

SECTOR ASSESSMENT (SUMMARY): MULTISECTOR¹

Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. **Road transport.** Armenia's 7,749 kilometer (km) road network comprises 1,730 km of interstate roads, 4,057 km of republican roads, and 1,962 km of local roads.² The road asset management system is inadequate and does not provide complete network information. However, about 75% of interstate roads are estimated to be in good to fair condition,³ and about 60% of local roads need rehabilitation. Overall capacity of the network is adequate in coverage, albeit in poor condition, to accommodate estimated traffic volume up to 2020. Many segments of the network are in poor condition with insufficient financing for maintenance; road design, maintenance standards, and technical specifications are outdated; and the workforce, contractors, and consulting companies do not have the required technical skills to effectively maintain the roads. This adversely impacts connectivity and community, social, and commercial access for people across the country.

2. Road traffic increased considerably during the past several years in absolute terms and relative to total traffic, despite road network deficiencies. Cross-border cargo traffic expanded particularly fast,⁴ with the private sector providing most road transport services (including international and urban transport services), and generating robust competition in the market for these services. Therefore, road transport offers a better combination of flexibility, affordability, and quality than rail and air transport. The major challenges are (i) to maintain the capacity and efficiency of the international road corridors, which serve the heaviest traffic volumes and have economic importance, and (ii) to ensure good to fair service on the republican and local roads, which are important for inclusive growth. In this context, road design and maintenance standards and technical specifications need to be modernized; the collection of road and traffic data improved; financial resources to meet sector targets explored; and cost-effective, innovative technical solutions developed for roads with low traffic volume.

3. The Ministry of Transport and Communications (MOTC) is the principal government agency in charge of the transport sector. It administers all interstate roads and about 45% of republican roads. MOTC delegates its road administration functions (including collection of road and traffic data and road maintenance) to the Armenian Road Directorate (ARD), a state noncommercial organization, through annual contracts. Regional administrations (*marzes*) and local communities manage around 55% of republican roads and all local roads. Private companies provide road maintenance services under 5-year contracts with ARD, regional administrations, and local communities. Affiliated with MOTC, the North–South Road Corridor Project Implementation Unit implements the North–South Road Corridor Project; the Transport Project Implementation Unit implements road construction and rehabilitation projects, including those financed by the government and the World Bank.

¹ This summary is based on studies undertaken by Asian Development Bank (ADB) staff and consultants, including ADB. 2011. *Armenia's Transport Outlook*. Manila; ADB. 2012. *Managing Urban Armenia*. Manila; consultant report prepared for ADB. 2005. *Technical Assistance to the Greater Mekong Subregion for Strengthening Malaria Control for Ethnic Minorities*. Manila.

² National Statistical Service. 2012. *Statistical Yearbook of Armenia 2012*. Yerevan.

³ PADECO. 2010 Armenia: *Preparing the North–South Road Corridor Development Project*. Consultant report under ADB. 2008. *Technical Assistance to Armenia for North-South Road Corridor Development Program*. Manila.

⁴ At present, Armenia has four open border-crossing points for road transport; three with Georgia and one with Iran. Road links with Azerbaijan and Turkey are closed at the borders.

4. To improve transport sector management, regulatory and service delivery functions need to be fully separated, the capacity of MOTC and ARD strengthened, and the road design and maintenance standards and technical specifications modernized. A modern road asset management system should be established to improve the availability and quality of data on road conditions, programming of road construction, rehabilitation and maintenance works, and expenditures for these works. Prioritization of investments and prudential management of available funds are critical for the sustainability of roads in Armenia. Performance-based contracts should be used to improve the quality of road maintenance services. Closer cooperation among concerned government agencies (e.g., MOTC, traffic police, regional administrations) is needed to improve traffic safety.

