

3.2. Truck fleet

3.2.1. Light commercial vehicle (LCV) fleet

For the purposes of this report, light commercial vehicles (LCV) comprise automobiles designed for carrying light cargoes (light duty trucks) or a limited number of passengers (minibuses) within a residential area and around its suburbs.

Their full weight, according to European standards, must not exceed 3.5 tons (or 4.54 tons in the U.S.A.) This report uses European classification standards. In terms of load capacity, trucks recognized as light commercial vehicles are divided into the following categories:

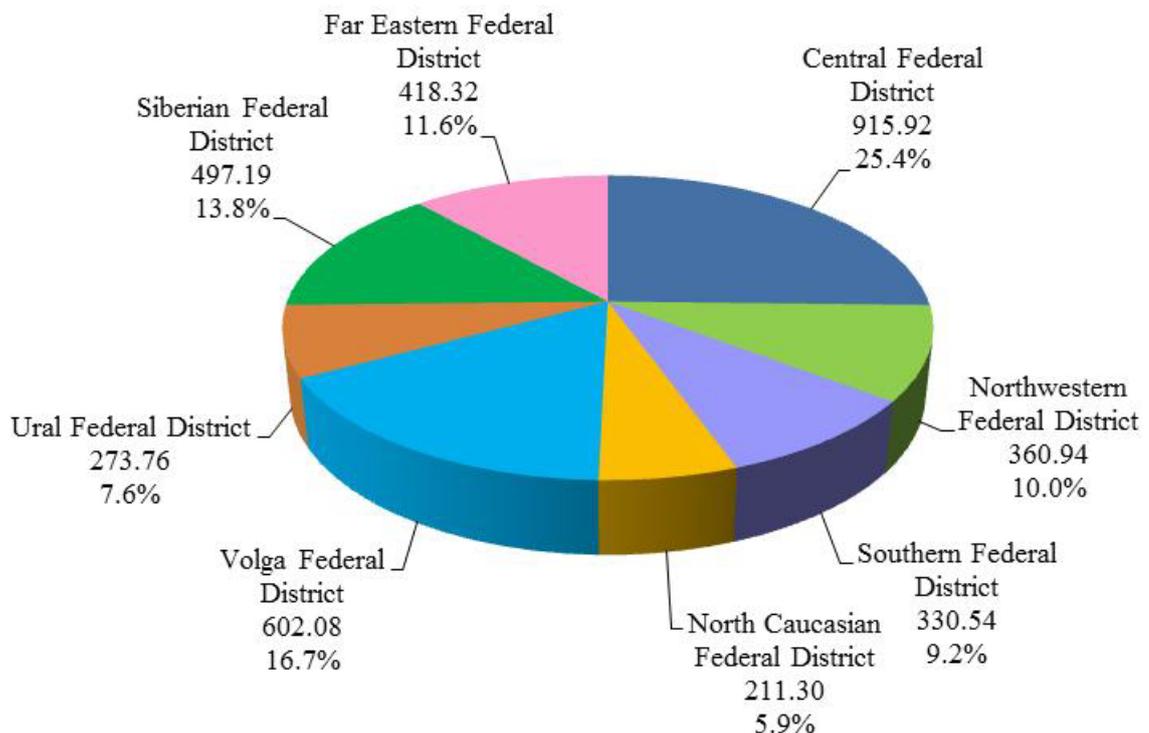
- Extra light duty trucks — up to one ton load capacity
- Light duty trucks — one ton to two tons load capacity

As of January 1, 2012, the Russian LCV fleet numbered about 3.6 million vehicles. The largest numbers of automobiles of this category were concentrated in:

- Central federal district (25.4 percent of the total Russian LCV fleet)
- Volga federal district (16.7 percent)
- Siberian federal district (13.8 percent)

The patchy distribution of LCVs across Russia is attributable to varying degrees of manufacturing, commercial and service sector development from region to region, as well as considerable disparities in population numbers across the regions.

Diagram 3.10. Light commercial vehicle fleet broken down by federal district as of 01/01/2012, thousands of units, %



