONAIRE

In accordance with the concession agreement, the concessionaire shall:

- Co-finance construction of the road
- Start up the road within a maximum of 36 months from obtaining a road construction permit
- Operate the road as a public highway, including but not limited to:
 - maintaining the road in a fit traffic and operating conditions through the entire operation period and observe the road traffic safety requirements, including traffic use parameters set by the concession agreement
 - observing the traffic accessibility indicators of the road for users in accordance with the requirements of the tender documentation and the concession agreement
 - performing running repairs and overhauls, maintaining the road throughout the operating period (with the exception of the TCP and ATCS)
 - rendering road users services meeting the range and scope requirements specified in the concession agreement and by the effective legislation
 - undertaking measures to ensure traffic safety and transport safety of road facilities.
- Ensure the road accessibility indicators for users required by the concession agreement
- At the request of the grantor, undertake design, construction and operation of the second construction stage of the Road (individual sections thereof), including decision, construction and operation of structures for the purpose of bringing the through capacity in line with the traffic intensity in the manner and on the conditions determined in the concession agreement
- Insure the risk of loss of or damage to artificial structures constituting part of the road and insure third party liability for harm caused thereto
- Provide the grantor with irrevocable bank guarantees
- Transfer the road to the grantor on expiry of the concession agreement.

OBLIGATIONS OF THE GRANTOR

The grantor is the Russian Federation represented by Avtodor SC (on the basis of directive of the Government of the RF dated 22 May 2014 No. 875-p).

Avtodor SC possesses all the necessary authorities for concluding and implementing the concession agreement with the concessionaire in relation to the project, which will be secured in a directive of the Government of the Russian Federation.

Obligations of the grantor:

- › To conclude leases/subleases with the concessionaire for the land plots crossed by the road and/or that might be needed by the concessionaire for performing activities associated with construction and operation of the road
- › To provide the concessionaire with the available design documentation for construction of the road
- › To provide the concessionaire with a capital grant for construction of the road
- › To hand the road over to the concessionaire for possession and use from its start-up date until expiry of the concession agreement
- › To pay the grantor's payment to the concessionaire from start-up of the road
- › To accept the road from the concessionaire after expiry of the concession agreement
- › To engage an operator to create and operate toll collection points (TCP) and the automated traffic control system (ATCS) and to provide for toll collection in favour of the grantor on the basis of a separate agreement.

For project implementation purposes, the following stages of state support are envisaged:

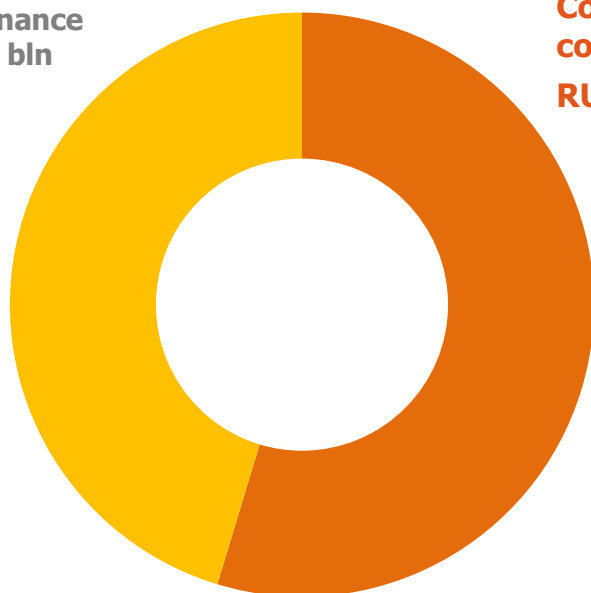
- Capital grant at the road **construction** stage
- Grantor payment at the road **operation** stage.

FINANCE. INVESTMENT STAGE

The total cost of road construction under the concession agreement amounts to **64.1** bln RUB in relevant year prices including VAT. The grantor and the concessionaire will finance construction of the road in the following proportions, respectively: 49%/51%.

