

Transportation Modes in Armenia

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Being a landlocked country, Armenia has an economy that depends on transport and cross-border access. Armenia has a few railway lines and an extensive road network. While rate of car ownership has been growing steadily in recent years, it is still relatively low. Public transport plays a critical role, especially in cities. The transportation network capacity is adequate for accommodating estimated demand up to 2020, but the infrastructure has deteriorated due to lack of funds. In recent years, government has given priority to rehabilitation and reconstruction of the infrastructure. A major issue that hinders transportation in Armenia is severe climate where low temperatures and heavy snowfall in winter limit economic activity.

Roadway System

Roads provide access to employment, markets, education, and health services, and thus are crucial for economic development. Since 1990, road networks have expanded in all developing countries in Asia except Armenia, Georgia, Kazakhstan, Azerbaijan, and Tajikistan. China and India account for almost two-thirds of the roads in Asia. Armenia has slightly less than 8,000 kilometers of roads where about 94% are paved; however, some of the paved roads need major rehabilitation.

The number of vehicles has surged in developing Asian countries. In 1990, only two countries recorded 100 or more motor vehicles per 1,000 people. In 2010, 19 countries had more than 100 vehicles per 1,000 people. Armenia has 92 registered vehicles per every 1,000 people. In comparison Azerbaijan has 110 and Georgia has 170 per every 1,000 people. In developed countries this number is typically more than 700.

Number of Registered Vehicles in 2010

Country	Total Number of Vehicles	Number of Vehicles per 1,000 people
Armenia	300,100	92.3
Azerbaijan	982,600	108.5
Georgia	736,500	166.0
Kazakhstan	3,250,000	199.2
Kyrgyz Republic	430,300	79.4
Tajikistan	357,900	47.0

The primary type of vehicle in each country - whether cars and other four-wheeled vehicles, or two- and three-wheeled vehicles - depends on a mix of factors such as an economy's level of development and population density, as well as subregional characteristics. Distribution of registered vehicles by type in Armenia is as follows: cars, SUVs, vans, and light four wheeled trucks 83%, buses 12%, heavy trucks 5%.

The increase in number of registered motor vehicles in developing countries has been accompanied by a relatively high incidence of fatal road accidents. The relatively high fatality rates are the result of underdeveloped road networks; mixed traffic; limited availability of traffic engineering expertise; governance issues; and rapid growth of the vehicle fleet. Death rate per 100,000 of population is about 18 in Armenia which is three times higher than developed countries with good roadway networks. Azerbaijan and Georgia have about the same rate.

Measures including safer road construction, better protection for pedestrians, stricter enforcement of traffic regulations, and road safety education typically reduce road deaths.

Rehabilitation of the road network is a top priority for Armenia. Improving roads will increase trade, investment flows, and jobs. Better connectivity aids regional cooperation and integration as well as increases the country's competitiveness.

North-South Road Corridor in Armenia

Government of Armenia initiated North-South Road Corridor project, which will be starting from Bavra (a neighboring area of Georgia) continuing to Gyumri, Talin, Yerevan, Goris, Kapan, and ending in Meghri (next to the border of Iran). The North-South Road Corridor once is completed will be 556 km. The Asian Development Bank (ADB) has agreed to support the government of Armenia in this initiative with initial financing of \$500 million. The estimated cost for the entire project is \$1.5 billion.

The North-South Road will link to the East-West Highway in Georgia that leads to ports of Poti and Batumi on the Black Sea, two key shipment points for Armenia. The following map shows North-South Road Corridor (ARM1 in yellow and red).



The following are expected socio-economic improvement in Armenia as a result of the construction of North-South Corridor:

- Double Armenian exports and imports
- Increase in cross-border traffic from existing 5 up to 10 billion ton
- Reduce travel time through the corridor from 3 to 4 days down to 2 days
- Double average daily traffic from 3,000 to 6,000 vehicles
- New jobs and higher incomes
- Reduced number of accidents as well as lower road transport and maintenance costs

Presently the first two segments of North-South roadway from Artashat to Ashtarak and from Ashtarak to Talin are under construction and the 31-kilometer Artashat to Ashtarak segment is due to open this year. It is estimated that the entire project will be completed by 2019 depending on the availability of funds.