5. **Water supply.** During the last decade the government has restructured the water sector and adopted a new water code. Private operators were engaged through management and lease contracts, and development assistance supported water infrastructure upgrades. Significant improvements in service delivery have been made. In 2005, nearly 97.0% of households in urban areas and 72.8% in rural areas had access to a centralized water supply system. By 2011, 99.3% of households in urban and 89.7% in rural communities had some access to potable water through a centralized access system. Progress in service duration has been modest; in 2011 about 50% of households reported 24-hour water supply through centralized water supply systems, and about 20% of households had water access for less than 5 hours a day.⁵

6. Key challenges in the water sector include (i) a segmented institutional framework with unclear delineation of responsibilities and functions across agencies; (ii) limited long-term planning capacity; (iii) a weak regulatory framework; (iv) low tariffs impacting the financial viability of water companies, and resulting in low investment for network maintenance and upgrades; (v) excess demand for capital and operational expenditures, including for the 560 communities not covered by water operators; (vi) high water losses and nonrevenue water; and (vii) low coverage of wastewater services and treatment.⁶ Investment requirements in water supply and sanitation are estimated to be almost \$2 billion over the next 10 years.⁷ Given constrained public resources, private sector participation in investment will be necessary. Tariffs to ensure cost recovery and private participation will need to be carefully considered.

2. Government's Sector Strategy

7. The Armenia Development Strategy 2014-2025 articulates the government's long-term development vision for roads and water. It calls for improved transport links between secondary towns and with Yerevan, and reduced disparities between Yerevan and the rest of the country for potable water access.⁸ The road transport priorities include construction of the north-south road corridor and at least one road connecting each settlement with the rest of the country, strengthening road subsector management, improving public transport services, and developing safe and eco-friendly transport. The Government Program for 2013-2017, the medium-term action plan, calls for an increase in public funds allocated to maintenance and rehabilitation of

⁵ National Statistical Service. 2011. *Integrated Living Conditions Survey*. Yerevan.

⁶ The sector is fragmented with many local water supply operators, in addition to geographically based operators who cover water supply under government contracts. This is leading to loss of economies of scale and lack of operator strategic focus.

⁷ Government of Armenia. 2013. *Upgrading Armenia*. Yerevan.

⁸ Government of Armenia. 2014. *Armenia Development Strategy 2014-2025*. Yerevan.

roads and for more efficient utilization of these funds.⁹ In the water sector, the development strategy priorities are to enhance the reliability and effectiveness of water system operations, improve the continuity and quality of water supply, and mitigate regional disparities, with an investment target of 0.4% of gross domestic product (footnote 9). The government is currently initiating a “second wave” of water sector reforms based on its experience from the initial reforms which initiated private sector participation in water service delivery since 2004. The main objectives of the reform initiative are to (i) achieve full cost recovery for the sector; (ii) assure financing for necessary capital investments; (iii) improve efficiency of water utilities, with particular focus on water loss reduction; and (iv) agree on legal, institutional, and financing options for communities not included in the service area of water utilities. The first milestone for the sector reform will be in 2016 when new public–private participation contracts for service providers are to be concluded. The water sector investment policy includes development of a special approach to include approximately 560 off-grid rural and peri-urban communities.

3. ADB Sector Experience and Assistance Program

8. **Road transport.** ADB has considerable transport sector experience in Armenia. Transport was a priority sector of ADB’s interim operational strategy, 2006–2009¹⁰ and accounted for a large proportion of ADB assistance in 2007–2012. In 2007, ADB approved a \$30.6 million loan and an advisory technical assistance grant of \$0.6 million to improve about 220 km of rural roads, and to prepare a transport sector development strategy.¹¹ In 2009, it approved a \$500 million multitranche financing facility to improve sections of the north–south road, modernize border and customs facilities along the road, strengthen road system management, and improve road safety.¹² In 2010, ADB approved a \$40 million private sector loan for construction of a new terminal at Zvartnots Airport.¹³ In 2011, it approved an MFF for the Sustainable Urban Development Investment Program.¹⁴ The first tranche (\$48.6 million) of the \$400 million MFF is being used to finance physical investments in urban transport and to strengthen management of urban transport in Yerevan.