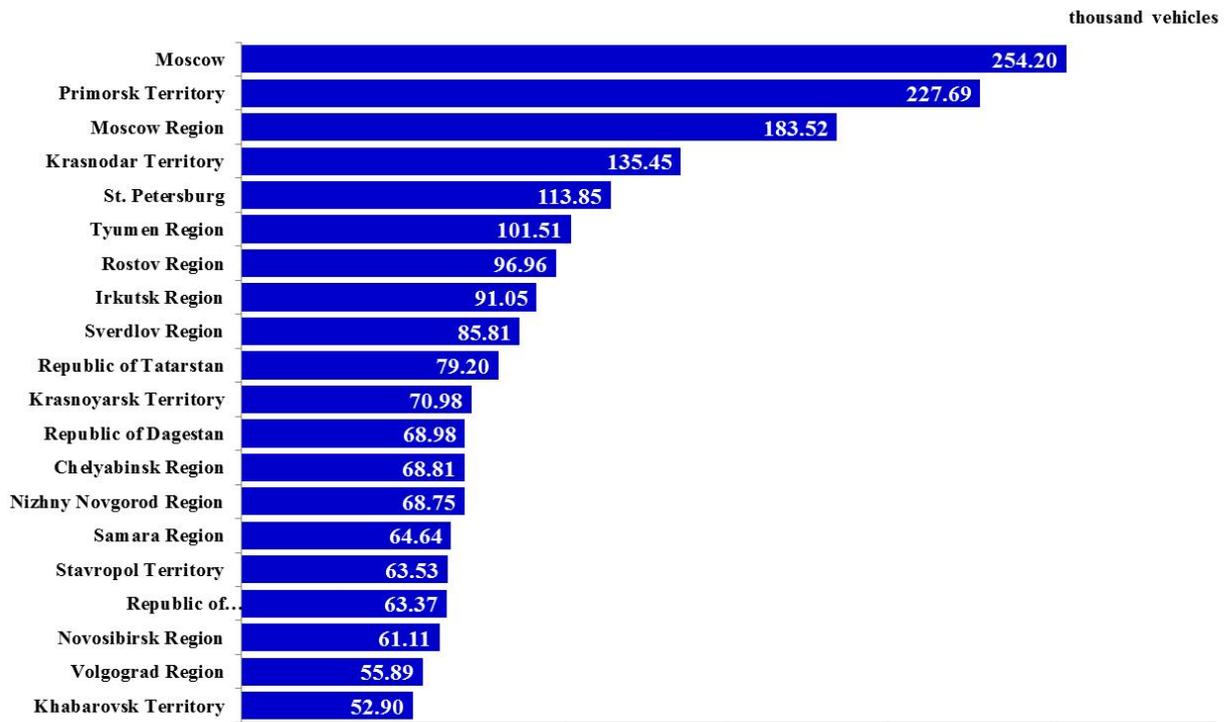
Source: Autostat agency, RPI analysis

The top five Russian Federation constituents with the highest numbers of light commercial vehicles as of the beginning of 2012 were as follows:

- Moscow (254,000 units)
- Primorsk territory (228,000 units)
- Moscow region (184,000 units)
- Krasnodar territory (135,000 of units)
- St. Petersburg (114,000 units)

The higher vehicle numbers for Moscow, St. Petersburg, Moscow region and Krasnodar territory are a result of highly developed manufacturing, agricultural (in the Krasnodar territory), commercial and service sectors in these regions. For the Primorsk territory, the main factors defining the fleet size were affordability of second-hand and new imported commercial vehicles and well-developed commercial and services sectors.

Diagram 3.11. Russia's largest regional fleets of light commercial vehicles (Top 20), as of 01/01/2012, thousands of units



Source: Autostat agency, RPI analysis

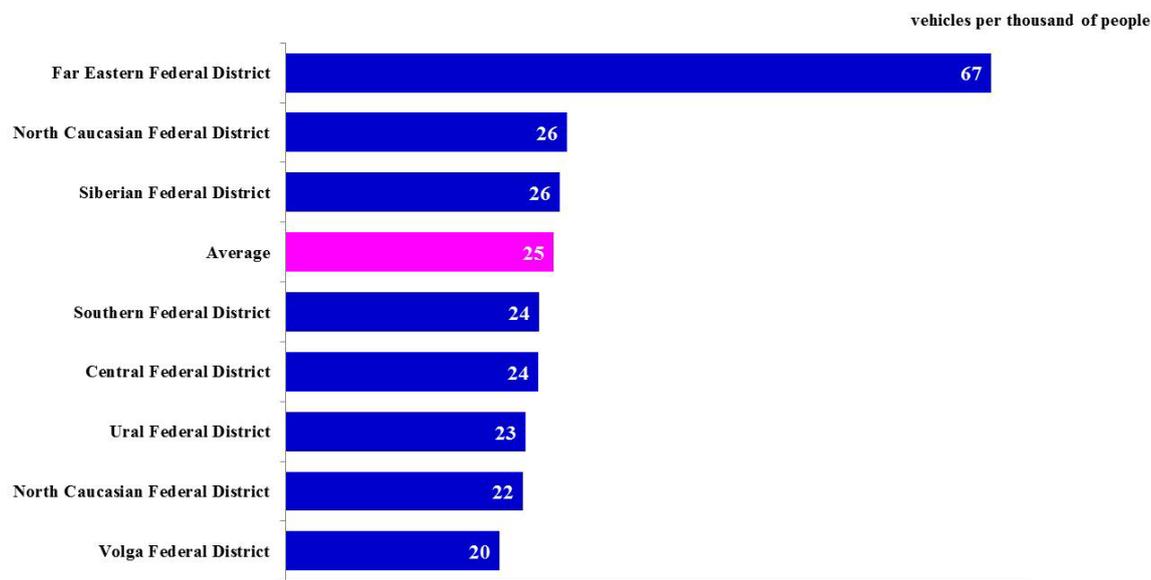
On average, Russia had 25 light commercial vehicles per 1,000 inhabitants as of the end of 2011. Leaders in this area in 2011 were:

- Far Eastern federal district federal (67 vehicles per 1,000 people)
- Northwestern federal district (26 vehicles per 1,000 people)
- Siberian federal district (26 vehicles per 1,000 people)

The high vehicles per capita ratios in these regions are attributable to the following factors:

- For the Far Eastern district — affordability of imports
- For the Northwestern federal district — developed industrial, commercial and services sectors
- For the Siberian federal district — developed industrial sector and long travel distances for cargo and passenger transportation

