UPDATED ROAD MAP AND INVESTMENT PLAN

I. Road Map

1. In the past, Azerbaijan's economy has been mainly dependent on the oil sector revenues. With the oil boom expected to last for a finite period, the Government has put emphasis on the development of non-oil sector infrastructure and as such, over the past few years, Azerbaijan has been rehabilitating and developing the non-oil sector infrastructure needed to realize rapid growth, benefiting from increasing oil and gas revenues, and also putting in place a credible framework to effectively manage the increase in resource flows. The development of transport infrastructure is one of the key tasks of the Government to sustain GDP growth and promote trade with the neighbouring countries. The strategic objective of trade expansion will help realize the vast potential for continental trade spanning the entire Eurasian region, which will inevitably traverse Central Asia. Improvements in the road transport corridor infrastructure will play a major role, not only in enlarging markets, but also in determining product choices and their potential to link with the regional production networks.¹ While the improvements of road infrastructure will stimulate growth of all businesses, small businesses will also gain substantially. It will also boost agriculture in the project area as more and more farmers will be able to transport their produce to important cities in Azerbaijan and to other places.

2. The Government has set improvement of road transport infrastructure as one of the priorities, which is part of major strategic pillars of the State Program on Poverty Reduction and Economic Development (SPPRED) for 2008–2015² and the State Program on Socioeconomic Development of Regions (2009–2014), and considered to be critical for the expansion of the non-oil sector and for the improvement of the living standards of the low-income population. A State Program Regarding Updating and Development of Highways of the Republic of Azerbaijan (2006–2015) has also been prepared. To implement these programs, the Ministry of Transport has prepared a *Transport Policy Paper*, followed by a Transport Sector Development Strategy with Asian Development Bank (ADB) assistance.

3. A Road Network Development Program (RNDP) for 2006–2015 was prepared with the objective of developing an adequate, efficient, safe, and sustainable transport network in support of the country's economic and social development. The program covered the reconstruction and rehabilitation of about 9,500 km of roads at an estimated cost of \$5.3 billion (in 2006 prices) comprising 3,578 km of Republican roads and 5,928 km of local roads, out of which implementation of 2,230 km of Republican roads and 2,268 km of local roads was planned during 2006–2009 and 1,348 km of Republican roads and 3,660 km of local roads during 2010–2015. The RNDP was an ambitious one and while the Government undertook implementation of the road projects along the lines presented in the RNDP, for various implementation related issues,³ the pace of implementation has been slow.

¹ Central Asia Regional Economic Cooperation Program. CAREC 2020. A Strategic Framework for the Central Asia Regional Economic Cooperation Program 2011–2020.

 ² Republic of Azerbaijan. 2008. State Program on Poverty Reduction and Economic Development, 2008–2015.
 Baku.

³ There were delays in implementation of the RNDP due to several reasons, including due to delays in land acquisition and resettlement, preparedness with detailed designs, delays in procurement of works and consulting services, and due to lack of executing agency's implementation capabilities.

4. The first Road Network Development Program⁴ approved in 2007 is under progress through three tranches of investment. Project 1: Masalli–Astara expressway has been progressing satisfactorily and is targeted for completion by the end of 2013. Project 2: Ganja bypass is also progressing satisfactorily and is expected to be completed by the end of 2012, while Project 3 approved in December 2011 is under procurement and will be completed by the end of 2015.

5. The Government has updated RNDP in 2012, and has since been duly supported by an adequate institutional mechanism for road safety and road maintenance, enforcement of vehicle overloading and institutional development. The Program includes an investment component and a non-investment component and envisages reconstruction, upgradation and/or rehabilitation and maintenance of about 9,500 km of roads at an investment of around \$8.46 billion (in 2012 prices) during 2006-2022. The non-investment component will focus on priority reforms, including the development of regulations and operational procedures; encouragement of private sector participation in construction and maintenance; and capacity building for planning, monitoring, evaluation, and reporting. The strategy recognizes the need for new assets (to increase the network coverage) and the repairs and maintenance of the network (to extend their economic life and improve quality). The cost estimates were updated mainly due to two reasons firstly, the program was based on initial cost estimates in the absence of finalized feasibility studies and secondly, due to sharp increases in the prices of fuel, utilities, and major road construction materials since 2007-2008. The 2006-2022 road sector investment program is summarized in Table 1.