9. Future ADB assistance will focus on implementation of the ongoing North–South Road Corridor MFF and improvement of other roads linking Armenia to Georgia; and connecting secondary towns (especially those with the highest incidence of poverty) with each other as well as with the north–south road and Yerevan. Multimodal transport and logistics services, and climate change mitigation and adaptation measures will be explored and implemented where feasible. The proposed Infrastructure Sustainability Support Program will provide financial and management support, anchoring the work undertaken through ADB sector investments, in

⁹ Government of Armenia. 2013. *Government Program, 2013–2017*. Yerevan. The medium-term priorities identified are reconstruction of the north–south road; construction of bypass roads for Yerevan; accelerated implementation of road projects in secondary towns; strengthening of management of urban and intercity transport; modernization of public transport; improvement of rural roads; expansion of bilateral cooperation with other countries in air transport; improvement of quality of air transport services; and diversification of transport links with the rest of the world. Investments for transport during 2013–2015 are expected to average 1.6% of gross domestic product, and decline to 1.0% thereafter. 85% of resources are expected to be deployed to improve road networks of national significance.

¹⁰ ADB. 2006. *Economic Report and Interim Operational Strategy: Armenia, 2006–2009*. Manila.

¹¹ ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Republic of Armenia for the Rural Road Sector Project*. Manila.

¹² ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to the Republic of Armenia for the North–South Road Corridor Investment Program*. Manila.

¹³ ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan for the Zvartnots Airport Expansion Project (Phase 2) in Armenia*. Manila.

¹⁴ ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to Armenia for the Sustainable Urban Development Investment Program*. Manila.

Armenia for deeper reforms and more sustainable results in road transport.¹⁵ Capacity development will be scaled up under the program. Inclusive growth will be fostered by improving community, social, and commercial access.

10. **Water supply and sanitation.** ADB's Water Supply and Sanitation Sector Project, approved for \$36 million in 2007, was to improve access to safe, reliable, and sustainable water supply and sanitation services in 16 towns and 125 villages within the jurisdiction of Armenia Water and Sewerage Company (AWSC).¹⁶ By 2012, water supply and sanitation (WSS) infrastructure was rehabilitated and upgraded in 21 secondary towns and 97 villages, benefiting approximately 600,000 people. The public satisfaction rate rose from 42% in 2008 to 66% in 2010, and tariff collection increased from 61% to 74% over the same period. Financial management improved through the introduction of new accounting procedures, a computerized billing and collection system, and a system of mapping asset inventories. In 2012, ADB approved \$40 million of additional financing for the project¹⁷ to help (i) rehabilitate and upgrade water supply infrastructure, (ii) improve the performance of water services, and (iii) improve the management and operating efficiency of AWSC. It will also help the government rehabilitate and extend WSS infrastructure in 18 secondary towns and 92 villages (including 8 towns initially not covered by the project) and improve the operating efficiency and financial management of AWSC.¹⁸ Targeted support is also being provided to the State Committee on Water Economy to develop a nonrevenue water management strategy, optimize available water supply, ensure energy efficiency, and minimize additional water resource use.¹⁹ In line with the Armenia Development Strategy 2014-2025, which aims to achieve full cost recovery for the sector, ADB will propose interventions during development of the water supply strategy to increase revenue through more robust tariff collection and application of full-cost recovering tariffs.²⁰ Assets are aging fast due to lack of adequate operation and maintenance budgets and capital maintenance, which will be one of the core policy areas of the program. The program, through a programmatic and results-based approach, will augment sector support provided to water sector operators and enable system reforms by engaging the ministries of finance and territorial administration along with the water sector regulator and managers. The engagement is expected to be for planning, budgeting, implementation, results, and financial monitoring. Extensive capacity development support will be provided to enhance the water asset management system and internal audit capacity in the State Committee on Water Economy to enable informed policy and investment decision making in the sector.

¹⁵ Supported by ADB. 2012. *Technical Assistance to Armenia for the Infrastructure Sustainability Support Program*. Manila. A results-based management framework has been introduced and capacity development is under way for MOTC staff. Key performance indicators were developed by a working group comprising MOTC and MOF staff to articulate sector targets. These KPIs were used to prepare the medium-term expenditure framework, 2014–2017 and the 2014 Budget Law.

¹⁶ ADB. 2007. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Republic of Armenia for the Water Supply and Sanitation Sector Project*. Manila.