Tender start conditions

Budget finance
RUB 28.8 bln



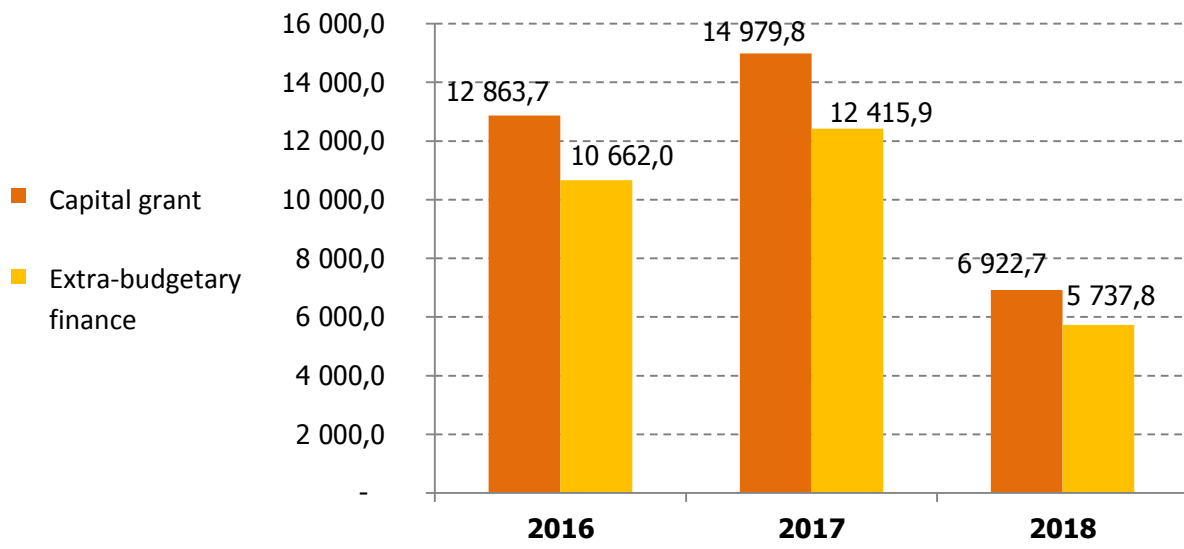
Cot of road construction under the concession agreement = RUB 63.6 bln

Capital grant
RUB 34.8 bln

State finance will be allocated for co-financing of the concessionaire's construction costs and will be provided in accordance with the finance time schedule out of federal budget subsidies for the activities of State Company Russian Highways and resources of the National Wealth Fund (NWF).

The concessionaire utilises its own funds during construction of the road. The funds are returned to the shareholders once the senior debt is redeemed until the concession agreement expires. The state support for construction of the road will be paid to the concessionaire annually, in instalments, on successful completion of phases in accordance with the following schedule:

Project finance structure (mln RUB)



Commercial structure

KEY PROJECT FINANCE PARAMETERS *

Avtodor SC payment to return extra-budgetary finance was calculated on the basis of the following assumptions:

Parameter	Value	Comment
Cost of road construction under the concession agreement:	63 581,9 mln RUB	
- Capital grant	34 766,2 mln RUB	55%
- Concessionaire investments in road construction	28 815,7 mln RUB	45%
Concessionaire investments to cover other construction stage costs	-	Costs of maintaining the design company fulfilling the function of project management, costs of servicing borrowed finance and creating reserves (in consideration of refund of VAT at the construction stage)
Total investments by the concessionaire, including:	28 815,7 mln RUB	
- Own investments	30%	
- Borrowed investments	70%	Funds are utilised throughout the period of construction
Credit term	15 years	
Interest rate on credit (construction stage)	11.25%	Fixed interest rate on the senior debt