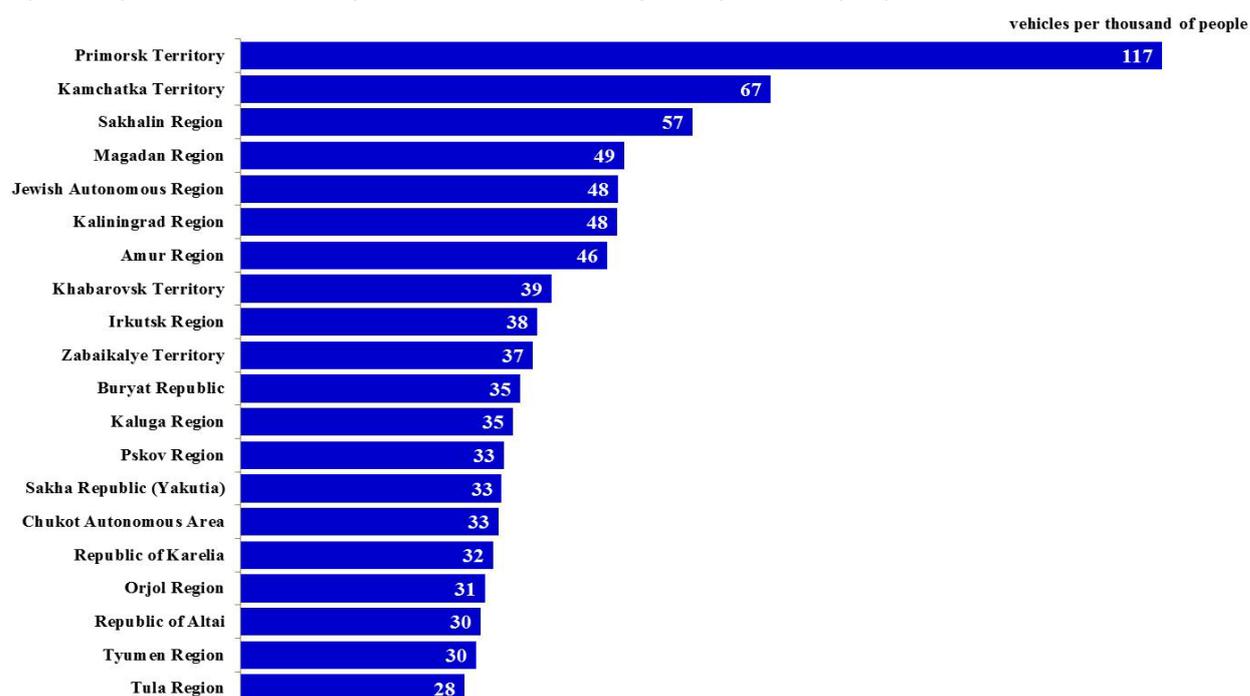
Diagram 3.12. Availability of light commercial vehicles per capita, by Russian federal district, as of 01/01/2012, number of commercial vehicles per 1,000 people



Source: Autostat agency, RPI analysis

Leaders in terms of LCV ownership per capita at the beginning of 2012 were the Primorsk and Kamchatka territories, as well as the Sakhalin region. For these three RF constituents, this index stood at 117 units, 67 unit and 57 units per 1,000 people, respectively. In all of these constituents, the high LCV ownership per capita was to a significant degree defined by the proximity to the Japanese and Chinese borders, as well as availability/affordability of used imported vehicles.

Diagram 3.13. Russian Federation constituents with the highest light commercial vehicle ownership per capita (Top 20) in Russia, as of 01/01/2012, number of LCVs per 1,000 people



Source: Autostat agency, RPI analysis

The Russian LCV fleet features a large proportion of aging automobiles. Over 45 percent of the total LCV fleet was produced before 2000. Trucks one year to three years old make up around 10 percent of the total LCV inventory. The low proportion of relatively young vehicles is due to the weak purchasing power of potential buyers, which was further weakened by the 2008-2009 financial crisis.

Table 3.5. Light commercial vehicle fleet broken down by age and origin, number of units as of 01/01/2012, RF, %

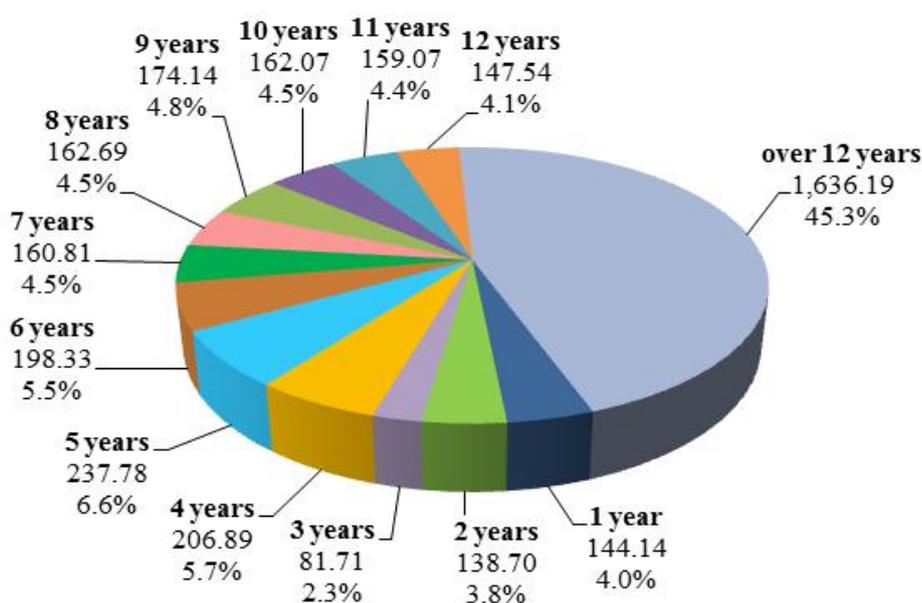
Age of light commercial vehicles	Number of light commercial vehicles	Russian light commercial vehicles, %	Foreign light commercial vehicles, %
1 year	144,136	59.8	40.2
2 years	138,698	62.7	37.3
3 years	81,706	69.4	30.6
4 years	206,889	61.8	38.2
5 years	237,776	73.1	26.9
6 years	198,326	79.2	20.8
7 years	160,812	84.0	16.0
8 years	162,694	84.3	15.7
9 years	174,143	81.1	18.9
10 years	162,069	71.5	28.5
11 years	159,068	67.3	32.7
12 years	147,539	72.3	27.7
Over 12 years	1,636,186	54.9	45.1
Total	3,610,042	64.6	35.4

Source: Autostat agency, RPI analysis

In the vehicle fleet structure, the dominant brands are of Russian origin – GAZ, UAZ and Izh. Combined, these three manufacturers accounted for 62.3 percent of the LCV fleet as of January 1, 2012. This is due primarily to lower prices for Russian products, although experts say that workmanship and reliability of domestic vehicles are inferior to foreign counterparts.

In general, from 2000 through 2011 there was an upward trend in the proportion of foreign LCVs sold in the Russian market, which is reflected in the vehicle fleet structure broken down by vehicle age. The Russian brands are being pushed out primarily due to their lower reliability and build quality and subpar after-sale maintenance services.

