

✕ THE MOTOR INDUSTRY ✕  
OF JAPAN

2014

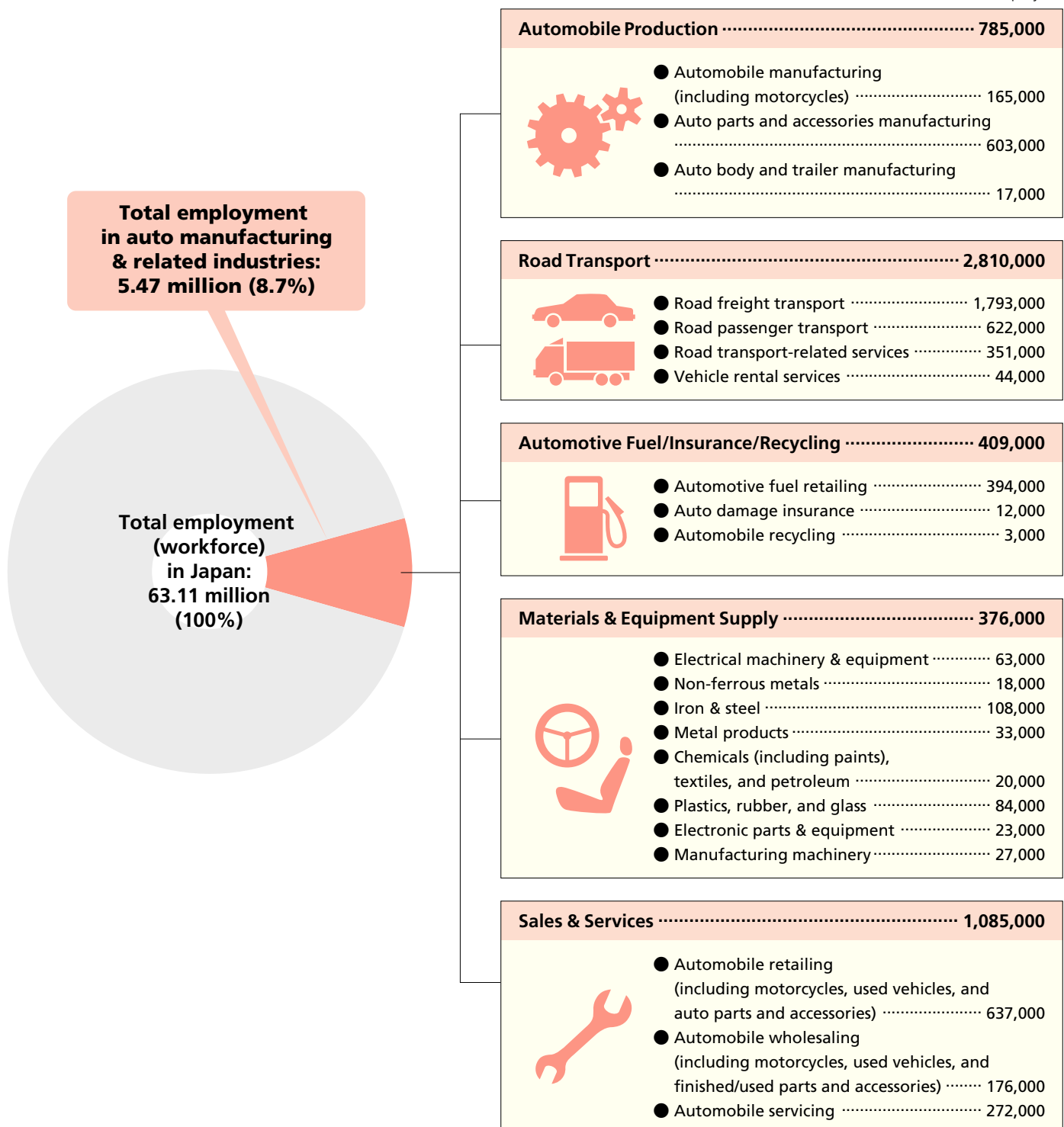
JAPAN AUTOMOBILE MANUFACTURERS ASSOCIATION, INC.

## A Vast Range of Related Industries

Automobiles are the focus of an extremely wide range of industrial and related activity, from materials supply and vehicle production to sales, servicing, freight shipping and other auto-centered operations. Auto-related employment in Japan at present totals 5.47 million people.

### ● EMPLOYMENT IN THE AUTOMOBILE MANUFACTURING AND RELATED INDUSTRIES

Number of employees



Note: Figures are rounded off to the nearest thousand.

# Automobile Manufacturing Is an Integrated Industry

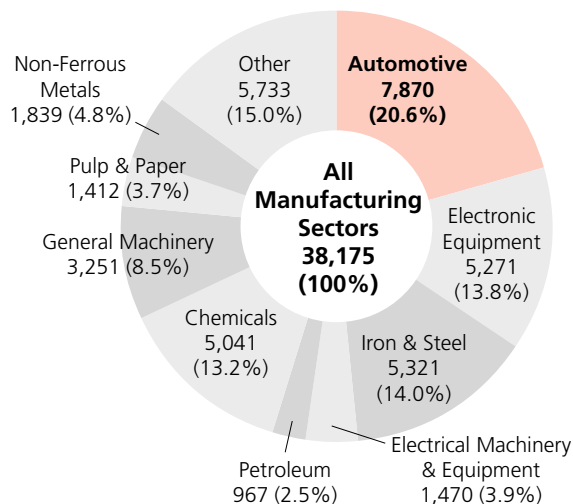
An automobile typically is composed of 20,000 to 30,000 parts, all of which even the largest manufacturers cannot produce themselves. Automakers therefore either outsource production or purchase finished products (such as tires, batteries, air conditioners and audio systems). Finished products purchased by the automakers include products manufactured abroad, and the volume of imported components increases yearly. Automobile manufacturing is thus an integrated industry because it relies on many supporting industries to produce the great diversity of materials and components it uses. Trends in the automobile industry, which makes huge investments in equipment and research-and-development activities, are considered a barometer of the economy.

## PRINCIPAL MATERIALS AND COMPONENTS USED IN AUTOMOBILE MANUFACTURING

<b>Cast iron</b>	Engine parts, e.g. cylinder blocks	<b>Springs, dampers</b>	
<b>Common steel</b>	Chassis, frames, wheel parts	<b>Turbochargers</b>	
<b>Special steel</b>	Gears, axle shafts, crankshafts, fuel injection equipment	<b>Bearings</b>	
<b>Copper</b>	Electricals, radiators, cables	<b>Machined parts, e.g. pumps</b>	
<b>Lead, tin, zinc</b>	Engine metals, solder, body varnish, batteries	<b>Tires and tubes</b>	
<b>Aluminum</b>	Engine parts (e.g. pistons, cylinder heads), wheels, chassis	<b>Batteries</b>	
<b>Noble metals</b>	Emissions aftertreatment parts	<b>Window glass</b>	
<b>Other non-ferrous metals</b>	Magnets, plating	<b>Onboard tools, e.g. jacks</b>	
<b>Synthetic resin</b>	Steering wheels, bumpers, radiator grilles, body components	<b>Supplies, e.g. extinguishers, tire chains</b>	
<b>Glass</b>	Window glass, mirrors, headlamps	<b>Electronic parts</b>	Sensors, ECUs, actuators
<b>Rubber</b>	Tires, sealing parts, vibration control parts	<b>Lights, cables, optical fibers</b>	
<b>Ceramics</b>	Plugs, electronic parts, sensors, emissions aftertreatment parts	<b>Air conditioners, air cleaners</b>	
<b>Textiles</b>	Seats, linings, seatbelts	<b>Starters, alternators, generators, inverters, meters</b>	
<b>Leather</b>	Seats, packing	<b>Audio systems, phones, navigation systems</b>	
<b>Paper</b>	Filters	<b>Safety equipment, e.g. anti-lock brakes, airbags, traction control</b>	
<b>Wood</b>	Load-carrying platforms, interior equipment	<b>Coke</b>	For casting
<b>Paints</b>	Ornamental and rustproof paints	<b>Petroleum, electricity, natural gas</b>	Fuel, heat treatment, paint drying, power generation
<b>Chemicals</b>	Antifreeze, engine oil, transmission oil, brake oil		
<b>Animal and vegetable oils</b>	For casting		
<b>Fats and oils</b>	For lubrication, heat treatment, etc.		

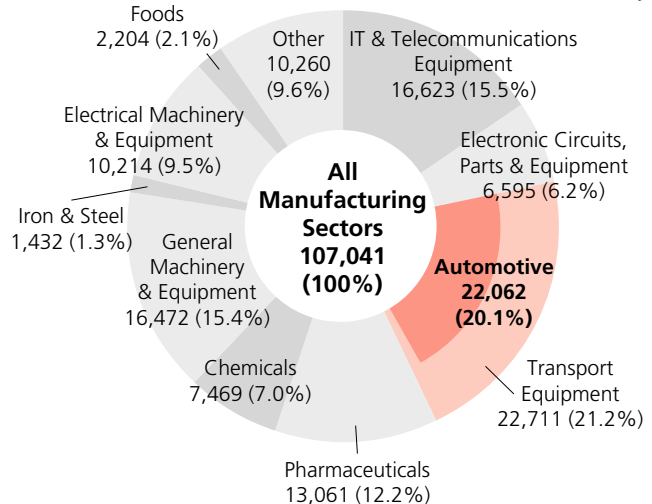
## INVESTMENTS IN EQUIPMENT OF MAJOR MANUFACTURING SECTORS (PROJECTED, FY 2013)

x 100 million yen



## INVESTMENTS IN R&D OF MAJOR MANUFACTURING SECTORS (FY 2012)

x 100 million yen



Note: Japan's fiscal year (FY) starts on April 1 and ends on March 31 of the following year.  
Source: Survey on Corporate Finance, Ministry of Economy, Trade and Industry

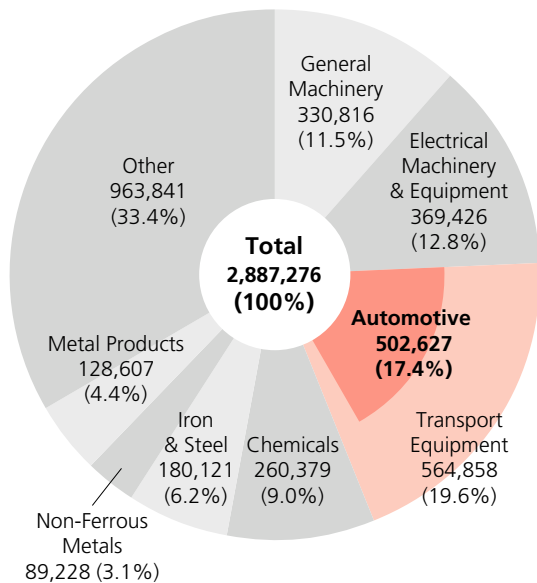
Source: Survey on Research Activities in Science and Technology, Ministry of Internal Affairs and Communications

# Automobile Manufacturing Is a Core Industry

The automotive industry is one of the Japanese economy's core industrial sectors. In 2012 automotive shipments accounted for 17.4% of the total value of Japan's manufacturing shipments, and 39.7% of the value of the machinery industries' combined shipments. Automotive shipments (both domestic and export shipments, including motorcycles, auto parts, etc.) in value terms totalled 50.3 trillion yen in 2012, up 14.3% from the previous year.