* To be specified at the tender

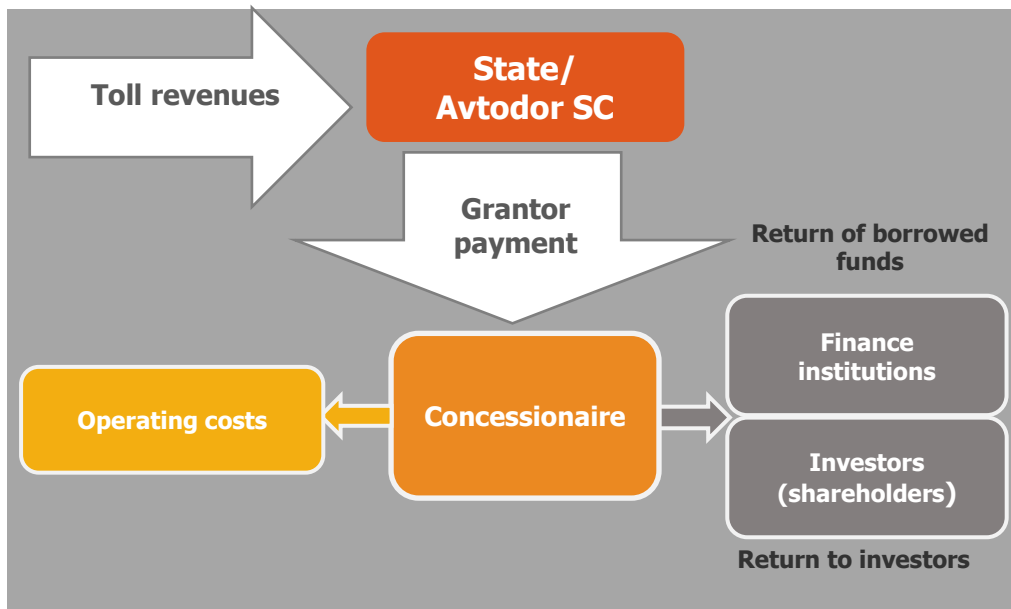
FINANCE. OPERATION STAGE

MECHANISM FOR GRANTOR PAYMENT

The grantor payment consists of regular annual payments established by the agreement for accessibility of the road for users throughout the operating period and observance of the traffic use parameters. The grantor payment is made to the concessionaire for the purpose of ensuring a fit traffic and operational condition of the road and observance of the traffic safety rules and covers the concessionaire's costs of building the road in consideration of returns on investment of its own and borrowed capital.

Payments to the concessionaire will begin once the road is in operation.

Finance organisation – operation stage



System for accruing demerit points/ reducing operating and/or investment payments

Demerit points are accrued and a commensurate reduction made in the operating and/or investment payments for violation/failure by the concessionaire to observe the requirements set by the grantor on the traffic accessibility indicators of the road, traffic use parameters of the road and requirements on maintenance and operation of the road.

Violation of the requirements on road maintenance and operation

- Violation of the requirements on road maintenance

Violation of the requirements on traffic accessibility and traffic use parameters of the road

- Failure to observe the traffic accessibility indicators
- Violation of the traffic use indicators of the road, in particular: smoothness (longitudinal/latitudinal), coefficient of adhesion with the road, surface durability
- Violation of the traffic use indicators of artificial structures, in particular: compliance with the standard load class, longitudinal strength, defects in and wear on junctions deforming seams