Diagram 3.14. Number of light commercial vehicles broken down by age, as of 01/01/2012, thousands of units, %



Source: Autostat agency, RPI analysis

In the vehicle fleet structure, leading by a large margin are GAZ trucks and vans of the Gazel line, which are very competitively priced while having assembly quality and reliability that customers find satisfactory for the price they pay. (All else being equal, they, however, are notably inferior to more expensive new foreign-made vehicles imported from Europe, U.S.A., Japan and South Korea.) Their proportion in the fleet reached 37 percent as of January 1, 2012.

Table 3.6. Number of light commercial vehicles broken down by make, number of units, as of 01/01/2012, %

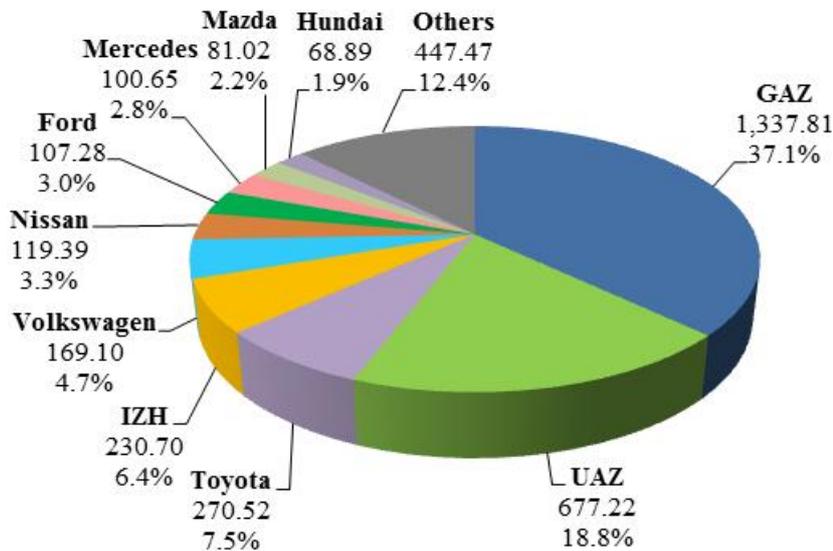
Brand	Total		Brand	Total	
	Number of vehicles	%		Number of vehicles	%
GAZ	1,337,810	37.1	RAF	38,233	1.1
UAZ	677,224	18.8	VIS	28,750	0.8
TOYOTA	270,517	7.5	CITROEN	23,937	0.7
Izh	230,699	6.4	ErAZ	17,200	0.5

Brand	Total		Brand	Total	
VOLKSWAGEN	169,101	4.7	KIA	16,058	0.4
NISSAN	119,393	3.3	SSANG YONG	12,435	0.3
FORD	107,278	3.0	IVECO	9,591	0.3
MERCEDES	100,645	2.8	BAW	7,172	0.2
MAZDA	81,017	2.2	OPEL	5,913	0.2
HYUNDAI	68,887	1.9	NYSA	5,412	0.1
MITSUBISHI	62,553	1.7	FAW	4,310	0.1
FIAT	55,817	1.5	MAXUS	3,750	0.1
ISUZU	49,506	1.4	FOTON	3,716	0.1
PEUGEOT	43,446	1.2	Other	18,053	0.5
RENAULT	41,619	1.2	Total	3,610,042	100

Source: Autostat agency, RPI analysis

The highest proportion of the fleet among foreign brands at the beginning of 2012 belonged to Toyota, which is due to high popularity of these vehicles (including second-hand ones) in Russia's eastern regions.

Diagram 3.15. Number of light commercial vehicles broken down by make, as of 01/01/2012, thousands of units, %



Source: Autostat agency, RPI analysis

According to Society of Automotive Engineers data, in 2011 the Russian cargo vehicle fleet (in which the Society included all types of trucks and LCVs) ranked seventh in the world, growing by nine percent from 2010 to 2011 as a result of both pent-up consumer demand after the 2008-2009 crisis and growth in industry, trade and services. In the longer term, the experts predict that LCV sales will continue to grow through 2020, although the pace of growth year-on-year is likely to decelerate – to three percent to five percent annually in 2019 and 2020. Beyond 2020, the experts predict a gradual saturation of the LCV market. The positive sale dynamics are likely to become the main factor that will drive the vehicle fleet growth through 2017.

Table 3.7. Major national markets for new commercial vehicles as of the end of 2010/2011 and 2011/2012, number of vehicles

Country	2010	2011	Change, %
China	4,300,000	4,020,000	-7.0
India	630,500	744,000	17.8
Japan	729,300	685,530	-6.0
France	457,214	482,823	5.6
Germany	282,157	334,822	18.7
United Kingdom	260,599	306,488	17.6
Russia	246,564	267,400	9.0
South Korea	235,552	249,060	5.7
Italy	204,219	197,289	-3.4
Spain	132,104	123,353	-6.6