## SHIPMENTS OF MAJOR MANUFACTURING SECTORS IN VALUE TERMS (2012)

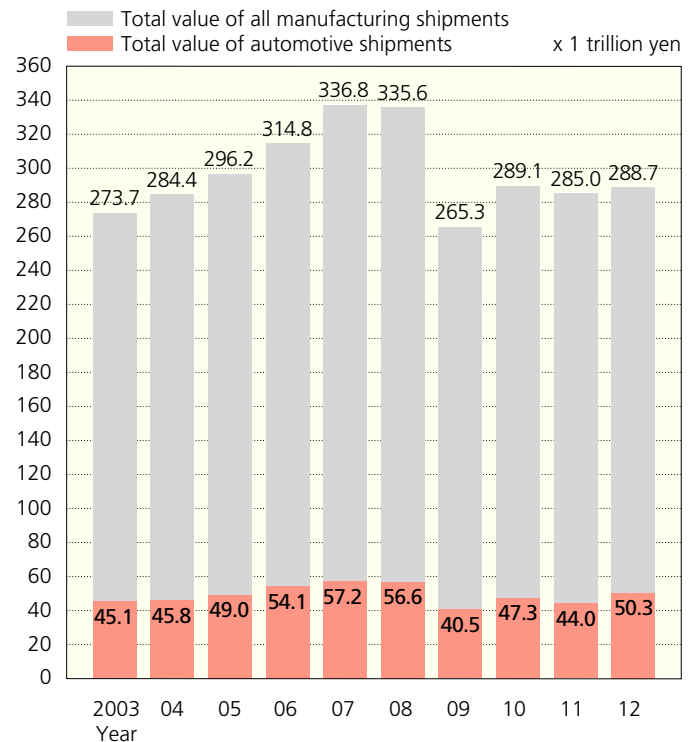
x 100 million yen



### Breakdown of automotive shipments:

- Automobiles (including motorcycles) ..... 196,099
- Auto bodies and trailers ..... 5,214
- Automotive parts and accessories ..... 301,314

## COMPARISON OF VALUE OF AUTOMOTIVE SHIPMENTS TO TOTAL VALUE OF ALL MANUFACTURING SHIPMENTS



## SHIPMENTS OF MAJOR MANUFACTURING SECTORS IN VALUE TERMS

x 100 million yen

Year	Chemicals	Iron & Steel	Non-Ferrous Metals	Metal Products	Machinery Industries				Other	Total	Automotive Shipments		
					General Machinery	Electrical Machinery & Equipment	Transport Equipment				Subtotal	As % of Value of Machinery Shipments	As % of Total Value of Manufacturing Shipments
							Automotive						
1970	55,402	65,648	30,547	37,277	68,028	73,305	72,758	54,673	223,008	287,383	690,348	24.5	7.9
1975	104,381	113,063	39,087	65,731	106,112	108,213	147,935	105,241	379,551	589,807	1,274,329	27.7	8.3
1980	179,787	178,956	81,186	106,465	175,998	222,346	249,536	212,346	682,457	952,724	2,146,998	31.1	9.9
1985	205,524	177,543	63,836	130,944	241,904	408,422	361,793	276,927	1,055,932	1,063,240	2,653,206	26.2	10.4
1990	235,030	182,687	78,217	185,736	332,249	545,286	468,582	423,106	1,397,439	1,205,939	3,233,726	30.3	13.1
1995	233,625	140,727	64,964	176,465	298,844	548,309	442,145	395,613	1,330,364	1,155,277	3,060,356	29.7	12.9
2000	237,994	119,630	62,189	155,868	304,132	595,817	444,474	400,429	1,385,612	1,115,720	3,035,824	28.9	13.2
2003	233,271	119,030	56,321	132,430	260,683	480,137	498,869	450,500	1,275,564	956,603	2,737,344	35.3	16.5
2004	241,493	141,413	61,931	134,543	290,742	498,469	506,995	458,122	1,335,931	968,597	2,844,183	34.3	16.1
2005	250,271	168,964	67,116	140,159	312,108	495,083	539,999	489,548	1,385,037	988,717	2,962,417	35.3	16.5
2006	261,995	184,727	90,162	144,510	333,313	511,634	598,356	541,091	1,484,034	1,023,649	3,148,346	36.5	17.2
2007	282,939	211,917	107,705	151,889	362,734	553,265	639,100	571,848	1,597,840	1,058,017	3,367,566	35.8	17.0
2008	281,299	243,322	104,805	151,492	402,477	518,797	637,666	566,053	1,558,940	1,015,930	3,355,788	36.3	16.9
2009	242,757	159,884	69,400	124,267	289,320	400,593	471,866	404,915	1,161,779	894,503	2,652,590	34.9	15.3
2010	262,120	181,463	89,114	122,920	306,186	442,848	542,136	472,962	1,291,170	944,290	2,891,077	36.6	16.4
2011	263,512	186,656	90,225	121,277	322,495	403,789	505,870	439,592	1,232,154	955,863	2,849,688	35.7	15.4
2012	260,379	180,121	89,228	128,607	330,816	369,426	564,858	502,627	1,265,100	963,841	2,887,276	39.7	17.4

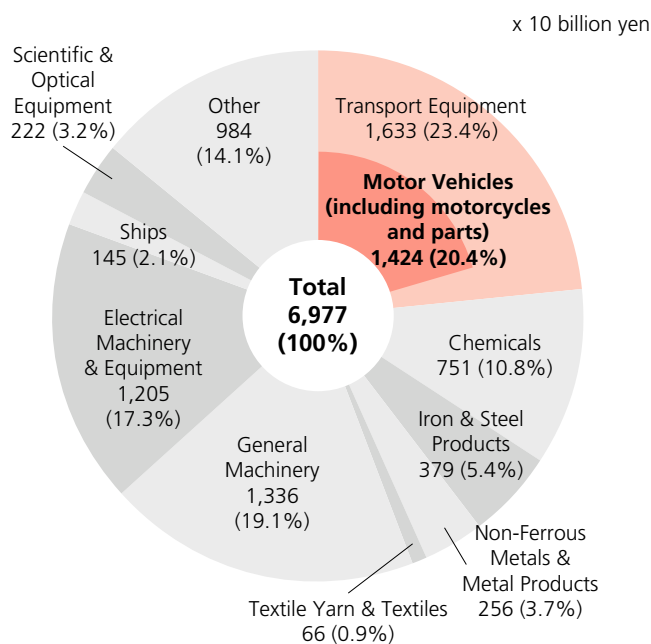
Notes: 1. Shipments from all manufacturing operations with four or more employees are included in this data. 2. Compilation of data on production in value terms was discontinued in 1996 and replaced by data on shipments in value terms. 3. Figures in value terms include domestic consumption tax revenue from shipments. 4. "Electrical Machinery & Equipment" includes IT-related electronic parts and equipment as of 2002.

Source for all statistical data on this page: Census of Manufactures, Ministry of Economy, Trade and Industry

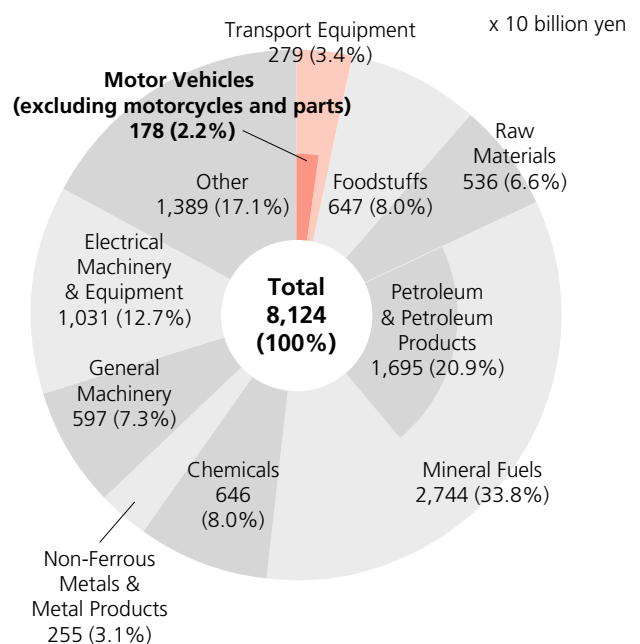
## Motor Vehicle Exports and Imports Both Show an Increase

In 2013 Japan's gross exports rose by 9.5% from the previous year, and imports increased by 14.9%. In value terms, automotive exports grew 11.7% from 2012 to 14.2 trillion yen, with rises across the board in motor vehicle, motorcycle and parts exports. Automotive imports also increased, by 21.9% year-on-year to 1.8 trillion yen, with both motor vehicle and parts imports showing growth.

### EXPORTS BY PRINCIPAL COMMODITY (FOB) IN 2013



### IMPORTS BY PRINCIPAL COMMODITY (CIF) IN 2013



### AUTOMOTIVE EXPORTS IN VALUE TERMS (FOB)

x 100 million yen

Year	Motor Vehicles				Exports Total		
	Value	Chg. (%)	Passenger Cars, Trucks, Buses	Auto Parts	Motorcycles & Motorcycle Parts	Value	Chg. (%)
2004	124,773	105.4	92,142	25,617	7,014	611,700	112.1
2005	135,132	108.3	99,288	28,006	7,839	656,565	107.3
2006	161,795	119.7	122,995	30,227	8,573	752,462	114.6
2007	185,267	114.5	143,170	33,555	8,543	839,314	111.5
2008	175,126	94.5	137,361	30,655	7,110	810,181	96.5
2009	93,679	53.5	66,933	23,089	3,657	541,706	66.9
2010	125,956	134.5	91,741	30,833	3,382	673,996	124.4
2011	115,417	91.6	82,042	29,972	3,403	655,465	97.3
2012	127,521	110.5	92,250	32,051	3,220	637,476	97.3
2013	142,411	111.7	104,125	34,762	3,524	697,742	109.5

### AUTOMOTIVE IMPORTS IN VALUE TERMS (CIF)

x 100 million yen

Year	Motor Vehicles			Imports Total		
	Value	Chg. (%)	Passenger Cars, Trucks, Buses	Auto Parts	Value	Chg. (%)
2004	12,842	108.8	9,055	3,787	492,166	110.9
2005	13,353	104.0	9,149	4,204	569,494	115.7
2006	14,412	107.9	9,163	5,249	673,443	118.3
2007	15,586	108.1	9,294	6,291	731,359	108.6
2008	14,160	90.9	7,499	6,662	789,548	108.0
2009	8,245	58.2	4,549	3,696	514,994	65.2
2010	10,836	131.4	5,957	4,879	607,650	118.0
2011	12,069	111.4	7,352	4,717	681,112	112.1
2012	14,631	121.2	9,082	5,549	706,886	103.8
2013	17,839	121.9	10,857	6,981	812,425	114.9

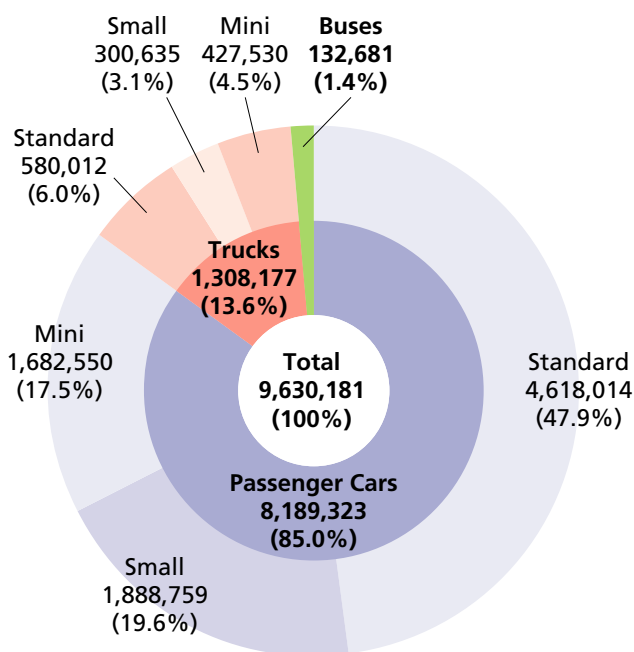
Notes: 1. "Passenger Cars, Trucks, Buses" includes chassis. 2. FOB: Free on board; CIF: Cost, insurance, and freight. 3. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

# Motor Vehicle Production Down for First Time in 2 Years

In 2013 motor vehicle production in Japan decreased for the first time in two years, totalling 9.63 million units, down 3.1% from the previous year. Passenger car production declined 4.3% to a total of 8.19 million units. Within that category, standard car and small car production dropped 1.5% and 16.2%, to 4.62 million and 1.89 million units respectively, whereas minicar production rose 4.2% to 1.68 million units. Truck and bus production showed an increase over 2012, growing 3.3% to 1.31 million units and 8.6% to 133,000 units, respectively.