No.	Description		Total Amount (\$ million)	% of Total Allocation
1	Routine Maintenance		241.30	2.85
2	Periodic Maintenance		1,295.40	15.31
3	Rehabilitation		1,689.10	19.96
4	Construction/Reconstruction ⁵		5,237.48	61.88
		Total	8,463.28	100.00

 Table 1: Summary of the Road Network Development Program 2006–2022

Source: AzerRoadServices, Ministry of Transport.

6. The Government plans to finance the program through a balanced use of domestic and foreign financing sources. Domestic sources – mainly road fund and budgetary appropriations – may need to be adjusted to meet with the requirements. Foreign funds include loan and credits from bilateral and multilateral donor agencies⁶ and commercial banks. Private financing options, as well as tolling of roads has also been explored. The likely sources of financing are summarized in Table 2.

		Total Amount	% of Total
No.	Description	(\$ million)	Requirement
1	Road Fund	1,779.27	21.02
2	Budgetary Allocations	838.20	9.90
3	External Borrowings	4,381.00	51.76
4	To be tied up	1,464.81	17.32
	Total	8,463.28	100.00

Table 2: Summary of the Financing Plan 2006–2022

Source: AzerRoadServices, Ministry of Transport.

⁴ ADB.2007. Report and Recommendation of the President to the Board of Directors for the Proposed Multitranche Financing Facility to the Republic of Azerbaijan for the Road Network Development Program. Manila.

⁵ The list of road projects included in Road Network Development Program 2006–2022 is at Annexure 1.

⁶ The World Bank, Asian Development Bank, EBRD, Kuwait Fund, Islamic Development Bank, OPEC Fund, Abu Dhabi Fund, Saudi Development Fund.

7. The Government will obtain funding from bilateral and multilateral donor agencies and commercial banks to implement RNDP who have expressed their willingness to provide their support in the infrastructure building. The likely funding from various bilateral and multilateral donor agencies and commercial banks is summarized in Table 3.

Table 3: Expected External Borrowings					
Donor Agency	Amount (\$ million)	% of Total Financing			
Asian Development Bank	1,054.0	24.06			
World Bank	956.0	21.82			
EBRD	1,050.0	23.98			
Czech Export Bank	550.0	12.55			
Others ^a	771.0	17.60			
Total	4,381.0	100.00			

Include Abu Dhabi Fund, Islamic Development Bank, Kuwait Fund, OPEC Fund, and Saudi Fund for Development.

8. Apart from concentrating on the investment component covering maintenance, rehabilitation and construction of road network, the Government will also focus on the sectoral reforms, that would include development of regulations and operational procedures; enforcement of regulations and operational procedures, encouragement of private sector participation in construction and maintenance; and capacity building for planning, monitoring, evaluation, and reporting. The following key areas have been identified by the Government for the non-investment component:

- Implementation of road safety strategy to provide a multi-sectoral policy framework for road safety and a five-year action plan to implement the road safety strategy. The Government also considers mainstreaming the road safety audits in the road network development; and network management;
- Institutionalize the road maintenance practices for an effective and efficient road network management. In this regard, the Government will prioritize the roads, based on the data collected, and engage private sector contractors under long term performance based maintenance contracts to ensure continuity of road maintenance;
- (iii) Developing legal and regulatory frameworks and operational procedures for toll roads and for a sustainable source of financing for the road network development and maintenance;
- (iv) Development of independent road standards and specifications for design and construction of road network;
- (v) Enforce vehicle overloading by installing weighing machines at appropriate points to reduce damages to roads; and
- (vi) Capacity building of staff in planning, project design and implementation, procurement, safeguard issues, administration, and financial management.

II. Investment Program

9. ADB's proposed financing fits well with the overall road map of the Government. This is also consistent with the Country Operations and Business Plan (2011–2013). ADB's support is inbuilt in the overall requirement of funds to implement RNDP and complete by 2022. The sector outcome will be increased demand for road transport and improved road traffic operation on the 4-laned road sections. The roads will reduce vehicle operating costs and travel time of the domestic, regional and transit traffic, thereby contributing to the growth of domestic and

international trade and satisfying the requirements of the local population in transportation of goods and passengers.