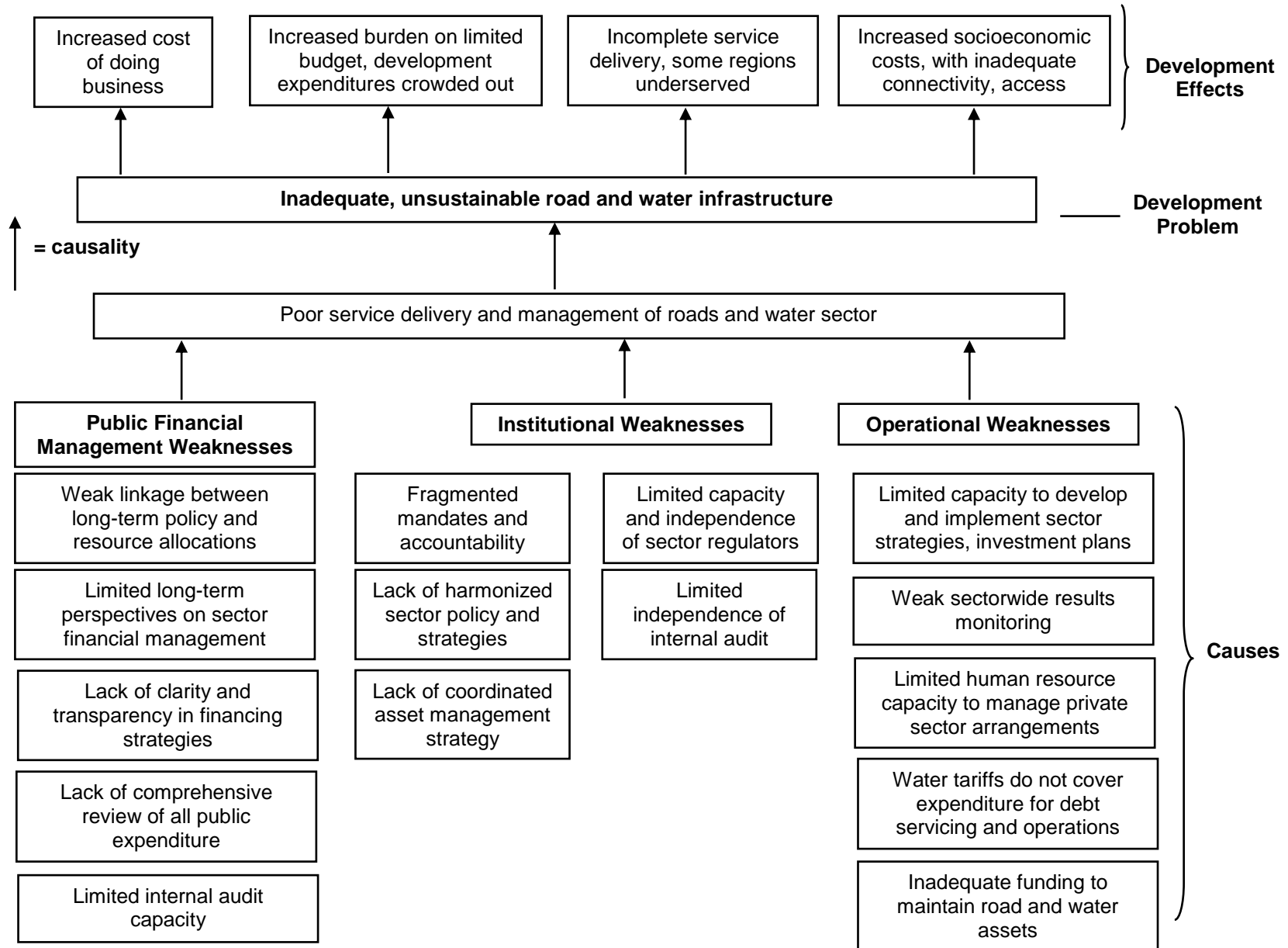
¹⁷ ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Armenia for Additional Financing of the Water Supply and Sanitation Sector Project*. Manila.

¹⁸ Armenia Water and Sewerage Company is a government-owned company that provides WSS services to 37 secondary towns and about 300 villages throughout the country. SAUR, an international water utility, manages and operates it through a management contract.