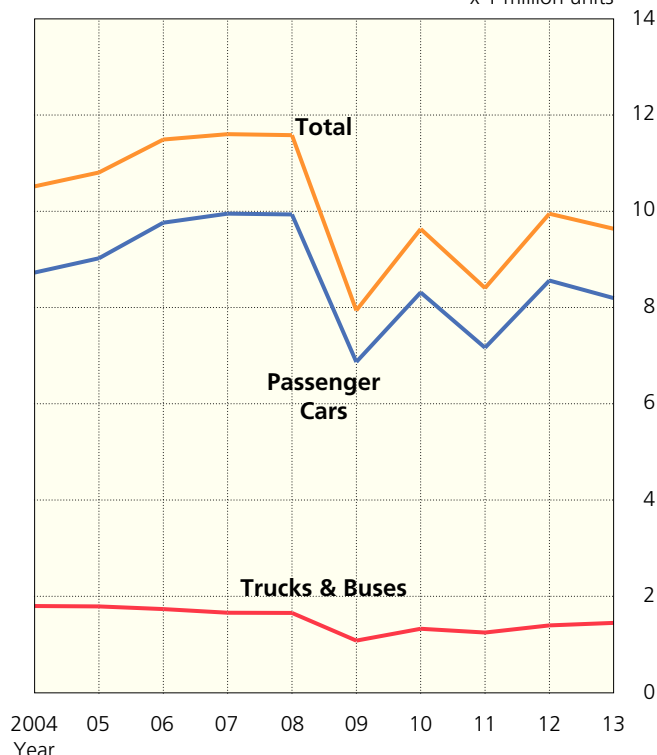
## MOTOR VEHICLE PRODUCTION BY TYPE IN 2013

In vehicle units



## TRENDS IN MOTOR VEHICLE PRODUCTION

x 1 million units



## MOTOR VEHICLE PRODUCTION

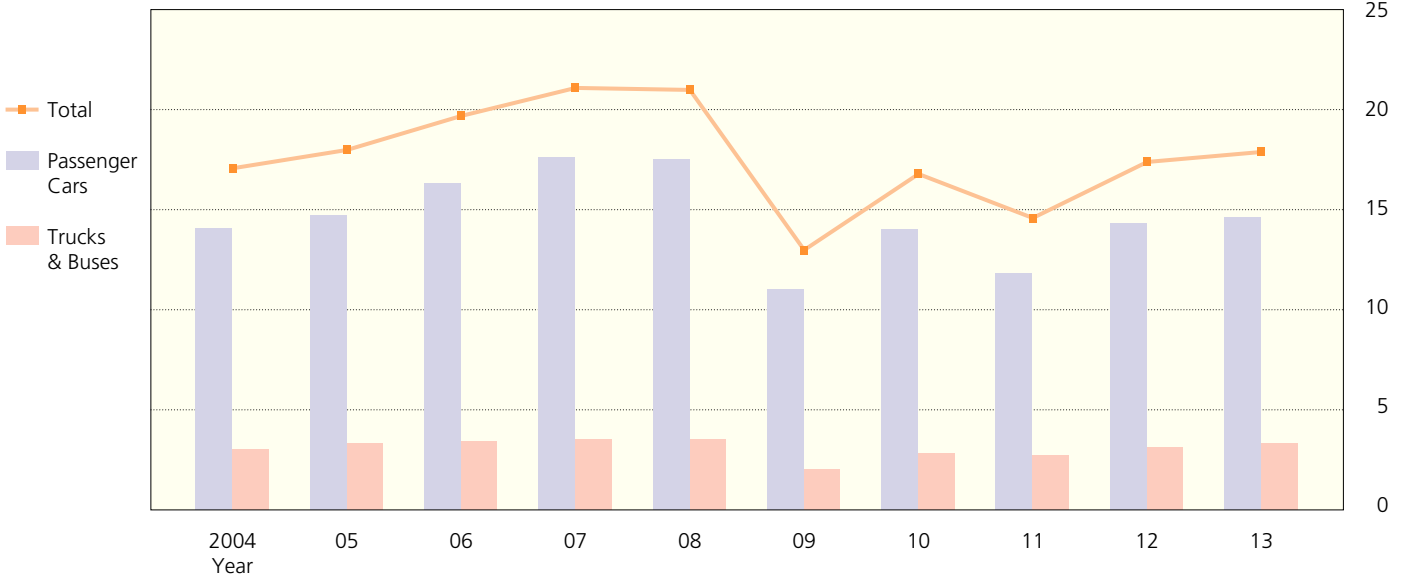
Year	Passenger Cars					Trucks				
	Standard	Small	Mini	Total	Chg. (%)	Standard			Small	
						Gasoline	Diesel	Subtotal	Gasoline	Diesel
1970	51,619	2,377,639	749,450	3,178,708	121.7	52,047	206,053	258,100	1,156,729	97,132
1975	209,032	4,198,550	160,272	4,567,854	116.2	84,304	203,866	288,170	1,441,759	168,716
1980	403,338	6,438,847	195,923	7,038,108	114.0	457,208	427,990	885,198	1,663,834	449,477
1985	494,792	6,991,432	160,592	7,646,816	108.1	842,792	435,420	1,278,212	1,218,423	659,470
1990	1,750,783	7,361,224	835,965	9,947,972	109.9	635,255	614,270	1,249,525	517,972	744,971
1995	2,553,703	4,140,629	916,201	7,610,533	97.5	232,514	591,626	824,140	304,495	604,826
2000	3,376,447	3,699,893	1,283,094	8,359,434	103.2	153,280	495,900	649,180	204,253	279,029
2004	4,044,563	3,309,147	1,366,675	8,720,385	102.9	127,529	642,424	769,953	261,902	184,634
2005	4,191,360	3,416,622	1,408,753	9,016,735	103.4	106,530	617,133	723,663	233,694	203,069
2006	4,915,428	3,302,265	1,537,210	9,754,903	108.2	96,083	603,327	699,410	213,687	205,717
2007	5,864,354	2,638,842	1,441,441	9,944,637	101.9	125,262	593,639	718,901	177,425	188,107
2008	5,786,333	2,714,413	1,427,397	9,928,143	99.8	121,443	613,480	734,923	163,237	166,521
2009	3,459,589	2,145,279	1,257,293	6,862,161	69.1	83,442	288,244	371,686	127,004	88,135
2010	4,846,411	2,159,119	1,304,832	8,310,362	121.1	75,016	445,611	520,627	133,043	105,733
2011	4,180,361	1,861,279	1,116,885	7,158,525	86.1	58,951	453,309	512,260	135,335	99,251
2012	4,686,396	2,252,672	1,615,435	8,554,503	119.5	73,016	510,140	583,156	162,012	113,980
2013	4,618,014	1,888,759	1,682,550	8,189,323	95.7	77,951	502,061	580,012	168,512	132,123

Notes: 1. Passenger cars and trucks are classified under Japan's Road Vehicles Act in three categories, based primarily on engine capacity: "standard" (over 2,000cc), "small" (661cc-vehicle and have been treated as components since 1988. 3. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).



## TRENDS IN MOTOR VEHICLE PRODUCTION IN VALUE TERMS

x 1 trillion yen



## MOTOR VEHICLE PRODUCTION IN VALUE TERMS

x 1 million yen

Year	Passenger Cars				Trucks					Buses			Grand Total
	Standard	Small	Mini	Total	Standard	Small	Mini	Tractors	Total	Large	Small	Total	
1985	895,041	7,049,323	85,925	8,030,289	1,793,000	1,519,934	679,498	46,745	4,039,177	103,053	101,007	204,060	12,273,526
1990	3,717,356	8,676,715	572,188	12,966,259	1,953,924	1,180,028	591,144	64,913	3,790,009	134,015	66,988	201,003	16,957,271
1995	5,147,637	4,869,427	790,303	10,807,367	1,619,428	849,511	510,579	124,764	3,104,282	107,647	89,441	197,088	14,108,737
2000	6,640,075	4,298,370	1,237,605	12,176,050	1,111,558	543,408	357,765	45,453	2,058,184	80,897	109,007	189,904	14,424,138
2004	8,836,999	4,067,398	1,146,115	14,050,512	1,805,315	561,422	333,606	89,959	2,790,302	105,985	129,577	235,562	17,076,376
2005	9,352,545	4,178,641	1,169,871	14,701,057	1,916,692	588,224	357,615	104,567	2,967,098	127,605	163,069	290,674	17,958,829
2006	10,891,826	4,088,449	1,333,394	16,313,669	2,029,030	574,272	352,050	122,267	3,077,619	131,726	203,231	334,957	19,726,245
2007	13,122,924	3,167,910	1,309,576	17,600,410	2,146,513	512,887	319,400	120,346	3,099,146	129,209	264,477	393,686	21,093,242
2008	13,006,119	3,207,109	1,293,624	17,506,852	2,110,682	463,435	312,374	136,277	3,022,768	136,115	313,594	449,709	20,979,329
2009	7,261,654	2,548,371	1,155,681	10,965,706	1,127,974	312,497	281,888	34,778	1,757,137	109,723	166,115	275,838	12,998,681
2010	10,239,303	2,609,861	1,207,423	14,056,587	1,684,489	358,081	323,800	75,944	2,442,314	118,300	211,359	329,659	16,828,560
2011	8,451,638	2,343,337	1,045,460	11,840,435	1,713,798	351,515	285,454	89,976	2,440,743	97,157	199,301	296,458	14,577,636
2012	9,683,441	3,091,067	1,486,926	14,261,434	1,954,449	422,502	302,836	106,209	2,785,996	120,992	237,199	358,191	17,405,621
2013	10,421,642	2,633,402	1,579,510	14,634,554	1,987,340	479,914	312,959	102,073	2,882,286	119,670	290,001	409,671	17,926,511

Source: Ministry of Economy, Trade and Industry

In vehicle units

Subtotal	Mini	Total	Chg. (%)	Buses				Total	Chg. (%)	Year
				Large (≥30 passengers)	Small (≤29 passengers)	Total	Chg. (%)			
1,253,861	551,922	2,063,883	102.1	15,265	31,301	46,566	111.3	5,289,157	113.1	1970
1,610,475	438,987	2,337,632	90.8	13,624	22,481	36,105	78.8	6,941,591	105.9	1975
2,113,311	914,679	3,913,188	115.2	16,470	75,118	91,588	146.4	11,042,884	114.6	1980
1,877,893	1,388,583	4,544,688	105.2	15,547	64,044	79,591	110.2	12,271,095	107.0	1985
1,262,943	986,171	3,498,639	89.0	15,787	24,398	40,185	95.5	13,486,796	103.5	1990
909,321	804,276	2,537,737	93.9	12,814	34,452	47,266	96.2	10,195,536	96.6	1995
483,282	594,356	1,726,818	98.8	8,035	46,509	54,544	112.7	10,140,796	102.5	2000
446,536	514,202	1,730,691	99.1	12,286	48,156	60,442	99.0	10,511,518	102.2	2004
436,763	546,185	1,706,611	98.6	11,763	64,550	76,313	126.3	10,799,659	102.7	2005
419,404	521,879	1,640,693	96.1	11,063	77,574	88,637	116.1	11,484,233	106.3	2006
365,532	453,587	1,538,020	93.7	11,516	102,154	113,670	128.2	11,596,327	101.0	2007
329,758	443,718	1,508,399	98.1	11,660	127,442	139,102	122.4	11,575,644	99.8	2008
215,139	398,276	985,101	65.3	8,783	78,012	86,795	62.4	7,934,057	68.5	2009
238,776	449,776	1,209,179	122.7	10,274	99,060	109,334	126.0	9,628,875	121.4	2010
234,586	389,150	1,135,996	93.9	9,427	94,682	104,109	95.2	8,398,630	87.2	2011
275,992	407,206	1,266,354	111.5	10,598	111,622	122,220	117.4	9,943,077	118.4	2012
300,635	427,530	1,308,177	103.3	9,755	122,926	132,681	108.6	9,630,181	96.9	2013

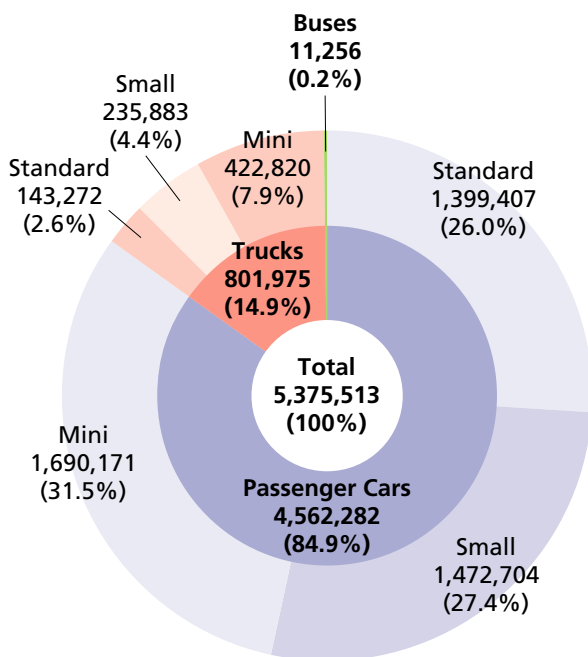
2,000cc), and "mini" (660cc and under); see page 66 for details. 2. KD sets have been excluded since 1979; they represent less than 60% of the cost of compositional components per Source: Japan Automobile Manufacturers Association

# Motor Vehicle Sales Rise for Second Consecutive Year

Passenger car and commercial vehicle demand in Japan in 2013 totalled 5.38 million units, an increase of 0.1% from the previous year. Total passenger car sales declined 0.2% to 4.56 million units, with standard cars and small cars dropping 0.9% and 8.1%, to 1.40 million and 1.47 million units respectively, but minicars growing 8.5% to 1.69 million units. Meanwhile, sales of trucks increased 2.1% from 2012, to 802,000 units, whereas sales of buses fell 5.7% to 11,000 units.