Source: Society of Automotive Engineers

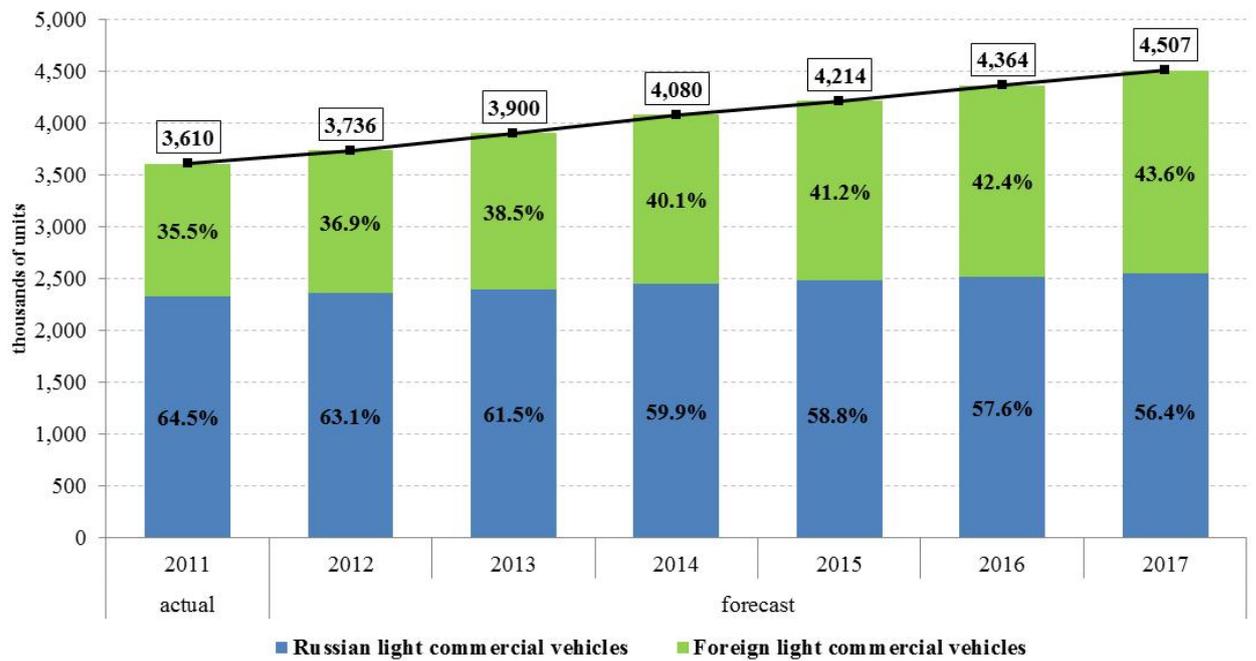
As a result, the numbers of the Russian LCV inventory can be expected to grow by 24.8 percent to around 4.5 million units by 2017 compared with 2011. In the LCV fleet structure from 2012 through 2017, the proportion of foreign trucks is likely to increase from 35.5 percent in 2011 to 43 percent or 44 percent in 2020.

Table 3.8. Forecast of the light commercial vehicle fleet broken down by origin, thousands of vehicles, 2011-2017

	2011	2012	2013	2014	2015	2016	2017
Russian light commercial vehicles	2,330	2,357	2,398	2,445	2,477	2,514	2,544
Foreign light commercial vehicles	1,280	1,379	1,502	1,635	1,737	1,850	1,963
Number of light commercial vehicles	3,610	3,736	3,900	4,080	4,214	4,364	4,507

Source: Autostat agency, RPI analysis

Diagram 3.16. Changes in the light commercial vehicle fleet broken down by origin from 2011 through 2017, thousands of units, %



Source: RPI analysis

5. Engine Oil Consumption by Cargo Vehicles in Various Russian Regions

5.1. Engine oils for light commercial vehicles (LCV)

5.1.1. Engine oils for the current fleet of light commercial vehicles

In 2011, engine oil consumption by light commercial vehicles in Russia totaled 78,900 tons.

As in the case of passenger vehicles, the fundamental factors directly determining the rates of engine oil consumption by LCVs in a given Russian Federation constituent were the size and composition of the local vehicle fleet. As a result, the highest oil consumption rates in 2011 were reported in the following constituents of the Russian Federation:

- Moscow (5,600 tons, or 7.1 percent of total consumption by LCVs in Russia)
- Primorsk territory (5,100 tons, or 6.4 percent)
- Moscow region (4,100 tons, or 5.2 percent)
- Krasnodar territory (3,000 tons, or 3.8 percent)
- St. Petersburg (2,500 tons, or 3.2 percent)

Table 5.1. Number of light commercial vehicles and engine oil consumption broken down by region in 2011, thousands of units, tons

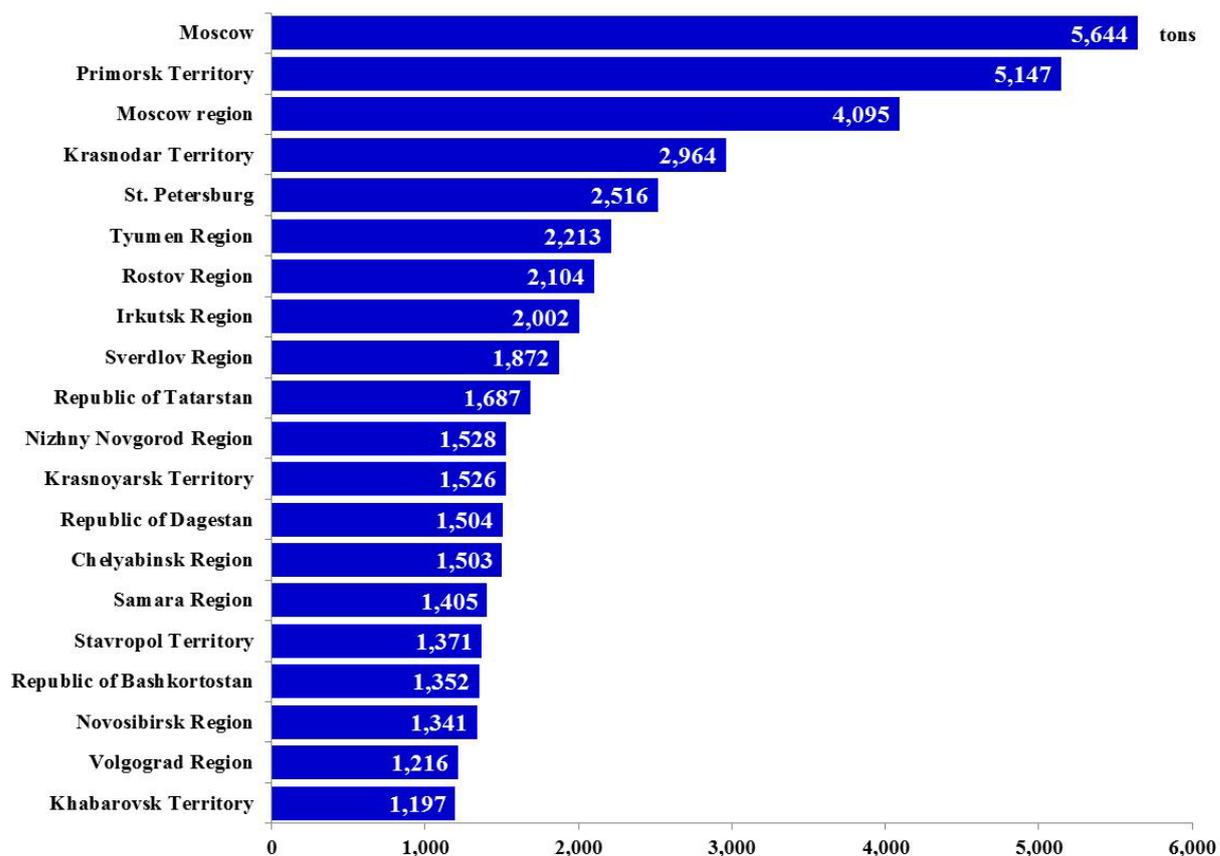
Region	Number of light commercial vehicles, thousands of units	Oil consumption, tons
Central federal district	915.9	20,152
Moscow	254.20	5,643.96
Moscow region	183.52	4,094.75
Belgorod region	33.90	740.52
Bryansk region	29.39	651.56
Vladimir region	31.37	691.31
Voronezh region	50.63	1,100.40
Ivanovo region	21.91	475.24
Kaluga region	34.82	751.74
Kostroma region	15.63	339.80
Kursk region	23.84	518.62
Lipetsk region	23.33	512.11
Oryol region	24.28	524.75
Ryazan region	31.56	687.58
Smolensk region	24.34	523.03
Tambov region	22.77	492.23
Tver region	38.11	825.45
Tula region	43.96	956.75
Yaroslavl region	28.37	622.16