10. The proposed investment will focus on (i) construction of new 4-lane roads (about 63 km), (ii) strengthening of technical and managerial capacity of the AzerRoadServices (ARS) through effective supervision and program management; and (iii) improved transport sector governance through road network management for sustainability. The details of the investment program and financing plan are in Table 4 and Table 5.

	(\$1	million)		
			Amount	
Iter	n	MFF	Tranche 1	Tranche 2
Α.	Base Cost ^a			
	1. Land Acquisition	10.0	5.0	5.0
	2. Civil Works	360.0	180.0	180.0
	 Consultancy Services^b 	30.0	10.0	20.0
	4. Taxes and Duties	90.0	45.0	45.0
	Subtotal (A)	490.0	240.0	250.0
В.	Contingencies	110.0	60.0	50.0
C.	Interest and Other Charges During			
	Construction	25.0	12.0	13.0
	Total	625.0	312.0	313.0

Table 4: Investment Program

^a In 2012 prices.

^b Construction supervision, program management and various other studies.

Source: Asian Development Bank estimates.

Table 5: Financing Plan							
	Share of						
Source	MFF	Tranche 1	Tranche 2*	Total (%)			
Asian Development Bank	500.0	250.0	250.0	80.0			
Government	125.0	62.0	63.0	20.0			
Total	625.0	312.0	313.0	100.0			

* Including possible co-financing.

Source: Asian Development Bank estimates.

11. ADB's support in non-investment component will be primarily linked to the ongoing capacity building initiatives by various donor agencies. Status of the ongoing capacity building initiatives and proposed ADB support and performance targets are presented in Annex 2. The capacity of the existing government agencies in development and implementation of operational strategies and enforcement of regulations, planning and project implementation remains weak. ADB, through effective donor coordination, will continue to support the government in institutional reforms, to develop and adopt strategies and operational guidelines for road network development and network management and enhance institutional capacity.

12. ADB will provide support for the engagement of program management consultants (firm based) to assist ARS in implementation of the investment program and to develop the capacity of the staff. The consultants will study the existing capacity building initiatives by various donor agencies and will assist ARS in engaging other consultants to supplement the efforts. Specifically, the support will focus on the following areas:

(i) Provide support to ARS in planning, procurement, project implementation, financial management and in implementation of safeguard measures.

The program management consultants will also assist ARS in preparation of periodical financing requests (PFR) for the remaining tranches;

- (ii) Mainstreaming the road safety audits in the road network development; and network management. This will include road safety audit during design, construction and operation of various roads, including the secondary and local roads and in implementation of road safety measures. The program management consultants shall assist in preparation of terms of reference for the study, selection of the consultants and coordinating the study involving road safety audits and in taking up remedial measures pursuant to the road safety audit;
- (iii) Prioritization of road sections for engaging private sector contractors under long term performance based contracts maintenance contracts. The program management consultants shall assist in preparation of the terms of reference and selection of the consultants to update the road database, prioritize the road sections for award under long term performance based maintenance contracts; and
- (iv) Development of independent set of road standards and specifications for Azerbaijan, including the specifications for pavement layers design for different terrains (local site conditions) and climatic conditions. Based on the progress made so far under one of the capacity building initiatives, the program management consultants shall assist in preparation of terms of reference for engagement of consultants to develop and finalize the standards and specifications with additional studies and data to be collected.

13. Overall, the investment program is closely aligned with the Government's vision for nonoil sector infrastructure development to pursue economic growth. ADB's support will contribute to the funding requirement for implementation of the Government's RNDP and in strengthening the institutional arrangements for road network development network management.