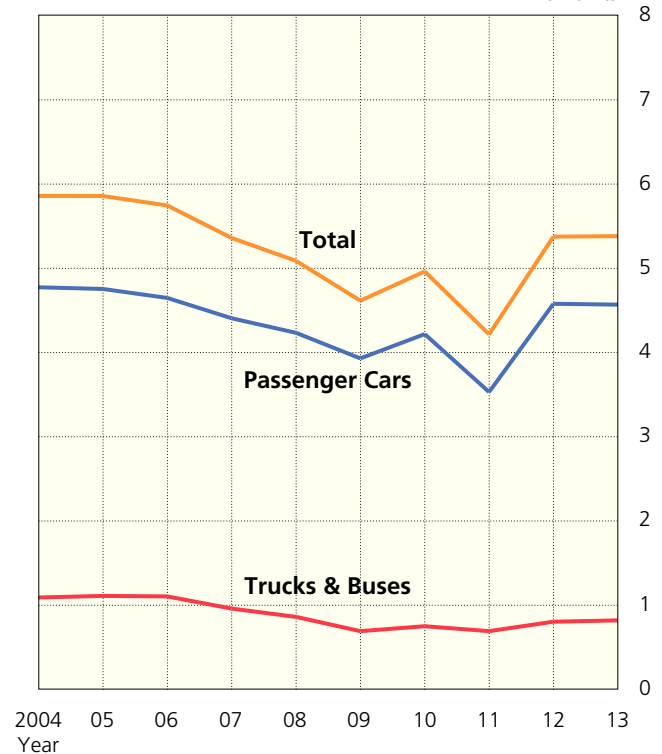
## NEW MOTOR VEHICLE REGISTRATIONS BY TYPE IN 2013

In vehicle units



## TRENDS IN NEW MOTOR VEHICLE REGISTRATIONS

x 1 million units



## NEW MOTOR VEHICLE REGISTRATIONS

Year	Passenger Cars					Trucks				
	Standard	Small	Mini	Subtotal	Chg. (%)	Standard	Small	Mini	Subtotal	Chg. (%)
1970	9,068	1,652,899	717,170	2,379,137	116.8	168,086	986,673	538,743	1,693,502	95.6
1975	49,125	2,531,396	157,120	2,737,641	119.7	121,118	999,155	431,181	1,551,454	100.7
1980	71,931	2,608,215	174,030	2,854,176	94.0	154,472	1,144,167	839,308	2,137,947	102.2
1985	73,539	2,869,527	161,017	3,104,083	100.3	118,009	945,484	1,367,685	2,431,178	104.7
1990	467,490	3,839,221	795,948	5,102,659	115.9	193,775	1,449,678	1,006,456	2,649,909	93.7
1995	889,260	2,654,291	900,355	4,443,906	105.6	177,264	1,411,296	815,265	2,403,825	104.6
2000	770,220	2,208,387	1,281,265	4,259,872	102.5	84,626	1,015,313	586,660	1,686,599	99.6
2004	1,358,281	2,037,767	1,372,083	4,768,131	101.1	186,588	361,449	519,067	1,067,104	97.8
2005	1,271,349	2,089,992	1,387,068	4,748,409	99.6	197,548	351,708	536,648	1,085,904	101.8
2006	1,225,867	1,908,267	1,507,598	4,641,732	97.8	209,283	354,870	516,021	1,080,174	99.5
2007	1,299,168	1,654,025	1,447,106	4,400,299	94.8	171,998	293,021	472,713	937,732	86.8
2008	1,250,987	1,549,677	1,426,979	4,227,643	96.1	146,690	249,655	442,914	839,259	89.5
2009	1,160,175	1,480,137	1,283,429	3,923,741	92.8	87,692	180,509	404,742	672,943	80.2
2010	1,419,909	1,507,693	1,284,665	4,212,267	107.4	101,697	187,642	441,755	731,094	108.6
2011	1,139,910	1,246,126	1,138,752	3,524,788	83.7	107,290	185,097	382,393	674,780	92.3
2012	1,411,700	1,602,951	1,557,681	4,572,332	129.7	136,359	227,326	421,765	785,450	116.4
2013	1,399,407	1,472,704	1,690,171	4,562,282	99.8	143,272	235,883	422,820	801,975	102.1

Notes: 1. Chassis-based through 2002, data compilation became vehicle registration number-based as of 2003. 2. Truck figures include special-purpose vehicles (except large ones). 3. Data



## NEW MINI-VEHICLE SALES BY TYPE

In vehicle units

Year	Passenger Cars (Minicars)	Commercial Vehicles ("Bonnet" minivans)	Commercial Vehicles (Cab-over-engine minivans)	Commercial Vehicles (Mini-trucks)	Total	
						Chg. (%)
2004	1,372,083	77,297	183,995	257,775	1,891,150	104.8
2005	1,387,068	77,547	197,141	261,960	1,923,716	101.7
2006	1,507,598	68,714	204,838	242,469	2,023,619	105.2
2007	1,447,106	57,509	196,040	219,164	1,919,819	94.9
2008	1,426,979	51,622	185,806	205,486	1,869,893	97.4
2009	1,283,429	42,932	167,358	194,452	1,688,171	90.3
2010	1,284,665	41,630	180,505	219,620	1,726,420	102.3
2011	1,138,752	33,023	168,705	180,665	1,521,145	88.1
2012	1,557,681	27,730	198,843	195,192	1,979,446	130.1
2013	1,690,171	25,199	194,728	202,893	2,112,991	106.7

Note: "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

Source: Japan Mini Vehicles Association

## RECREATIONAL VEHICLE (RV) SALES

In vehicle units

Year	Station Wagons	Vans	Off-Road 4WD Vehicles	Minivans	Total	
						Chg. (%)
2004	669,501	7,347	170,447	1,230,788	2,078,083	96.1
2005	612,667	9,363	179,776	1,169,006	1,970,812	94.8
2006	509,936	9,406	211,135	1,126,216	1,856,693	94.2
2007	460,950	8,752	226,159	980,181	1,676,042	90.3
2008	454,164	9,396	213,209	938,694	1,615,463	96.4
2009	339,827	7,433	157,284	890,265	1,394,809	86.3
2010	365,565	8,762	195,783	946,473	1,516,583	108.7
2011	378,041	8,482	170,304	748,133	1,304,960	86.0
2012	430,995	10,165	212,341	902,715	1,556,216	119.3
2013	404,075	9,887	227,532	770,541	1,412,035	90.7

Note: "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

Source: Japan Automobile Dealers Association

In vehicle units

Buses				Total	Chg. (%)	Total Vehicle Registrations	Chg. (%)	Total Mini-Vehicles	Chg. (%)	Year
Large	Small	Subtotal	Chg. (%)							
10,256	17,572	27,828	104.2	4,100,467	106.9	2,844,554	104.9	1,255,913	111.7	1970
8,818	11,018	19,836	87.4	4,308,931	111.9	3,720,630	118.8	588,301	82.1	1975
9,414	13,973	23,387	97.5	5,015,510	97.3	4,002,172	93.1	1,013,338	118.3	1980
8,798	12,775	21,573	106.4	5,556,834	102.2	4,028,132	101.3	1,528,702	104.8	1985
9,162	15,763	24,925	105.9	7,777,493	107.2	5,975,089	107.4	1,802,404	106.3	1990
6,475	10,828	17,303	97.0	6,865,034	105.2	5,149,414	104.8	1,715,620	106.2	1995
4,333	12,238	16,571	114.5	5,963,042	101.7	4,095,117	102.7	1,867,925	99.7	2000
5,098	13,049	18,147	85.6	5,853,382	100.4	3,962,232	98.4	1,891,150	105.0	2004
5,856	11,898	17,754	97.8	5,852,067	100.0	3,928,351	99.1	1,923,716	101.7	2005
6,064	11,536	17,600	99.1	5,739,506	98.1	3,715,887	94.6	2,023,619	105.2	2006
5,153	10,464	15,617	88.7	5,353,648	93.3	3,433,829	92.4	1,919,819	94.9	2007
5,357	9,976	15,333	98.2	5,082,235	94.9	3,212,342	93.5	1,869,893	97.4	2008
4,234	8,338	12,572	82.0	4,609,256	90.7	2,921,085	90.9	1,688,171	90.3	2009
4,777	7,998	12,775	101.6	4,956,136	107.5	3,229,716	110.6	1,726,420	102.3	2010
3,136	7,515	10,651	83.4	4,210,219	84.9	2,689,074	83.3	1,521,145	88.1	2011
4,266	7,672	11,938	112.1	5,369,720	127.5	3,390,274	126.1	1,979,446	130.1	2012
4,181	7,075	11,256	94.3	5,375,513	100.1	3,262,522	96.2	2,112,991	106.7	2013

includes imported cars. 4. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

Sources: Japan Automobile Dealers Association; Japan Mini Vehicles Association

## Sales of Imported Vehicles Rise for Fourth Consecutive Year

Imported vehicle sales in Japan in 2013 totalled 346,000 units, up 9.5% from the previous year. While passenger car sales climbed 10.2% to 331,000 units, commercial vehicles (trucks and buses) dipped 3.6% to under 15,000 units. Sales of used imported vehicles finished at 508,000 units, unchanged from the previous year, with passenger cars holding at 488,000 units, and trucks growing 5.4% to 15,000 units.

### TRENDS IN IMPORTED MOTOR VEHICLE SALES

In vehicle units

Year		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Vehicles produced by non-Japanese manufacturers</b>	Passenger Cars	240,209	245,610	243,892	230,078	192,317	159,143	180,255	203,807	239,546	278,846
	Commercial Vehicles	3,682	3,383	2,712	1,515	1,585	1,761	1,827	2,057	2,017	1,694
<b>Total</b>		243,891	248,993	246,604	231,593	193,902	160,904	182,082	205,857	241,563	280,540
<b>Vehicles produced by Japanese manufacturers abroad</b>	Passenger Cars	28,989	19,119	15,670	32,918	13,961	8,746	33,028	56,907	61,048	52,440
	Commercial Vehicles	0	0	0	575	11,368	8,877	9,973	12,880	13,382	13,153
<b>Total</b>		28,989	19,119	15,670	33,493	25,329	17,623	43,001	69,787	74,430	65,593
<b>Passenger Cars Total</b>		269,198	264,729	259,562	262,996	206,278	167,889	213,283	260,707	300,594	331,286
<b>Commercial Vehicles Total</b>		3,682	3,383	2,712	2,090	12,953	10,638	11,800	14,937	15,399	14,847
<b>Grand Totals</b>		272,880	268,112	262,274	265,086	219,231	178,527	225,083	275,644	315,993	346,133
<b>Chg. (%)</b>		97.9	98.3	97.8	101.1	82.7	81.4	126.1	122.5	114.6	109.5

Note: "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

Source: Japan Automobile Importers Association

### IMPORTED MOTOR VEHICLES (ON CUSTOMS CLEARANCE BASIS)

In vehicle units

Year	Passenger Cars	Chg. (%)	Commercial Vehicles	Other	Total Motor Vehicles	Chg. (%)	Motorcycles
1980	46,285	71.4	547	1,085	47,917	72.2	17,015
1985	52,225	118.3	380	546	53,151	118.4	7,087
1990	251,169	128.6	911	761	252,841	128.6	28,696
1995	401,836	136.0	2,469	390	404,695	130.3	43,936
2000	283,582	109.2	1,470	376	285,428	109.3	74,906
2004	286,798	101.9	1,715	748	289,261	102.0	485,572
2005	282,654	98.6	1,420	660	284,734	98.4	444,635
2006	278,726	98.6	1,615	654	280,995	98.7	458,966
2007	291,387	104.5	1,662	708	293,757	104.5	458,722
2008	228,255	78.3	14,288	796	243,339	82.8	413,817
2009	145,687	63.8	9,088	593	155,368	63.8	367,727
2010	230,791	158.4	11,922	780	243,493	156.7	353,260
2011	273,798	118.6	14,185	816	288,799	118.6	386,949
2012	333,380	121.8	15,107	948	349,435	121.0	421,991
2013	343,730	103.1	16,255	1,348	361,333	103.4	438,737

Notes: 1. "Other" denotes special-purpose vehicles and engine-mounted chassis. 2. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