Reduction of Operation payment



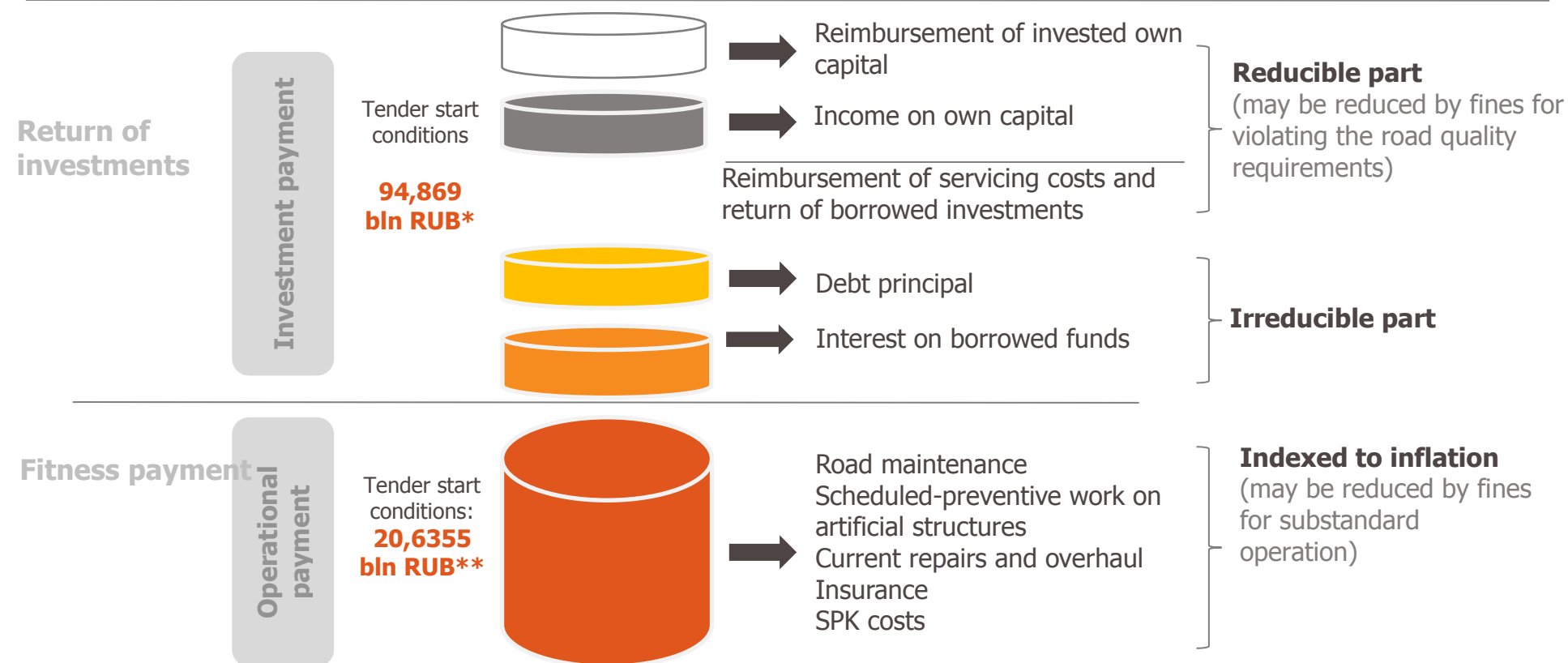
Reduction of Investment payment

STRUCTURE OF THE GRANTOR PAYMENT

The grantor payment is made by Avtodor SC and constitutes payment for road accessibility for users and observance of the traffic use parameters.

The grantor payment includes:

- reimbursement of the concessionaire costs of building the road under the concession agreement in consideration of returns on investment own and borrowed capital
- payment for ensuring traffic use fitness and observation of the traffic safety rules.



* During the term of the concession agreement (exclusive of VAT) in relevant year prices

** During the term of the concession agreement (exclusive of VAT) in Q1 2014 prices. Indexed to inflation

OPERATION PAYMENT

The operational payment constitutes part of the grantor payment made to the concessionaire for the purpose of ensuring a proper traffic use condition of the road and observance of the road safety rules.

- As the initial value of the given sub-criterion, a sum is set of RUB 20 635,5 mln exclusive of VAT, in Q1 2014 prices for the entire term of the concession agreement
- The annual basic operational payment in Q 1 2014 prices for the relevant year of concession agreement fulfilment after the road is opened is determined in accordance with the formula:

$$\Xi \Pi_i = \Xi \Pi \times k_1, \text{ where:}$$

$\Xi \Pi$ – is the operational payment for the entire term of the concession agreement exclusive of VAT, in Q1 2014 prices

i – is the year of concession agreement fulfilment after the road is opened.

k_1 – is the adjustment factor for the relevant year of concession agreement fulfilment after the road is opened, determined according to the table:

Year of concession agreement fulfilment	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coefficient	0,0125	0,0124	0,0123	0,0123	0,0297	0,0297	0,0296	0,0296	0,0296
Year of concession agreement fulfilment	2028	2029	2030	2031	2032	2033	2034	2035	2036
Coefficient	0,0296	0,0295	0,043	0,0468	0,0468	0,0468	0,0468	0,0467	0,0467
Year of concession agreement fulfilment	2037	2038	2039	2040	2041	2042	2043	2044	2045
Coefficient	0,0467	0,0467	0,0466	0,0466	0,0466	0,0466	0,0466	0,0466	0,0466

The total sum of adjustment factors for the entire term of the concession agreement equal unity.

The actual amount of the operational payment paid by the grantor to the concessionaire in the i -th year of concession agreement fulfilment is determined in accordance with the conditions of the concession agreement proceeding from the basic amount of the operational payment in relevant year prices, in consideration of indexation and other adjustments in accordance with the conditions of the concession agreement, including VAT increases.

INVESTMENT PAYMENT

The investment payment constitutes a component part of the grantor payment covering return of the concessionaire's costs of building the road, in consideration of returns on invested own and borrowed capital.

- As the initial value of the given sub-criterion, a sum is set of RUB 94 869 mln, exclusive of VAT, in relevant year prices for the entire term of the concession agreement
- The annual basic investment payment for the relevant year of concession agreement fulfilment after the road is opened is determined in accordance with the formula:

$$ИП_i = ИП \times k_2, \text{ where:}$$

ИП - is the investment payment for the entire term of the concession agreement in relevant year prices

k₂ - is the adjustment factor for the relevant year of concession agreement fulfilment after the road is opened, determined according to the table:

Year of concession agreement fulfilment	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coefficient	0,0317	0,0395	0,0433	0,0435	0,0435	0,0435	0,0523	0,0536	0,0547
Year of concession agreement fulfilment	2028	2029	2030	2031	2032	2033	2034	2035	2036
Coefficient	0,0557	0,0567	0,0452	0,0253	0,0259	0,0265	0,0271	0,0277	0,0283
Year of concession agreement fulfilment	2037	2038	2039	2040	2041	2042	2043	2044	2045
Coefficient	0,0287	0,0292	0,0297	0,0301	0,0306	0,0311	0,0316	0,0322	0,0328

The total sum of adjustment factors for the entire term of the concession agreement equal unity.

i – is the year of concession agreement fulfilment after the road is opened.

The actual amount of the investment payment paid by the grantor to the concessionaire in the i-th year of concession agreement fulfilment is determined in accordance with the conditions of the concession agreement proceeding from the basic amount of the investment payment in the i-th year.

TOLL POLICY

On completion of construction of the section, it is intended to operate the road on a toll basis.

On the basis of a separate operator's agreement, the grantor engages an operator to create and operate a toll collection system and a traffic control system, and also to collect tolls in favour of the grantor.

Travel toll limits

Vehicle category and type	Classification criterion		Toll, RUB/Km (in Q 1 2014 prices)	Maximum toll, RUB/Km (in Q1 2014 prices)
	Height including load – H (metres)	Number of axles		
I. Light vehicles: Cars (including with a trailer up to 2 m), multipurpose vehicles, motorbikes	$H \leq 2$	2 or more	3.36	5.04
II. Medium-size vehicles: Cars (including with a trailer over 2 m), vans on light chassis, pickups and minivans	$2 < H < 2.6$	2 or more	5.04	7.56
III. HGV and buses: Trucks, buses and international tourist coaches	$H \geq 2.6$	2	6.72	10.08
IV. HGV and buses: Trucks, buses and international tourist coaches and class 2 vehicles with a trailer over 2.6 m	$H \geq 2.6$	3 or more	13.44	20.16

Risk distribution








The advantage of using the public-private partnership model for implementing the project consists in an optimal, balanced and economically effective distribution of the risks associated with project implementation between the parties to the concession agreement.