		Length	Cost			Length	Cost
No.	Road Subproject	(km)	(\$ million)	No.	Road Subproject	(km)	(\$ million)
۱.	State Road			В.	Secondary Road		
R-1	Baku–Guba–border with Russia	208	493.3	S-1	Absheron	40	3.2
R-2	Baku–Gazakh–border with Georgia	453	1,069.6	S-2	Aghjabedi	80	15.8
२-३	Alyat–Astara–border with Iran	243	658.2	S-3	Aghdam	55	7.6
२-४	Baku–Shemakha–Muganli and Muganli–Yevlakh	266	282.1	S-4	Aghdash	110	21.4
२-5	Yevlakh–Zakatali–border with Georgia	164	86.7	S-5	Aghstafa	75	13.3
२-6	Hajigabul–Minjivan–border with Armenia	184	269.0	S-6	Aghsu	125	22.6
R-7	Nakhichevan–Sadarak–border with Turkey	87	70.2	S-7	Astara	80	14.2
۶-8	Nakhichevan–Zarani st.–border with Armenia	100	75.8	S-8	Balakan	125	18.0
2-9	Gandob–Yalama–border with Russia	88	37.2	S-9	Beylagan	80	14.2
R-10	Gilazi–Khizi	31	7.6	S-10	Barda	107	20.4
R-11	Guba–Gusar	12	6.3	S-11	Bilasuvar	30	5.5
R-12	Guba–Khachmaz	22	8.4	S-12	Jalilabad	130	25.3
R-13	Gusar–Khudat	29	7.9	S-13	Dashkesan	95	18.7
R-14	G.Z. Taghiyev–Sahil	40	59.3	S-14	Davachi	75	15.2
R-15	G.Z. Taghiyev–Sumgait	18	7.9	S-15	Fizuli	140	26.9
R-16	Muganli–Topchu	40	143.3	S-16	Gadabay	150	25.8
R-17	Garamaryam–Sheki entrance to Oghuz	158	61.2	S-17	Goranboy	172	24.5
R-18	Garamaryam–Mususlu	22	11.4	S-18	Goychay	108	20.4
R-19	Agsu–Kurdamir–Bahramtapa	113	53.6	S-19	Hajigabul	55	10.8
R-20	Goychay–Bargushad	18	6.6	S-20	Khachmaz	150	29.6
R-21	Goychay–Ujar	20	7.3	S-21	Khanlar	100	14.2
R-22	Agdash–Laki	10	4.0	S-22	Khizi	103	16.9
R-24	Goraghan–Gakh–Zagatala	43	10.6	S-23	Imishli	65	12.3
2-25	Khaldan–Mindachevir	14	5.5	S-24	Ismayilli	153	31.5
26	Mindachevir–Baramtapa	166	186.5	S-25	Kurdamir	110	20.6
20	Ganja–Khanlar–Togana	56	20.6	S-26	Gakh	92	16.3
R-28	Ganja–Dashkesan	38	11.2	S-27	Gazakh	77	13.3
R-29	Ganja–Samuh	8	1.3	S-28	Gabala	125	20.3
R-30	Shamkir–Gadabay	45	14.4	S-29	Gobustan	70	12.7
R-31	Gazakh–Uzuntala–border with Armenia	43 14	4.0	S-29 S-30	Guba	175	34.0
R-32	Agstafa–Poylu–border with Georgia	54	34.5	S-30 S-31	Gusar	137	25.5
R-32	Goran–Naftalan	18	4.0	S-31 S-32	Lerik	150	28.5
R-33 R-34	Goranboy–Terter	35	4.0 10.9	S-32 S-33	Lenkaran	104	28.5 18.5
				S-33 S-34		99	
-35	Terter–Hindarkh	41	11.1	S-34 S-35	Masalli	99 95	16.9 19.3
R-36	Yevlakh–Barda–Khachinchay	54	26.1		Neftchala		
R-37	Barda-Kelbejer	37	19.0	S-36	Oghuz	80	14.2
R-38	Uchar–Zardab–Agjabedi	76	98.1	S-37	Saatli	60	11.9
२-39	Agjabedi–Hindarkh–Garadagli	40	34.8	S-38	Sabirabad	158	28.2