Source: Trade Statistics of Japan, Ministry of Finance

### USED IMPORTED VEHICLE SALES

In vehicle units

Year	Passenger Cars	Chg. (%)	Trucks	Chg. (%)	Special-Purpose Vehicles	Chg. (%)	Other	Total	Chg. (%)
2004	576,809	103.8	7,961	129.5	31,856	83.8	281	616,907	102.8
2005	588,397	102.0	9,468	118.9	27,269	85.6	228	625,362	101.4
2006	586,398	99.7	11,121	117.5	22,640	83.0	303	620,462	99.2
2007	543,211	92.6	12,518	112.6	17,574	77.6	204	573,507	92.4
2008	504,710	92.9	12,441	99.4	13,292	75.6	355	530,798	92.6
2009	470,986	93.3	12,547	100.9	10,083	75.9	165	493,781	93.0
2010	461,050	97.9	13,381	106.6	7,878	78.1	182	482,491	97.7
2011	462,435	100.3	14,370	107.4	6,756	85.8	164	483,725	100.3
2012	487,675	105.5	14,636	101.9	5,469	81.0	248	508,028	105.0
2013	487,750	100.0	15,428	105.4	4,724	86.4	220	508,122	100.0

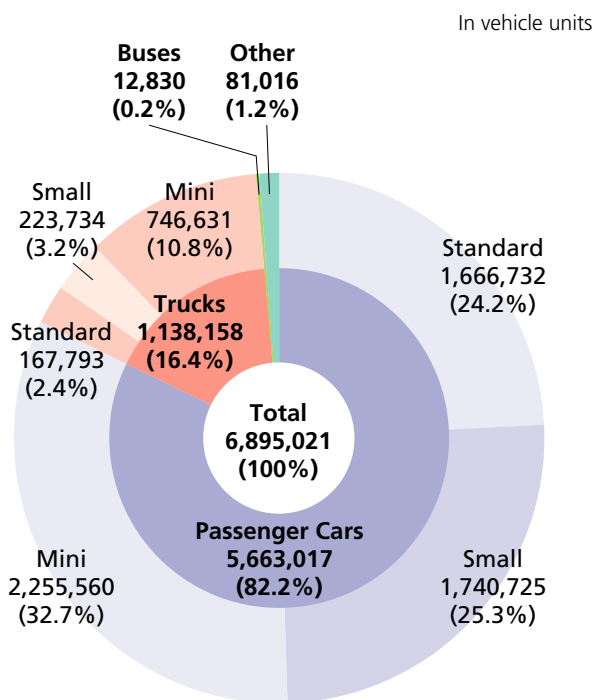
Notes: 1. For motor vehicle classifications in Japan, see page 66. 2. "Other" includes buses, large special-purpose vehicles and small-sized three-wheeled trucks. 3. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

Source: Japan Automobile Importers Association

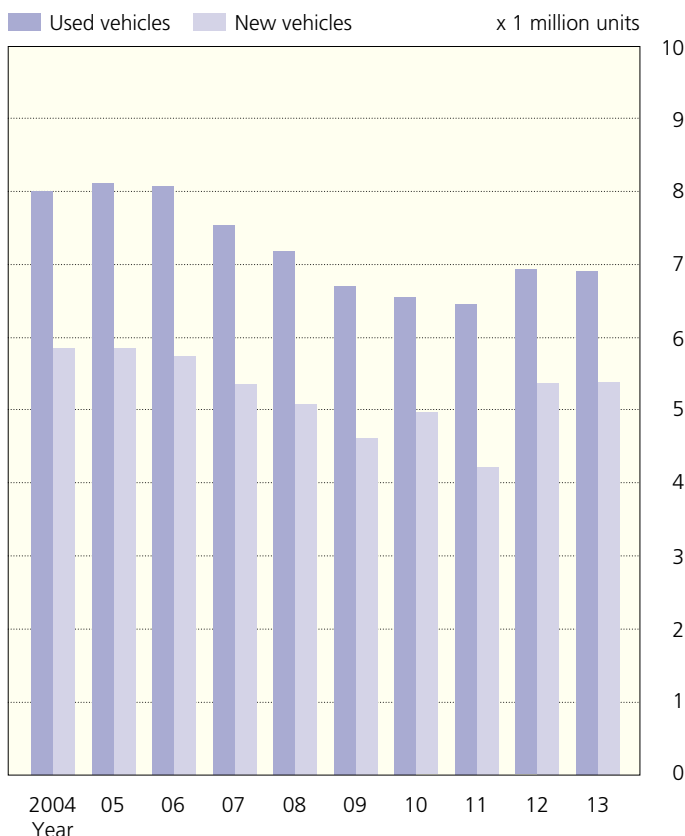
## Growth in Sales of Used Mini Passenger Cars

In 2013 sales of used motor vehicles slipped 0.3% from the previous year to total 6.90 million units, marking the first decrease in two years. Used passenger car sales climbed 0.3% to 5.66 million units, with minicars growing 5.7% to 2.26 million units, but standard passenger cars and small cars dropping 1.3% to 1.67 million units and 4.7% to 1.74 million units, respectively. Sales of used trucks dipped 3.0% to 1.14 million units and sales of used buses shrank 13.3% to 13,000 units.

### USED VEHICLE SALES BY TYPE IN 2013



### TRENDS IN NEW AND USED MOTOR VEHICLE SALES



### USED MOTOR VEHICLE SALES

Year	Passenger Cars					Trucks					Buses		Other		Total	Chg. (%)
	Standard	Small	Mini	Subtotal	Chg. (%)	Standard	Small	Mini	Subtotal	Chg. (%)	Chg. (%)	Chg. (%)				
1985	160,150	3,295,092	356,726	3,811,968	100.9	139,459	589,321	1,125,545	1,854,325	108.3	11,655	103.1	44,620	116.7	5,722,568	103.3
1990	304,193	3,945,086	304,782	4,554,061	106.2	185,851	555,634	1,746,495	2,487,980	102.1	13,377	98.3	54,118	107.3	7,109,536	104.7
1995	994,311	3,845,076	727,259	5,566,646	106.6	221,523	521,244	1,538,718	2,281,485	102.2	13,327	105.4	84,409	119.1	7,945,867	105.4
2000	1,742,786	3,050,087	1,448,546	6,241,419	104.8	201,714	412,511	1,169,626	1,783,851	99.1	15,173	102.7	173,475	105.2	8,213,918	103.5
2004	1,984,562	2,524,764	1,777,866	6,287,192	98.9	225,715	363,523	972,000	1,561,238	93.9	17,240	99.1	136,242	87.9	8,001,912	97.6
2005	2,002,563	2,460,410	1,890,154	6,353,127	101.0	240,060	368,778	980,714	1,589,552	101.8	18,871	109.5	144,910	106.4	8,106,460	101.3
2006	1,959,739	2,304,226	2,033,569	6,297,534	99.1	244,770	365,180	1,003,607	1,613,557	101.5	20,643	109.4	135,130	93.3	8,066,864	99.5
2007	1,810,596	2,105,122	2,022,866	5,938,584	94.3	220,989	302,043	935,745	1,458,777	90.4	16,418	79.5	116,317	86.1	7,530,096	93.3
2008	1,728,090	1,944,766	1,995,333	5,668,189	95.4	225,848	278,673	884,836	1,389,357	95.2	16,193	98.6	104,516	89.9	7,178,255	95.3
2009	1,619,370	1,855,071	1,864,874	5,339,315	94.2	194,180	266,395	787,957	1,248,532	89.9	15,293	94.4	95,452	91.3	6,698,592	93.3
2010	1,592,110	1,816,696	1,873,466	5,282,272	98.9	177,327	245,642	732,854	1,155,823	92.6	14,163	92.6	87,238	91.4	6,539,496	97.6
2011	1,542,614	1,733,519	1,906,523	5,182,656	98.1	168,470	233,556	769,613	1,171,639	101.4	13,849	97.8	82,007	94.0	6,450,151	98.6
2012	1,688,606	1,826,335	2,133,725	5,648,666	109.0	168,439	235,246	769,469	1,173,154	100.1	14,799	106.9	82,484	100.6	6,919,103	107.3
2013	1,666,732	1,740,725	2,255,560	5,663,017	100.3	167,793	223,734	746,631	1,138,158	97.0	12,830	86.7	81,016	98.2	6,895,021	99.7

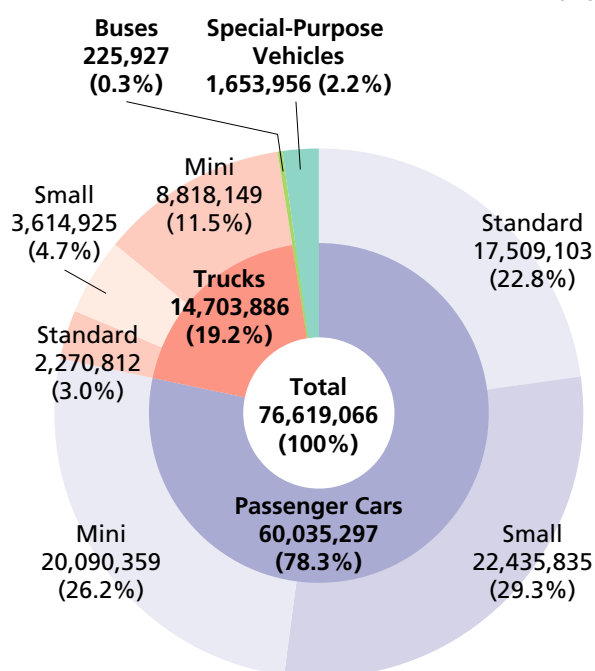
Notes: 1. Passenger cars and trucks are classified under Japan's Road Vehicles Act in three categories, based primarily on engine capacity: "standard" (over 2,000cc), "small" (661cc-2,000cc), and "mini" (660cc and under); see page 66 for details. 2. Includes imported vehicles. 3. "Other" refers to emergency vehicles, special vehicles equipped with beds, refrigerated trucks, tank trucks, tractors, bulldozers, steamrollers, snowplows, snowmobiles, etc., that are assigned special registration numbers. 4. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).  
Sources: Japan Automobile Dealers Association; Japan Mini Vehicles Association

## Slight Increase in Number of Motor Vehicles in Use

At the end of December 2013, motor vehicles in use in Japan (excluding motorcycles) totalled 76.6 million units, a 0.6% increase over the previous year. Passenger cars in use increased 1.0% to 60.0 million units, with standard and minicars growing 1.2% and 4.3% to 17.5 million and 20.1 million units respectively, but small cars dropping 1.9% to 22.4 million units. Meanwhile, trucks in use dipped 0.9% from 2012 to 14.7 million units, and buses in use slipped 0.1% to 226,000 units. At the end of March 2013, the average service life of motor vehicles in Japan was 12.58 years for passenger cars, 13.24 years for trucks, and 17.91 years for buses.

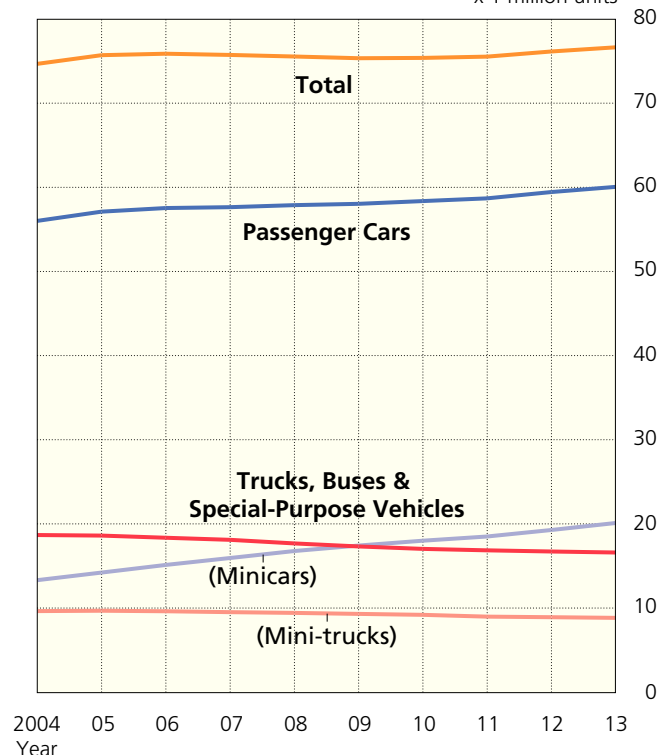
### MOTOR VEHICLES IN USE BY TYPE AT END OF 2013