¹⁹ Under the Water Financing Partnership Facility, funded by the governments of Australia, Austria, Netherlands, Norway, Spain, and Switzerland; and administered by ADB.

²⁰ No legal constraint prevents PSRC from applying full cost recovery tariffs (or at least higher tariffs than current) as long as affordability is ensured. However, in many cases the tariffs are below cost coverage and some do not even cover operation and maintenance costs, although charges to customers frequently are below maximum affordability.

Problem Tree



Sector Results Framework (Multisector, 2014–2016)

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes with ADB Contribution	Indicators with Targets and Baselines	Outputs with ADB Contribution	Indicators with Incremental Targets	Planned and Ongoing ADB Interventions	Main Outputs Expected from ADB Interventions
Sector strategies in line with country development targets operationalized Agency and ministry capacity to plan, implement, and manage sector work developed Sector linkages with MTEF strengthened Sector priorities reflected in annual budget and MTEF Infrastructure financing options developed Capacity to design and manage contracts with private service providers developed Urban infrastructure facilities and basic services improved, upgraded, and expanded	By 2018: 3 km of segregated structure for priority bus transit constructed 10 km of urban roads with sidewalks improved or created Urban and interregional transport network reorganization plans endorsed by two cities	Road network improved and properly maintained Water supply, sanitation systems, and other municipal services in secondary towns expanded and improved	Total length of roads in satisfactory condition (as % of total road network) increases to 50% by 2018 (baseline 2009: 39%) Percentage of communities with at least one adequate road connection to the regional center rises to 50% by 2018 (baseline 2013: 20%) Public expenditure on maintenance of interstate and republican roads (as % of GDP) increases to 0.25% by 2013 and remains at 0.25% during 2014–2018 (baseline 2011: 0.16%) 1,680 km of water supply pipes installed, repaired, or upgraded by 2016	Planned key activity areas National roads (45% of funds), traffic management and urban traffic control (24%), drinking water systems (15%), sanitation systems (6%), public expenditure and fiscal management (4%), road subsector development and policies (3%), WSS tariff policies and sector development (3%) Pipeline projects with estimated amounts ISSP (\$49 million; CDTA, \$900,000) SUDIP MFF tranches 2 (\$50 million), 3 (\$43 million), and 4 (\$23 million) NSRCIP MFF Tranche 4 (\$90 million) Road Safety (S-PATA, \$225,000) Development of North–South Road Corridor Master Plan (PATA, \$500,000) Technical and Financial Audit of Water Sector (PATA, 600,000) Ongoing projects with approved amounts NSRCIP MFF tranches 1 (\$60 million), 2 (\$170 million), and 3 (\$100 million) SUDIP MFF Tranche 1 (\$48.6 million) WSS Sector Project (\$40 million) ISSP (PATA, \$500,000)	Planned key activity areas 10 km of urban roads upgraded or constructed 130 km north–south road corridor upgraded to 100 km/hour operating standard Pipeline projects 4.7 km of urban roads upgraded or constructed; 24 km north–south road corridor upgraded At least 50% of the road network has satisfactory riding quality by 2020 and 65% of households have access to 24-hour water supply Ongoing projects 5.3 km of urban roads upgraded or constructed; 106 km north–south road corridor upgraded All households in project areas have access to reliable supply of potable water for at least 15 hours per day WSS tariff collection efficiency in project towns and villages is improved by 95%

ADB = Asian Development Bank, CDTA = capacity and development technical assistance, GDP = gross domestic product, ISSP = Infrastructure Sustainability Support Program, MFF = multitranches financing facility, MTEF = medium-term expenditure framework, NSRCIP = North–South Road Corridor Investment Program, PATA = policy and advisory technical assistance, PPTA = project preparatory technical assistance, S-PATA = small-scale policy and advisory technical assistance, SUDIP = Sustainable Urban Development Investment Program, WSS = water supply and sanitation.

Note: Country sector outputs reflect the rolling development targets projected in the Armenia Development Strategy 2014-2025.

Sources: Government of Armenia. Forthcoming. *Armenia Development Strategy 2025*. Yerevan; ADB staff estimates.