Rail Transportation

Armenia's railway network plays a crucial role in providing mobility for people and freight. The network includes the metro system that serves commuters in Yerevan. The metro has limited coverage and in recent years it has lost some of its market share to minibuses.

Most of Armenia's railways were built during the Soviet era, as such central planning dictated that rail would be the primary mode of transport, so little emphasis was placed on costs and market needs. The system was designed to handle large traffic volumes and in some cases it served remote areas. The former Soviet Union rarely updated railway technology after the 1960s.

About 370 km of the 732 km network are fully operational. Armenia relies on its railway system for about 70% of imports and exports, but there used to be a lot more passengers and freight. The railway system has seen its operations shrink 10-fold since independence, primarily due to the closing of Armenia's borders with Azerbaijan and Turkey. The growing mining industry in southern Armenia has become a major market for freight service, as the mine output needs to be transported to ports on the Black Sea.



Rail Station in Yerevan

Since June 2008, a subsidiary of Russian Railways, the South Caucasus Railway has been operating the Armenian rail system. They have invested more than \$250 million in upgrading the infrastructure and modernizing the system.

In 2012 a contract was awarded to Dubai-based Rasia FZE (a Rasia Group investment company) for the feasibility, design, financing, construction, and operation of a new railway link between Armenia and Iran. The Armenia-Iran railway is called the Southern Armenia Railway project. The feasibility study results indicated that the route will be 305 km long and it would cost approximately \$3.5 billion to build. As the key missing link in the International North-South Transport Corridor, the Southern Armenia Railway would create the shortest transportation route from the ports of the Black Sea to the ports of the Persian Gulf.

Air Transportation

Air traffic has increased significantly in much of East, South, and Southeast Asia since 1990. There were smaller increases, and even some declines, in air traffic in Central and West Asia and the Pacific. Azerbaijan, the Kyrgyz Republic, and Turkmenistan had lower levels of air traffic in 2012 than in 1990. However, Armenia had a 20% growth of air passenger flow in 2014.

Armenia has three main airports: Zvartnots, Shirak, and Erebuni. Zvartnots Airport is the principal gateway to Armenia. The new private two story terminal building which was built by a private developer for \$173 million is able to handle about 3.2 million passengers a year, which should be able to accommodate the ever-growing demand until 2030.

In October of 2013 Armenia passed the "open skies" policy for the air transportation. According to this policy the civil aviation

Average Annual Percentage Increase in Air Carrier Departures, 1990–2012

Country	Percentage change
Kazakhstan	9.7%
Armenia	4.7%
Georgia	4.6%
Tajikistan	3.5%
Uzbekistan	2.0%
Azerbaijan	-1.3%
Kyrgyz Republic	-1.3%
Turkmenistan	-9.4%

in the country is now open to all the airlines that are meeting international standards. It was expected that this policy would spur economic development and reduction of the airfares. However, the latest data indicates that the number of operating air carriers in Armenia has decreased from 35 to 27 since the launch of the "open skies" policy. Czech Airlines and Al Italia are two of major airlines that stop flying to Armenia and Etihad Airlines is planning to discontinue its operation in September of 2015 and LOT Polish Airlines is suspending its regular flights from Yerevan starting July 1, 2015.

Moscow airports are become the main air hub for Armenian passengers as a result of three Russian airlines, Aeroflot, Transavia, and S7 providing regular daily flights. Approximately 50% of flights from Zvartnots airport land in the Russian capital.

Key Challenges

Globalization presents both challenges and opportunities. The challenges include an increasing demand for more timely transport services and the need to reduce transport costs. Other major challenges for the transport sector of Armenia are:

1. completing road network rehabilitation;
2. upgrading international railway and road infrastructure;
3. overcoming urban transport problems, particularly achieving a sustainable balance between private and public transport;
4. successfully implementing the railway concession;
5. further developing air services;
6. reducing the negative impact of increased transport demand; and
7. achieving long-term sustainability in transport asset management, particularly in the road network.

The Global Competitiveness Index 2014 ranked Armenia's infrastructure at 78 out of 144 countries, with the score of 3.83 in a range of 1 (very bad-quality infrastructure) to 7 (very good-quality infrastructure).