Tentative List of Road Development and Improvement Subprojects, 2006–2022

		Length	Cost			Length	Cost
No.	Road Subproject	(km)	(\$ million)	No.	Road Subproject	(km)	(\$ million)
Α.	Republican Road (continued)		· · ·				
R-40	Agdam–Fizuli–Horadiz	10	4.9	S-39	Salyan	60	11.5
R-41	Upper Karabakh–Beylakan–Dashburun	32	15.8	S-40	Samukh	97	16.9
R-42	Bahramtapa-Bilyasuvar	62	29.7	S-41	Siyazan	74	14.6
R-43	Bilyasuvar-border with Iran	19	10.0	S-42	Shemakhi	136	24.2
R-44	Hajigabul–Ali Bayramli	11	4.9	S-43	Sheki	167	29.1
R-45	Ali Bayramli–Nakhodlu–Salyan	43	25.5	S-44	Shamkir	149	24.4
R-46	Salyan–Neftchala	40	13.4	S-45	Terter	95	17.9
R-47	Masalli–Yardimli	53	42.7	S-46	Tovuz	171	29.1
R-48	Nakhichevan–Shahbuz–border with Armenia	65	16.8	S-47	Ujar	138	28.3
R-49	M2 (km 371)–international airport in Ganja	11	8.7	S-48	Yardimli	119	23.7
R-50	M2 (km 336)–Ganja	8	6.3	S-49	Yevlakh	78	15.2
R-51	M2 (km 317)–Kurakchay railway street	5	2.1	S-50	Zakatala	127	21.2
R-52	M2 (km 376)–Alabashli railway street	8	2.8	S-51	Zardab	85	17.4
R-53	M2 (km 70)–Alyat railway street	5	1.7	S-52	Babek	78	14.7
R-54	M3 (km 220)–Masalli railway street	5	1.7	S-53	Julfa	70	12.8
R-55	M5 (km 17)–Karimli	31	33.2	S-54	Kangarli	25	4.4
R-56	M5 (km 46)–Sheki	12	4.7	S-55	Ordubad	98	19.0
R-57	M5 (km 128)–Zakatala railway street	9	3.6	S-56	Sadarak	21	4.1
R-58	M5 (km 150)–Belakan railway street	2	0.8	S-57	Shakhbuz	112	22.3
R-59	M6 (km 94)–Imishli	7	2.8	S-58	Sharur	93	17.6
R-60	M7 (km 58)–Sharur	4	1.6				
R-61	M7 (km 80)–Sadarak	8	3.2				
R-62	M7 (km 80)–Babek	3	1.3				
R-63	M8 (km 44)–Julfa	2	0.8				
R-64	M8 (km 75)–Ordubad railway street	5	1.7				
-	Subtotal (A)	3,570	4,158.3		Subtotal (B)	5,928	1,077.0
	Total (A + B)	9,498	5,237.5				

km = kilometre.

Source: AzerRoadServices, Ministry of Transport.

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No.	Key features of Study	Funding Agency	Status	Consultant Reports	Capacity Building Support by ADB and Targets
1	 Azerbaijan Road Safety program for the preparation of a National Road Safety Strategy and Action Plan for Azerbaijan covering the following: (i) Road safety strategy to provide a multi-sectoral policy framework for road safety and a five-year action plan to implement the road safety strategy; (ii) Design and first stage implementation of a crash data base to develop an adequate, country-wide system of crash and injury data collection, storage, retrieval and analysis, which will facilitate comprehensive analysis of the road safety situation in Azerbaijan, disseminate to all potential users and to help devise appropriate remedial measures; (iii) Capacity building, professional development and transfer of knowledge to the Azeri road police and assess the equipment and materials needed by the Azeri road police and prepare a schedule and specifications of agreed items to be purchased; (iv) Preparation of road safety audit guidelines and guidelines for black spot identification and treatment for reducing the number and severity of crashes on the road network; 	World Bank	Ongoing - to be completed by 2013.	The Consultants (M/s SweRoad) have submitted draft report on the road safety strategy and a 5-year program.	 Mainstreaming the road safety audits in the road network development; and network management by 2018, Road safety audits are conducted and improvement designs are ready for at least 50% of ADB financed roads, by 2018, 5% reduction in the number of road traffic accidents by 2018 (Baseline: 2,890 number of accidents in 2011), 10% reduction in the number of road traffic accidents by 2020.
2	 Road safety Improvements for selected road sections and support for implementation of Azerbaijan road safety strategy covering the following: (i) Pre-opening road safety audit of M3 Alyat Bypass; (ii) Review of the road safety issues and preparation of bidding documents for proposed road safety works on 0–15 km section of Baku–Shamakhi road; (iii) Review the findings of the road safety audit undertaken on the design for the proposed dualling of section 15–45 km of Baku–Shamakhi road to ensure that the entire four lane carriageway is covered by the findings and present an updated audit report; (iv) Carry out road safety audits of temporary traffic management during construction works 	World Bank	Ongoing – to be completed by 2014.	The Consultants (M/s SweRoad) have completed the major portions of the terms of reference.	