In vehicle units



### TRENDS IN MOTOR VEHICLES IN USE

x 1 million units

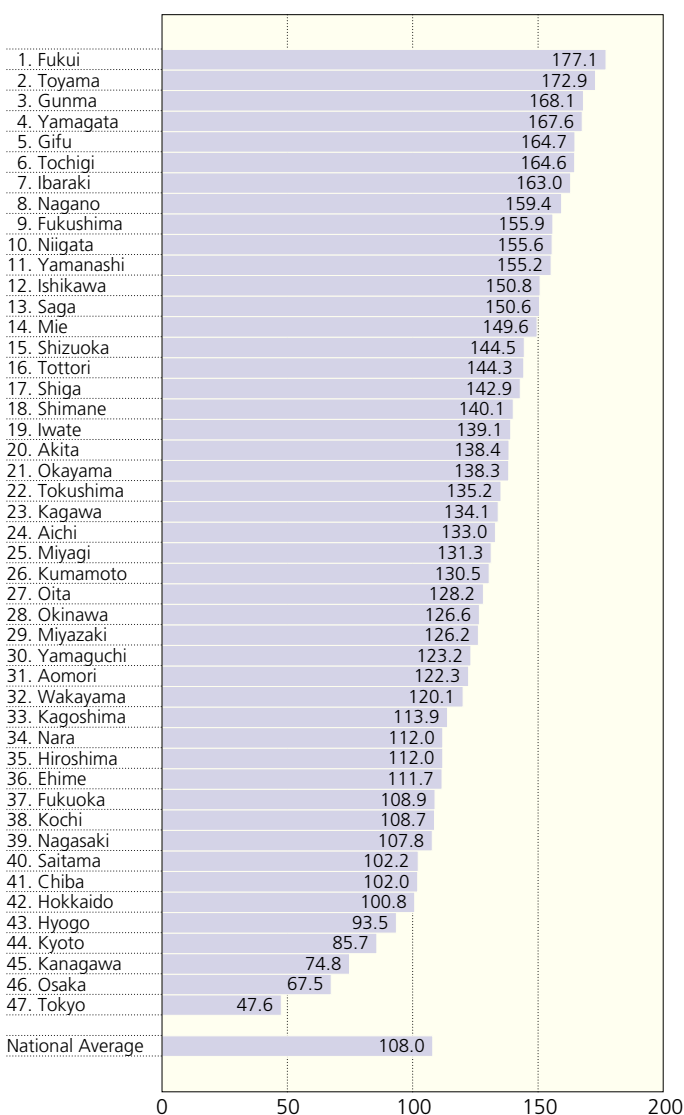


### MOTOR VEHICLES IN USE (at end of every calendar year)

Year	Passenger Cars					Trucks				
	Standard	Small	Mini	Subtotal	Chg. (%)	Standard	Small	Mini	Subtotal	Chg. (%)
1970	77,374	6,457,181	2,244,417	8,778,972	126.6	798,256	4,478,486	3,005,017	8,281,759	107.1
1975	207,511	14,417,680	2,611,130	17,236,321	108.7	1,158,465	6,100,206	2,785,182	10,043,853	98.9
1980	472,314	21,011,096	2,176,110	23,659,520	104.4	1,494,464	7,155,221	4,527,794	13,177,479	104.8
1985	711,914	25,116,179	2,016,487	27,844,580	102.6	1,668,852	6,679,665	8,791,289	17,139,806	105.5
1990	1,784,594	30,554,652	2,584,926	34,924,172	107.1	2,176,488	6,609,536	12,535,415	21,321,439	101.1
1995	7,874,189	31,030,462	5,775,386	44,680,037	104.7	2,574,433	6,213,405	11,642,311	20,430,149	98.9
2000	13,942,626	28,593,491	9,901,258	52,437,375	102.5	2,596,421	5,474,660	10,154,427	18,225,508	97.8
2004	16,295,520	26,401,167	13,297,363	55,994,050	101.4	2,464,873	4,694,922	9,621,053	16,780,848	98.2
2005	16,634,529	26,254,546	14,201,714	57,090,789	102.0	2,474,378	4,594,363	9,665,130	16,733,871	99.7
2006	16,714,523	25,698,303	15,108,217	57,521,043	100.8	2,465,823	4,431,103	9,602,484	16,499,410	98.6
2007	16,771,502	24,921,226	15,931,025	57,623,753	100.2	2,455,268	4,323,579	9,495,420	16,274,267	98.6
2008	16,748,373	24,356,113	16,760,486	57,864,972	100.4	2,386,255	4,102,553	9,407,694	15,896,502	97.7
2009	16,688,645	23,919,019	17,412,189	58,019,853	100.3	2,319,612	3,952,534	9,288,679	15,560,825	97.9
2010	16,890,402	23,470,003	17,986,982	58,347,387	100.6	2,281,711	3,825,632	9,177,282	15,284,625	98.2
2011	17,039,684	23,143,892	18,486,738	58,670,314	100.6	2,266,420	3,740,361	8,963,641	14,970,422	97.9
2012	17,294,021	22,868,749	19,258,239	59,421,009	101.3	2,266,836	3,672,649	8,895,635	14,835,120	99.1
2013	17,509,103	22,435,835	20,090,359	60,035,297	101.0	2,270,812	3,614,925	8,818,149	14,703,886	99.1

Notes: 1. "Special-purpose vehicles" refers to emergency vehicles, special vehicles equipped with beds, refrigerated trucks, tank trucks, tractors, bulldozers, steamrollers, snowplows, 100). 3. "Three-wheeled vehicles" includes three-wheeled passenger cars, trucks, and special-purpose vehicles.

● PRIVATE PASSENGER CARS IN USE PER 100 HOUSEHOLDS BY PREFECTURE (at March 31, 2013)



Source: Automobile Inspection & Registration Information Association

● PASSENGER CARS IN USE BY YEAR OF FIRST REGISTRATION

At March 31, 2013

Year of First Registration	Vehicles in Use	% of Total Vehicles in Use
April 2012-March 2013	2,852,325	7.13
April 2011-March 2012	2,700,809	6.75
April 2010-March 2011	2,599,759	6.50
April 2009-March 2010	2,757,357	6.89
April 2008-March 2009	2,329,711	5.82
April 2007-March 2008	2,624,404	6.56
April 2006-March 2007	2,669,682	6.67
April 2005-March 2006	2,839,793	7.10
April 2004-March 2005	2,797,473	6.99
April 2003-March 2004	2,568,232	6.42
April 2002-March 2003	2,500,240	6.25
April 2001-March 2002	2,029,742	5.07
April 2000-March 2001	1,899,781	4.75
April 1999-March 2000	1,411,057	3.53
-March 1999	5,428,985	13.57
Total Vehicles in Use	40,009,350	100.00

● AVERAGE AGE BY TYPE

In years

Year	Passenger Cars	Trucks	Buses
2004	6.58	8.17	9.33
2005	6.77	8.36	9.53
2006	6.90	8.50	9.61
2007	7.09	8.68	9.80
2008	7.23	8.98	10.02
2009	7.48	9.16	10.26
2010	7.56	9.62	10.50
2011	7.74	10.04	10.78
2012	7.95	10.43	11.12
2013	8.07	10.73	11.38

● AVERAGE SERVICE LIFE BY TYPE

In years

Year	Passenger Cars	Trucks	Buses
2004	10.97	11.84	14.48
2005	10.93	11.72	15.34
2006	11.10	11.47	15.02
2007	11.66	11.92	14.83
2008	11.67	11.72	15.62
2009	11.68	13.50	15.00
2010	12.70	12.72	16.59
2011	12.43	13.04	17.37
2012	12.16	12.81	16.82
2013	12.58	13.24	17.91

Notes: 1. "Average age" means the average number of years elapsed since first registration. 2. "Average service life" means average vehicle lifespan. 3. "Average age" and "average service life" figures are as at the end of every fiscal year. 4. The above three tables exclude mini-vehicles.

Source: Automobile Inspection & Registration Information Association

In vehicle units

Buses				Special-Purpose Vehicles		Total	Chg. (%)	Trailers	Three-Wheeled Vehicles	Year
Large	Small	Subtotal	Chg. (%)		Chg. (%)					
104,895	83,085	187,980	110.5	333,132	110.5	17,581,843	116.2	23,079	243,934	1970
102,186	124,098	226,284	101.7	584,100	101.7	28,090,558	104.9	39,808	47,998	1975
106,633	123,387	230,020	100.4	789,155	100.4	37,856,174	104.5	56,804	17,724	1980
108,967	122,261	231,228	100.5	941,647	100.5	46,157,261	103.7	65,485	6,123	1985
114,819	130,849	245,668	101.6	1,206,390	101.6	57,697,669	104.7	87,359	4,056	1990
114,478	128,617	243,095	99.1	1,500,219	99.1	66,853,500	102.8	120,171	3,621	1995
110,046	125,437	235,483	99.9	1,750,733	99.9	72,649,099	101.3	133,676	3,827	2000
109,703	121,231	230,934	99.6	1,649,686	99.6	74,655,518	100.6	142,032	3,471	2004
109,917	121,816	231,733	100.3	1,630,062	98.8	75,686,455	101.4	147,626	3,280	2005
109,763	121,918	231,681	100.0	1,606,934	98.6	75,859,068	100.2	151,441	3,238	2006
109,621	121,307	230,928	99.7	1,585,873	98.7	75,714,821	99.8	154,798	3,201	2007
109,808	120,873	230,681	99.9	1,536,160	96.9	75,528,315	99.8	157,951	3,119	2008
108,760	119,637	228,397	99.0	1,515,411	98.6	75,324,486	99.7	152,381	3,127	2009
108,136	119,135	227,271	99.5	1,502,593	99.2	75,361,876	100.0	152,834	3,120	2010
107,435	118,513	225,948	99.4	1,646,203	109.6	75,512,887	100.2	154,100	3,089	2011
107,528	118,551	226,079	100.1	1,643,325	99.8	76,125,533	100.8	155,835	14,816	2012
107,723	118,204	225,927	99.9	1,653,956	100.6	76,619,066	100.6	157,212	15,478	2013

snowmobiles, etc., that are identified as special-purpose vehicles by special registration numbers. 2. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100). Source: Ministry of Land, Infrastructure, Transport and Tourism

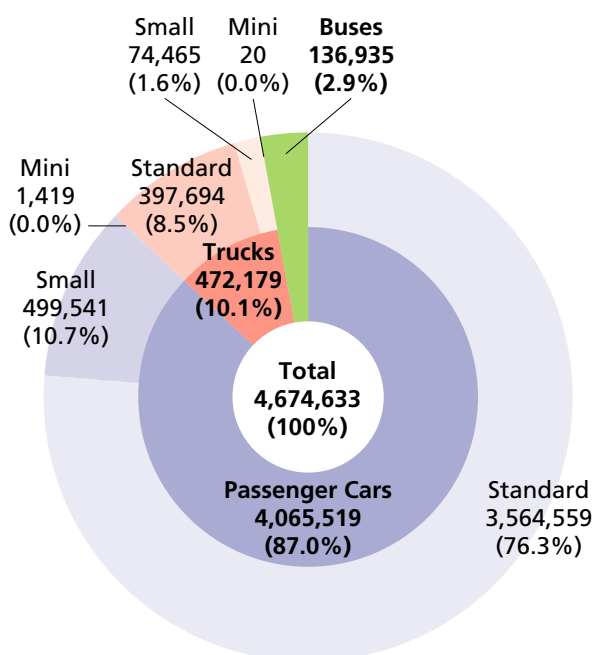


# Motor Vehicle Exports Show First Decrease in 2 Years

Exports of motor vehicles in 2013 declined 2.7% from the previous year to 4.68 million units. Although bus exports grew 6.8% to 137,000 units, passenger car exports dropped 3.2% to 4.07 million units and truck exports slipped 1.0% to 472,000 units. With the value of automobile exports decreasing 5.9% to US\$ 108.0 billion and the value of auto parts exports shrinking 2.8% to US\$ 42.1 billion, the total value of automotive exports thus fell 5.0% from 2012 to US\$ 150.1 billion.