Region	Number of light commercial vehicles, thousands of units	Oil consumption, tons
Northwestern federal district	360.9	7,904
St. Petersburg	113.85	2,515.91
Leningrad region	46.44	1,016.76
Arkhangelsk region	28.33	612.98
Vologda region	27.88	606.43
Kaliningrad region	44.83	1,000.60
Republic of Karelia	20.51	447.02
Republic of Komi	20.15	432.46
Murmansk region	19.36	427.58
Novgorod region	17.22	372.56
Pskov region	22.37	471.24
Southern federal district	330.5	7,203
Republic of Adygeya	10.38	225.54
Astrakhan region	25.30	554.97
Volgograd region	55.89	1,215.55
Republic of Kalmykia	6.56	138.47
Krasnodar territory	135.45	2,963.56
Rostov region	96.96	2,104.49
North Caucasus federal district	211.3	4,591
Republic of Dagestan	68.98	1,504.46
Republic of Ingushetia	5.78	125.92
Kabardino-Balkar Republic	23.15	507.22
Karachayev-Cherkessk Republic	7.61	161.43
Republic of North Ossetia-Alania	19.66	424.49
Stavropol territory	63.53	1,370.92
Chechen Republic of	22.59	496.57
Volga federal district	602.1	12,975
Republic of Bashkortostan	63.37	1,352.33
Kirov region	28.56	616.62
Republic of Mariy El	12.33	266.50
Republic of Mordovia	15.34	333.80
Nizhny Novgorod region	68.75	1,527.83
Orenburg region	47.97	1,012.47
Penza region	30.55	667.95
Perm territory	50.02	1,077.24
Samara region	64.64	1,405.46
Saratov region	51.23	1,104.47
Republic of Tatarstan	79.20	1,687.09
Udmurt Republic	29.83	615.02
Ulyanovsk region	32.47	698.84
Chuvash Republic	27.84	608.98
Ural federal district	273.8	5,961
Kurgan region	17.63	373.51
Sverdlovsk region	85.81	1,872.15

Region	Number of light commercial vehicles, thousands of units	Oil consumption, tons
Tyumen region	101.51	2,213.00
Chelyabinsk region	68.81	1,502.62
Siberian federal district	497.2	10,782
Republic of Altai	6.27	131.81
Altai territory	52.07	1,104.42
Republic of Buryatia	34.37	761.07
Irkutsk region	91.05	2,002.44
Kemerovo region	44.39	966.28
Krasnoyarsk territory	70.98	1,526.36
Novosibirsk region	61.11	1,341.15
Omsk region	51.48	1,094.20
Tomsk region	24.80	528.35
Republic of Tyva	7.09	151.31
Republic of Khakasia	12.65	275.32
Zabaikalsky territory	40.93	898.99
Far Eastern federal district	418.3	9,378
Amursk region	38.44	859.60
Jewish autonomous region	8.41	188.73
Kamchatka territory	21.56	475.75
Magadan region	7.60	164.12
Primorsk territory	227.69	5,147.05
Republic of Sakha (Yakutia)	31.67	681.26
Sakhalin region	28.41	629.40
Khabarovsk territory	52.90	1,196.76
Chukchi autonomous district	1.64	35.07
Total for the RF	3,610	78,944

Source: Autostat agency, RPI analysis

Diagram 5.1. Russian Federation constituents with the highest rates of engine oil consumption by light commercial vehicles (Top 20), as of the end of 2011, tons