Status of Capacity Building Initiatives in the Road Sector and Proposed ADB Support with Targets

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No.	Key features of Study	Funding Agency	Status	Consultant Reports	Capacity Building Support by ADB and Targets
3	 Preparation of Azerbaijan Road Sector Master Plan covering the following: (i) Develop a road sector strategy that is consistent with the Government's development agenda and fits into the country's transportation strategy; (ii) Prepare a medium and long term Road Investment and Maintenance Plan (RIMP); (iii) Strengthen planning capabilities; 	World Bank	Ongoing - to be completed by 2012	The consultants (M/s Destia – Finnroad) have submitted the draft interim report which is being examined by ARS	Assistance in implementation of road sector development program that include capacity building of ARS staff by 2018, Program management consultants recruited by March 2013, Terms of reference (ToR) and request for proposal (RFP) for engagement of consultants are finalized and RFPs are issued by 2015.
4	 Technical Assistance for Establishment of a Motorway Management Unit and Modernization of Motorway Management Practices in Azerbaijan. The study covers the following: (i) Establishment of a Motorway Unit in ARS; (ii) Assessment of road maintenance capacity (current arrangements for primary road and motorway maintenance in Azerbaijan and determine whether the regional road maintenance units have the resources and capacity (the staff's existing skills and ability to learn) to be able to undertake O&M tasks for motorways in future); (iii) Develop a strategy for Motorway O&M services based on exploring options for management, institutional setup, and procurement of motorway O&M services; (iv) Develop Service Level Agreements and Motorway Guidelines (the service level agreement shall be developed for a pilot project and/or a regular Motorway. The Motorway guidelines shall be developed to manage the motorway network and prescribe legislation for the same. Motorway Guidelines shall define the technical parameters, procedures and rules for motorways including construction standards and services to be provided to the users); 	World Bank	Consultant selection ongoing. Study to be completed by 2014		Support in updating of road database and for prioritization of roads for maintenance and award of long term performance based maintenance contracts, by 2018, Increased funding for road maintenance to at least \$250 million by 2018 (Baseline: \$200 million in 2011), Increased funding for road maintenance to at least \$350 million by 2020, Contracts for at least 100 km are award under performance based maintenance modality by 2020.
5	Review and revision of geometric and structural design standards and specifications for roads and bridges and development of road maintenance standards and maintenance methods	World Bank	Consultants (M/s Egis) have not been able to complete and discontinued their services due to disputes regarding the	The consultants have submitted draft reports. However, the outputs do not conform to the requirements as per ToR.	Based on the study conducted so far, development of: Independent set of Road standards and specifications, including design standards and specifications are finalized, by 2018, With additional studies and data to be collected, standards and specifications for pavement layers design for different

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No.	Key features of Study	Funding Agency	Status	Consultant Reports	Capacity Building Support by ADB and Targets
			scope of work		terrains (local site conditions) and climatic conditions, by 2020.
6	Developing legal and regulatory frameworks and operational procedures for toll roads	ADB	Consultant selected. Consultant is to be mobilized.		Development of legal and regulatory frameworks and operational procedures by 2013.
7	 Development of database for road network inventory covering the following: (i) Development of Road Asset Management System (RAMS) for maintaining database for the road network to ensure appropriate investment and road maintenance programs for the network; (ii) Collection of data; (iii) Training to staff for collection, updating and maintenance of road database 	World Bank	Ongoing – one contract will be completed by 2012 and the other by 2013.		Support in regular updating of the road condition database and in prioritization of the road sections for development, rehabilitation and maintenance, by 2018, 10% increase in freight traffic (Baseline: 11,325 million ton-km in 2010) and 5% increase in passenger traffic by 2018 (Baseline: 16,633 million passenger-km in 2010), 30% increase in freight traffic and 20% increase in passenger traffic by 2020.
8	Road Maintenance Study	EBRD	Selection of consultants will start in 2012 and study expected to be completed by 2014.		Increased funding for road maintenance to at least \$250 million by 2018 (Baseline: \$200 million in 2011), Increased funding for road maintenance to at least \$350 million by 2020, Contracts for at least 100 km are award under performance based maintenance modality by 2020.

Source: AzerRoadServices, Ministry of Transport.

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