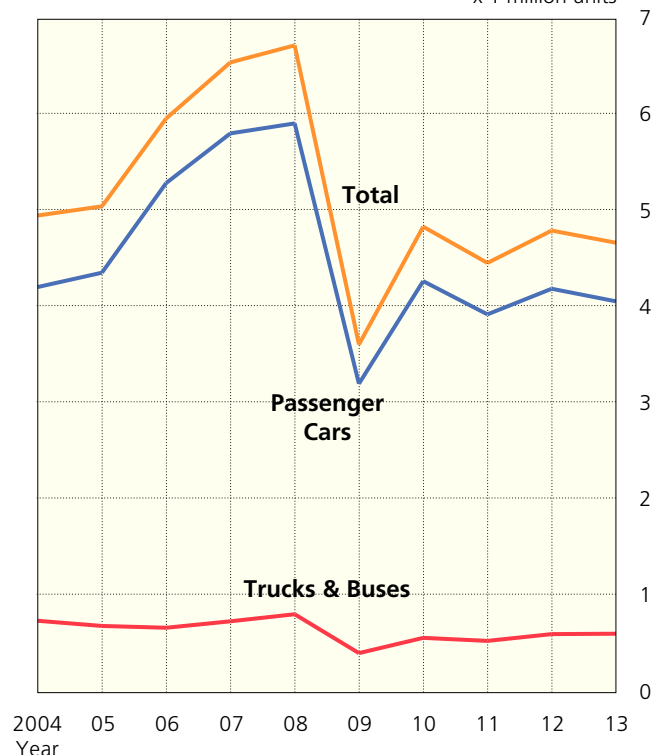
## MOTOR VEHICLE EXPORTS BY TYPE IN 2013

In vehicle units



## TRENDS IN MOTOR VEHICLE EXPORTS

x 1 million units



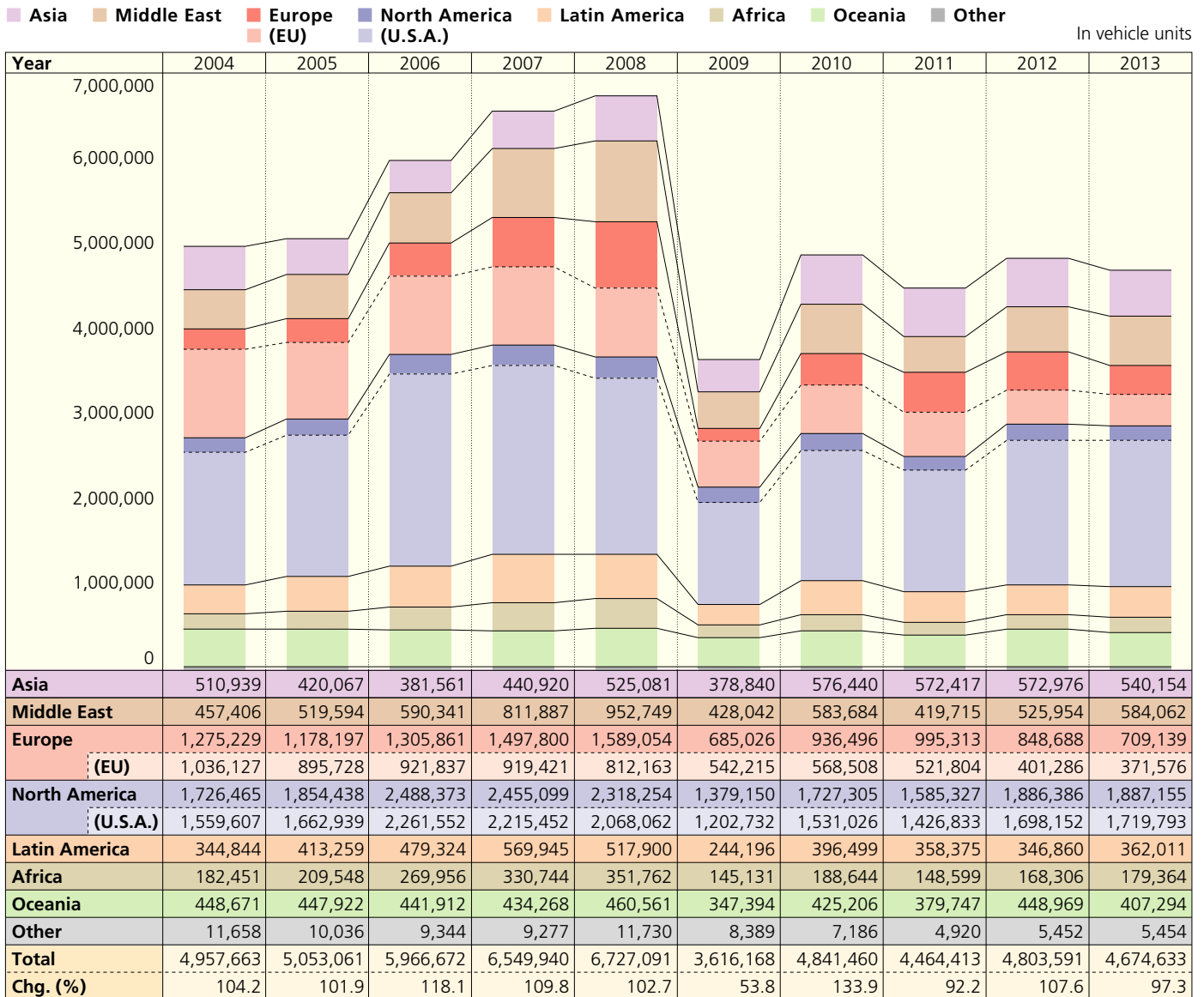
## MOTOR VEHICLE EXPORTS

Year	Passenger Cars					Trucks		
	Standard	Small	Mini	Subtotal	Chg. (%)	Standard	Small	Mini
1970	715,450		10,136	725,586	129.5	65,170	272,549	13,892
1975	1,821,835		5,451	1,827,286	105.8	168,370	643,232	22,071
1980	345,413	3,580,623	21,124	3,947,160	127.2	332,257	1,548,251	73,177
1985	493,047	3,932,414	1,301	4,426,762	111.2	1,196,973	1,029,757	11,374
1990	1,343,967	3,138,147	16	4,482,130	101.8	944,737	364,376	8
1995	1,156,122	1,732,050	8,044	2,896,216	86.2	612,654	236,929	276
2000	2,333,263	1,462,069	520	3,795,852	101.0	530,823	86,329	718
2004	2,995,259	1,217,013	1,755	4,214,027	103.3	591,233	96,453	109
2005	3,164,603	1,198,273	292	4,363,168	103.5	521,848	89,946	162
2006	3,845,081	1,449,608	808	5,295,497	121.4	488,632	89,201	141
2007	4,450,934	1,359,414	1,611	5,811,959	109.8	527,010	89,128	312
2008	4,379,569	1,534,975	885	5,915,429	101.8	567,596	90,581	41
2009	2,403,359	804,980	300	3,208,639	54.2	267,060	48,447	0
2010	3,453,951	818,660	2,755	4,275,366	133.2	397,404	52,908	0
2011	3,176,195	743,509	10,200	3,929,904	91.9	369,973	53,786	8
2012	3,550,010	641,749	6,735	4,198,494	106.8	410,251	66,652	16
2013	3,564,559	499,541	1,419	4,065,519	96.8	397,694	74,465	20

Notes: 1. Figures represent ex-factory export shipments of motor vehicles manufactured in Japan, which are classified in the above categories as per Japanese law, including the Road Vehicles Act. 2. Vehicle components per vehicle and have been treated as components since 1988. 4. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).



## MOTOR VEHICLE EXPORT TRENDS (BY REGION OF DESTINATION)



Note: "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

In vehicle units

		Buses						Year
Subtotal	Chg. (%)	Large	Small	Subtotal	Chg. (%)	Total	Chg. (%)	Year
351,611	120.9	4,520	5,059	9,579	141.6	1,086,776	126.7	1970
833,673	95.3	6,406	10,247	16,653	104.3	2,677,612	102.3	1975
1,953,685	137.2	7,616	58,500	66,116	179.4	5,966,961	130.8	1980
2,238,104	108.0	6,249	59,357	65,606	116.7	6,730,472	110.2	1985
1,309,121	90.6	6,066	33,895	39,961	113.7	5,831,212	99.1	1990
849,859	82.8	8,028	36,706	44,734	60.8	3,790,809	85.0	1995
617,870	100.8	7,131	34,032	41,163	107.3	4,454,885	101.0	2000
687,795	109.1	11,692	44,149	55,841	122.5	4,957,663	104.2	2004
611,956	89.0	9,957	67,980	77,937	139.6	5,053,061	101.9	2005
577,974	94.4	11,567	81,634	93,201	119.6	5,966,672	118.1	2006
616,450	106.7	13,887	107,644	121,531	130.4	6,549,940	109.8	2007
658,218	106.8	17,574	135,870	153,444	126.3	6,727,091	102.7	2008
315,507	47.9	11,106	80,916	92,022	60.0	3,616,168	53.8	2009
450,312	142.7	13,969	101,813	115,782	125.8	4,841,460	133.9	2010
423,767	94.1	14,495	96,247	110,742	95.6	4,464,413	92.2	2011
476,919	112.5	19,026	109,152	128,178	115.7	4,803,591	107.6	2012
472,179	99.0	19,712	117,223	136,935	106.8	4,674,633	97.3	2013

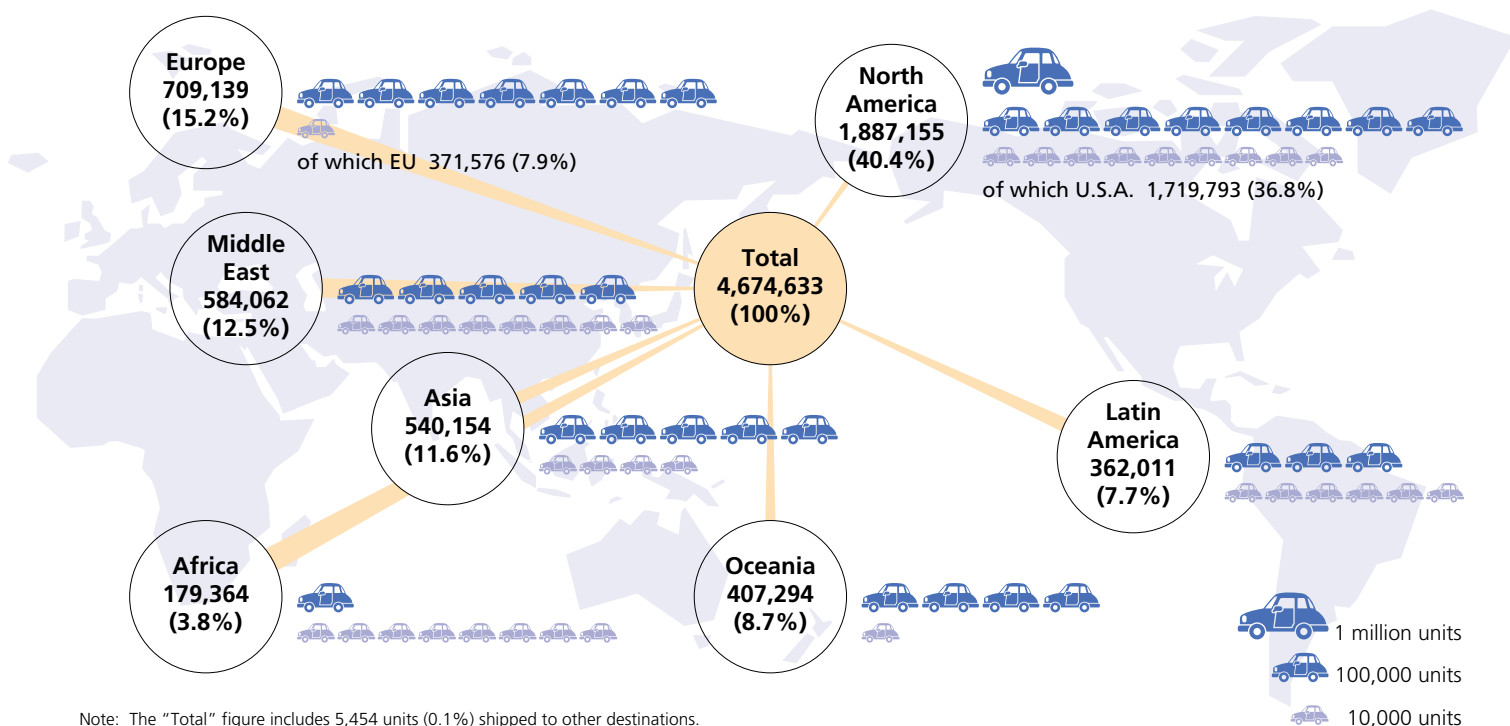
type classification in this table differs somewhat from that used in Ministry of Finance export data. 3. KD sets have been excluded since 1979; they represent less than 60% of the cost of compositional  
Source: Japan Automobile Manufacturers Association

# An Increase in Motor Vehicle Exports to the Middle East, Africa, and Latin America

Compared to the previous year, motor vehicle exports in 2013 climbed 11.0% to the Middle East, 6.6% to Africa, and 4.4% to Latin America, but declined 16.4% to Europe, 9.3% to Oceania, and 5.7% to Asia. Motor vehicle exports to North America remained unchanged from the previous year's level.