Source: Autostat agency, RPI analysis

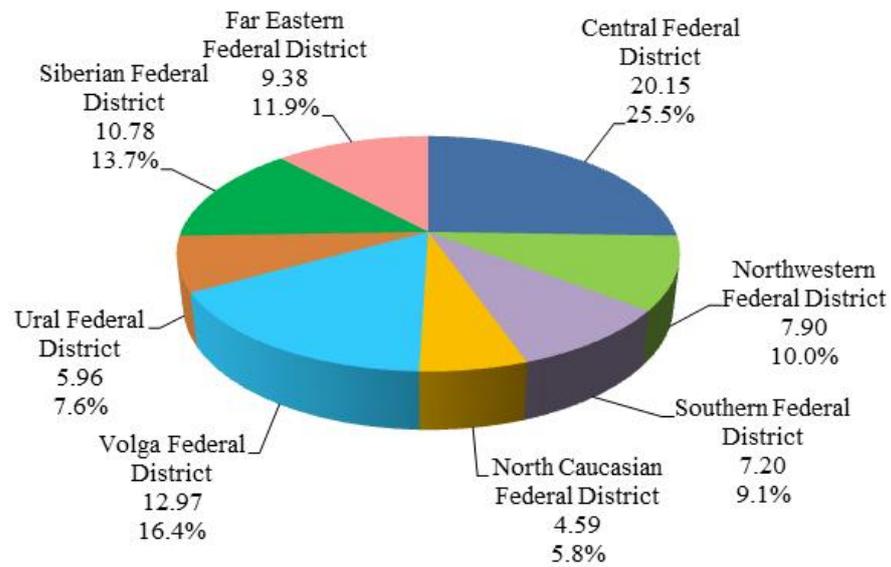
The size and makeup of the light commercial vehicle fleet in 2011 were the principal determinants of the percentage weights of engine oil consumption in individual regions and federal districts.

As a result, the highest rates of engine oil consumption occurred in the following federal districts:

- Central (20,200 tons, or 25.5 percent of total consumption by LCVs in Russia)
- Volga (13,000 tons, or 16.4 percent)
- Siberian (10,800 tons, or 13.7 percent).

Thus, the total share of oil consumption by the aforementioned districts in 2011 was 55.8 percent of total engine oil consumption by light commercial vehicles in the Russian Federation.

Diagram 5.2. Oil consumption by light commercial vehicles broken down by federal district in 2011, thousands of tons, %

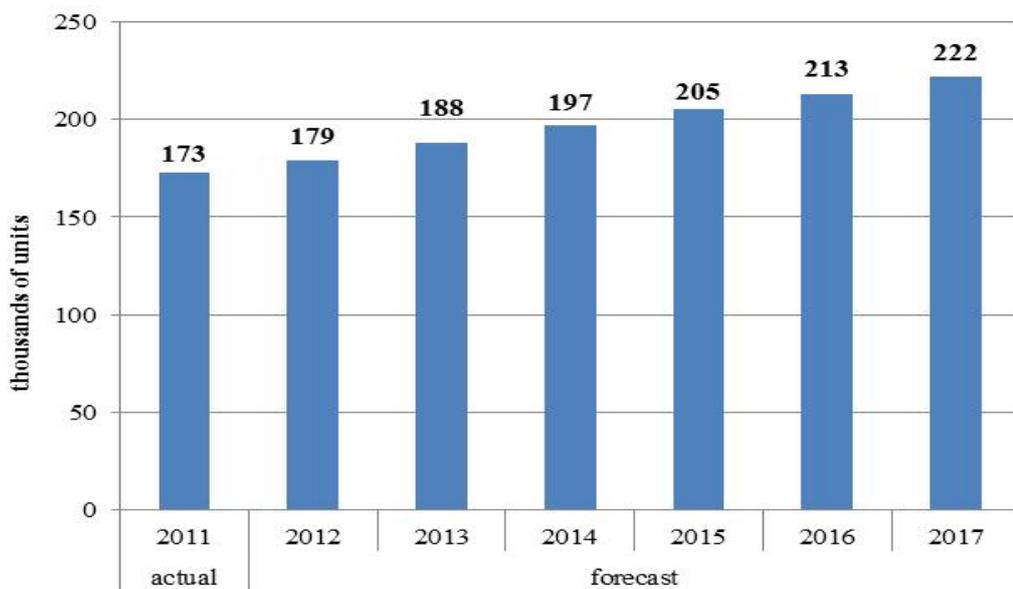


Source: Autostat agency, RPI analysis

5.1.2. Factory-fill engine oils for light commercial vehicles

According to Russia's Rosstat data, in 2011 Russia produced about 173,000 light commercial vehicles. Expert estimates suggest that LCV production will reach approximately 179,000 units in 2012. Later on, from 2012 through 2017, annual domestic LCV production may increase steadily at an annual pace of four percent to five percent, reaching a level of 222,000 units by 2017.

Diagram 5.3. Forecast of light commercial vehicle production in Russia from 2012 through 2017, thousands of units

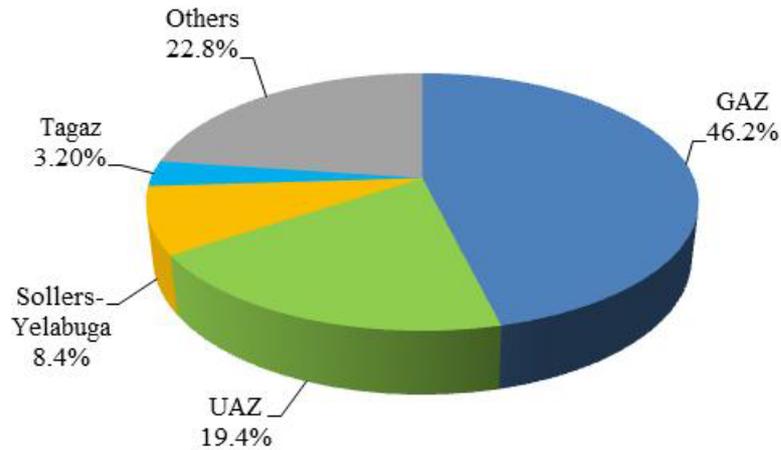


Source: RPI analysis

In 2011, the largest manufacturers of light commercial vehicles in Russia were:

- GAZ (46.2 percent of the total Russian LCV production in 2011)
- UAZ (19.4 percent)
- Sollers-Yelabuga (6.4 percent).