The optimal risk distribution is based on the principle that risks beyond the control or competence of the concessionaire are borne by the state.

All other risks are transferred to the concessionaire. The given principle is reflected in the draft concession agreement constituting part of the tender documentation.

Key project risks:

Risk	Risk description	Private partner	The state
Risks of delayed provision of land plots prepared for construction	Change in the project schedule as a consequence of delayed condemnation (purchase) of land plots, formalisation of the Russian Federation's title thereto, change in the category and type of permitted use thereof, as well as violation of the deadlines for provision of the land plots for construction as a consequence of violation of relevant obligations by the State Company		●
Design risks	Likelihood of errors in design solutions and construction work plans	◐	◐
Risk of delayed completion	Increased construction times	●	
Risk of increased construction costs	Actual project construction costs exceed the estimates, including owing to rising construction material prices and bad faith on the part of contractor organisations	●	

Ecological risks	Damage to the environment as a result of the contractor's actions during construction and operation of the road		
	Ecological risks associated with the design documentation		
Road maintenance risks	Increase in actual road maintenance and repair costs due to changing cost of materials (the grantor compensates the contractor for the increase in the given costs within the bounds of inflation)		
Risks of changing demand for use of the road	Drop / increase in demand for use of the road compared to the estimated level		
Risk of bankruptcy or insolvency of the bank providing the guarantee securing performance of the concessionaire's obligations under the agreement	Bankruptcy / full or partial insolvency of the bank granting the bank guarantee during construction and/or operation		
Risks of the need to change the road's technical characteristics during operation	Widening of the road, interchanges, modernisation of TCP equipment		

Legal framework

The tender is held in accordance with Federal Law of the Russian Federation No. 115-FZ of 21 July 2005 "On Concession Agreements" and other regulatory, legal and executive acts.

The Project tender documentation is agreed with the Ministry of Transport of the Russian Federation, the Ministry for Economic Development of the Russian Federation, the Ministry of Finance of the Russian Federation, as well as the Minister of the Russian Federation Mikhail Abyzov. The tender documentation and the members of the tender commission are approved by decision of the Management Board of Avtodor SC.

Amendment of the tender documentation

Avtodor SC is entitled to amend the approved tender documentation on the condition of mandatory prolongation of the deadline for submitting applications to participate in the tender or tender bids until at least 30 days following introduction of such amendments and observance of other requirements of Federal Law of the Russian Federation No. 115-FZ of 21 July 2005 "On Concession Agreements".

In addition, Avtodor SC may place information about the holding of the tender in the media and on the company website.

Parameters of tender criteria	Sum	Tender conditions	Weighted value of the tender criteria
Capital grant	≤ 34 766,2 mln RUB*, including VAT	reduction of the initial value	0.4
Payment for accessibility:			
- Operational payment	20 635,5 mln RUB in base year prices** exclusive of VAT	reduction of the initial value	0.3
- Investment payment	94 869 mln RUB*** exclusive of VAT	reduction of the initial value	0.3
Total			1.0

The tender winner will be entitled to conclude the concession agreement with the grantor on the conditions of the tender proposal meeting the requirements of the tender documentation.

* In relevant year prices

** In Q 1 2014 prices

*** For the entire term of the concession agreement in relevant year prices

Preliminary project schedule

Implementation date	Key implementation stages
31 July 2014	Public discussions of the tender conditions and draft tender documentation
22 August 2014	Publication of the official announcement of the tender and tender documentation
8 September 2014	Project Roadshow
By 11 November 2014	Acceptance of tender bids, familiarisation of potential procurement participants with the materials of the design documentation on the basis of relevant requests
11 November 2014	Tender bid envelope opening
No later than 11 December 2014	Consideration and assessment of the tender bids, summarisation of the results of the tender
By 20 April 2015	Presentation of tender bids, open consultations
20 April 2015	Tender bid envelope opening
No later than 20 May 2015	Consideration of the tender bids, summarisation of the results of the tender
No later than 28 December 2015	Negotiations with the tender winner, signing of the concession agreement, financial closure

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