Diagram 5.4. Weights of individual manufacturers in the total Russian light commercial vehicle output in 2011, %



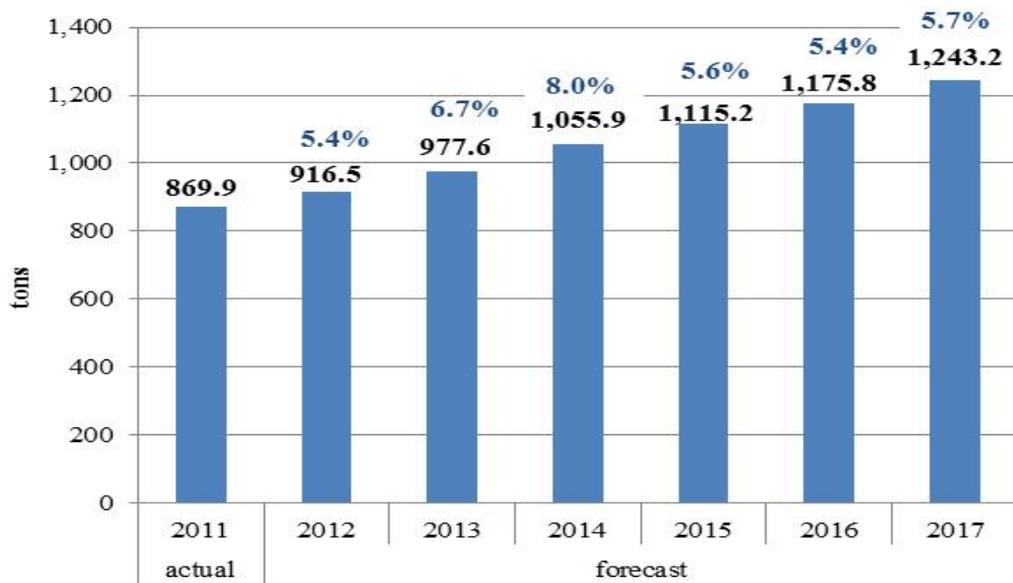
Source: RPI analysis

In 2011, total consumption of factory-fill oils for light commercial vehicles in Russia was 870 tons. When calculating this value, we took into consideration a number of variables, including vehicle production by individual manufacturers and engine oil capacity data for various vehicle brands and their engines.

In the longer term, given the forecast of LCV production for 2012 through 2017 by individual manufacturers and potential upward trend in engine oil capacity for various vehicle brands (due to increasing engine horsepower), factory-fill oil consumption by LCVs can be expected to grow steadily from 2012 through 2017 at the rate of 5.4 percent to eight percent per year.

As a result, the total consumption of factory-fill oils by LCVs may reach 1,200 tons to 1,250 tons in 2017.

Diagram 5.5. Forecast of factory-fill oils consumption by light commercial vehicles from 2012 through 2017, tons

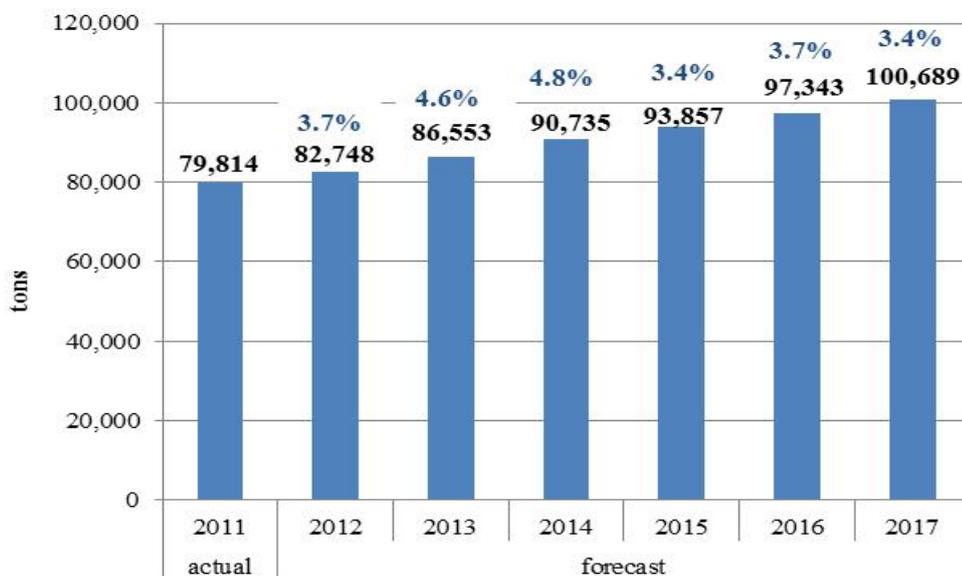


Source: RPI analysis

5.1.3. Forecast of oil consumption by light commercial vehicles

Given the trend forecast expectations for the passenger vehicle fleet from 2012 through 2017, as well as expectations of its structure, vehicle lubrication system evolution, annual mileage and the ever-increasing oil drain interval, as well as operating engine oil consumption rates, we can expect that from 2012 through 2017 total oil consumption by light commercial vehicles will increase annually by three percent to five percent. As a result, this indicator in physical terms may reach 100,000 tons to 105,000 tons in 2017.

Diagram 5.6. Changes in total engine oil consumption by light commercial vehicles from 2012 through 2017, tons



Source: RPI analysis

To sum up, we will list the factors that will influence oil consumption growth. These include:

- Growing size of the passenger vehicle fleet (the principal factor)
- Growing engine oil capacity (due to increasing engine power)
- Increasing annual mileages as a result of improving vehicle reliability and growing vehicle traffic

As in the case of passenger vehicles, we anticipate a shift in the lubricant consumption pattern for the LCV segment from mineral oils toward synthetic oils.