## MOTOR VEHICLE EXPORTS BY DESTINATION IN 2013

In vehicle units



## MOTOR VEHICLE EXPORT TRENDS (BY REGION OF DESTINATION)

In %

Region	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Asia	10.3	8.3	6.4	6.7	7.8	10.5	11.9	12.8	11.9	11.6
Middle East	9.2	10.3	9.9	12.4	14.2	11.8	12.1	9.4	11.0	12.5
Europe										
(EU)	25.7 (20.9)	23.3 (17.7)	21.9 (15.4)	22.9 (14.0)	23.6 (12.1)	19.0 (15.0)	19.3 (11.7)	22.3 (11.7)	17.7 (8.4)	15.2 (7.9)
North America										
(U.S.A.)	34.8 (31.5)	36.7 (32.9)	41.7 (37.9)	37.5 (33.8)	34.5 (30.7)	38.1 (33.3)	35.7 (31.6)	35.5 (32.0)	39.3 (35.4)	40.4 (36.8)
Latin America	7.0	8.2	8.0	8.7	7.7	6.8	8.2	8.0	7.2	7.7
Africa	3.7	4.1	4.5	5.1	5.2	4.0	3.9	3.4	3.5	3.8
Oceania	9.1	8.9	7.4	6.6	6.8	9.6	8.8	8.5	9.3	8.7
Other	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1

# MOTOR VEHICLE EXPORTS BY DESTINATION IN 2013

In vehicle units

Destination		Passenger Cars				Trucks				Buses			Total	
		Standard	Small	Mini	Subtotal	Standard	Small	Mini	Subtotal	Large	Small	Subtotal		
Asia	South Korea	7,584	417	0	8,001	15	0	0	15	0	0	0	8,016	
	China	178,074	3,779	0	181,853	650	0	0	650	0	1,108	1,108	183,611	
	Taiwan	45,643	4,787	0	50,430	6,072	36	0	6,108	1,023	270	1,293	57,831	
	Hong Kong	12,678	6,669	138	19,485	6,161	308	20	6,489	30	643	673	26,647	
	Thailand	4,927	0	5	4,932	47,782	48	0	47,830	144	18,277	18,421	71,183	
	Singapore	2,871	139	0	3,010	3,194	854	0	4,048	0	306	306	7,364	
	Malaysia	23,885	9,451	14	33,350	14,878	2,460	0	17,338	498	4,588	5,086	55,774	
	Philippines	10,630	965	0	11,595	3,724	952	0	4,676	207	10,277	10,484	26,755	
	Indonesia	19,038	4,874	0	23,912	42,860	0	0	42,860	1,584	673	2,257	69,029	
	Pakistan	78	5,058	0	5,136	1,983	84	0	2,067	393	466	859	8,062	
	Other	11,068	2,787	4	13,859	5,570	4,062	0	9,632	251	2,140	2,391	25,882	
Subtotal		316,476	38,926	161	355,563	132,889	8,804	20	141,713	4,130	38,748	42,878	540,154	
Middle East	Bahrain	16,127	745	0	16,872	1,075	540	0	1,615	257	926	1,183	19,670	
	Saudi Arabia	72,340	33,825	0	106,165	31,990	2,323	0	34,313	1,554	6,472	8,026	148,504	
	Kuwait	36,830	4,315	0	41,145	2,061	1,268	0	3,329	1,559	1,071	2,630	47,104	
	Oman	51,156	1,780	0	52,936	21,531	1,715	0	23,246	918	7,884	8,802	84,984	
	Israel	23,570	10,410	0	33,980	1,346	0	0	1,346	0	0	0	35,326	
	United Arab Emirates	91,151	10,782	0	101,933	19,355	14,008	0	33,363	2,879	7,636	10,515	145,811	
	Qatar	22,985	1,332	0	24,317	2,509	1,289	0	3,798	740	2,594	3,334	31,449	
	Other	43,006	11,909	0	54,915	12,256	1,554	0	13,810	463	2,026	2,489	71,214	
Subtotal		357,165	75,098	0	432,263	92,123	22,697	0	114,820	8,370	28,609	36,979	584,062	
Europe	Sweden	17,029	581	6	17,616	3	0	0	3	0	0	0	17,619	
	Denmark	3,430	870	3	4,303	0	0	0	0	0	0	0	4,303	
	UK	59,558	10,819	0	70,377	208	0	0	208	0	0	0	70,585	
	Netherlands	23,141	1,135	50	24,326	0	0	0	0	0	0	0	24,326	
	Belgium	9,632	3,617	0	13,249	0	0	0	0	0	0	0	13,249	
	France	45,958	4,160	939	51,057	0	0	0	0	0	0	0	51,057	
	Germany	72,736	11,952	0	84,688	0	0	0	0	0	0	0	84,688	
	Spain	19,512	961	0	20,473	0	0	0	0	0	0	0	20,473	
	Italy	19,727	4,054	0	23,781	2,077	0	0	2,077	0	0	0	25,858	
	Finland	5,585	420	0	6,005	0	0	0	0	0	0	0	6,005	
	Poland	11,028	307	0	11,335	1	0	0	1	0	0	0	11,336	
	Austria	16,064	2,756	0	18,820	49	0	0	49	0	27	27	18,896	
	Greece	297	278	0	575	0	0	0	0	0	0	0	575	
	Other	19,601	671	0	20,272	2,334	0	0	2,334	0	0	0	22,606	
	Subtotal		323,298	42,581	998	366,877	4,672	0	0	4,672	0	27	27	371,576
	Norway	18,657	865	218	19,740	370	0	0	370	0	0	0	20,110	
	Switzerland	16,325	3,489	0	19,814	211	0	0	211	0	0	0	20,025	
Russia	246,634	10,215	0	256,849	4,124	1,728	0	5,852	1	503	504	263,205		
Turkey	3,550	3,784	0	7,334	4,920	303	0	5,223	0	0	0	12,557		
Ukraine	18,863	929	0	19,792	420	0	0	420	0	11	11	20,223		
Other	1,285	158	0	1,443	0	0	0	0	0	0	0	1,443		
Subtotal		628,612	62,021	1,216	691,849	14,717	2,031	0	16,748	1	541	542	709,139	
North America	Canada	155,335	10,432	40	165,807	1,555	0	0	1,555	0	0	0	167,362	
	U.S.A.	1,544,245	152,915	0	1,697,160	20,746	1,887	0	22,633	0	0	0	1,719,793	
Subtotal		1,699,580	163,347	40	1,862,967	22,301	1,887	0	24,188	0	0	0	1,887,155	
Latin America	Mexico	53,665	13,408	0	67,073	12,042	262	0	12,304	4	4,815	4,819	84,196	
	Puerto Rico	11,897	8,247	0	20,144	0	0	0	0	0	0	0	20,144	
	Colombia	12,806	5,221	0	18,027	11,457	275	0	11,732	740	0	740	30,499	
	Ecuador	11,246	1,397	0	12,643	3,449	213	0	3,662	892	48	940	17,245	
	Peru	12,540	12,991	0	25,531	3,824	1,449	0	5,273	61	3,177	3,238	34,042	
	Chile	34,723	13,997	0	48,720	3,261	501	0	3,762	0	415	415	52,897	
	Brazil	39,480	1	0	39,481	0	0	0	0	0	0	0	39,481	
	Other	40,995	20,064	0	61,059	10,320	6,071	0	16,391	1,527	4,530	6,057	83,507	
Subtotal		217,352	75,326	0	292,678	44,353	8,771	0	53,124	3,224	12,985	16,209	362,011	
Africa	Algeria	2,045	3,288	0	5,333	7,836	529	0	8,365	1,951	910	2,861	16,559	
	Egypt	2,539	12,179	0	14,718	13,284	23,316	0	36,600	629	3,150	3,779	55,097	
	Nigeria	1,407	275	0	1,682	386	253	0	639	791	5,723	6,514	8,835	
	Kenya	938	25	0	963	6,418	398	0	6,816	13	145	158	7,937	
	South Africa	21,652	6,486	0	28,138	15,956	1,176	0	17,132	0	13,260	13,260	58,530	
	Other	11,471	5,087	2	16,560	8,560	2,046	0	10,606	513	4,727	5,240	32,406	
Subtotal		40,052	27,340	2	67,394	52,440	27,718	0	80,158	3,897	27,915	31,812	179,364	
Oceania	Australia	277,750	48,194	0	325,944	28,387	2,160	0	30,547	10	2,669	2,679	359,170	
	New Zealand	22,854	8,282	0	31,136	5,248	261	0	5,509	0	351	351	36,996	
	Other	2,951	973	0	3,924	3,458	136	0	3,594	61	3,549	3,610	11,128	
Subtotal		303,555	57,449	0	361,004	37,093	2,557	0	39,650	71	6,569	6,640	407,294	
Other		1,767	34	0	1,801	1,778	0	0	1,778	19	1,856	1,875	5,454	
<b>Grand Totals</b>		<b>3,564,559</b>	<b>499,541</b>	<b>1,419</b>	<b>4,065,519</b>	<b>397,694</b>	<b>74,465</b>	<b>20</b>	<b>472,179</b>	<b>19,712</b>	<b>117,223</b>	<b>136,935</b>	<b>4,674,633</b>	

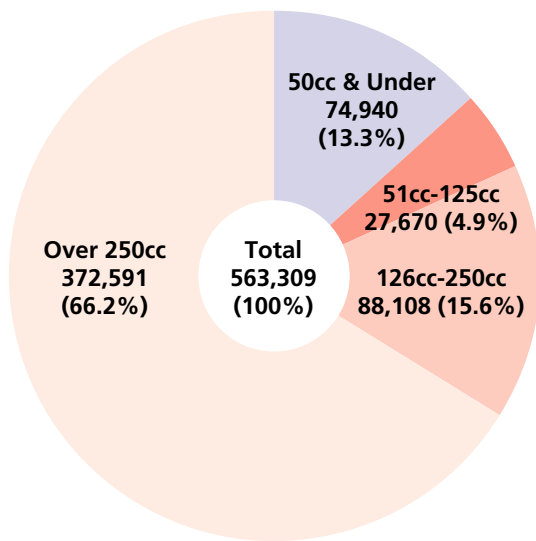
Source: Japan Automobile Manufacturers Association

# Motorcycle Production Declines for Third Consecutive Year

Overall domestic motorcycle production in 2013 decreased 5.4% from the previous year to 563,000 units. Class 1 motor-driven cycles (50cc and under) fell 17.5% to 75,000 units, Class 2 motor-driven cycles (51cc to 125cc) plunged 30.1% to 28,000 units, mini-sized motorcycles (126cc to 250cc) dipped 4.2% to 88,000 units, and small-sized motorcycles (over 250cc) slipped 0.1% to 373,000 units. The combined total for larger motorcycles (all those over 50cc) dropped 3.2% from 2012 to 488,000 units.

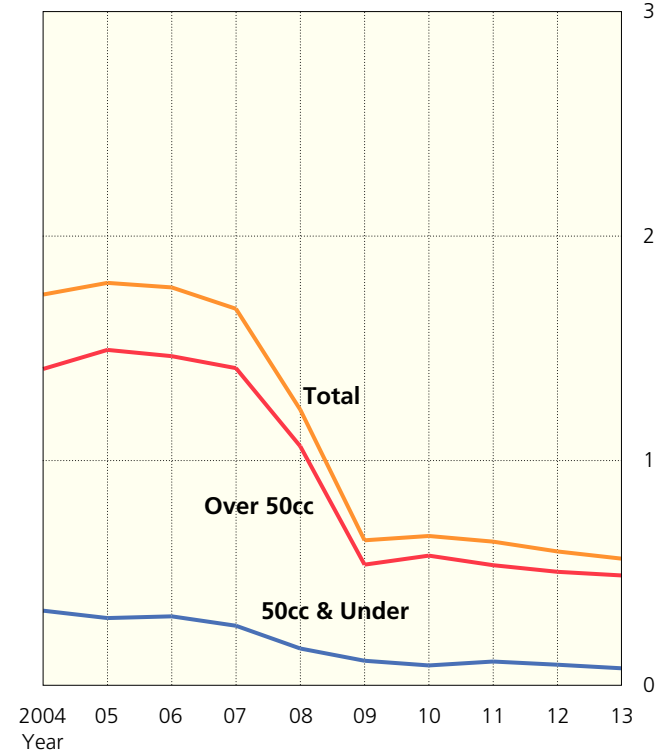
## MOTORCYCLE PRODUCTION BY ENGINE CAPACITY IN 2013

In vehicle units



## TRENDS IN MOTORCYCLE PRODUCTION

x 1 million units



## MOTORCYCLE PRODUCTION

In vehicle units

Year	Motor-Driven Cycles Class 1 (50cc & Under)	Over 50cc				Subtotal	Total	Chg. (%)
		Motor-Driven Cycles Class 2 (51cc-125cc)	Mini-Sized Motorcycles (126cc-250cc)	Small-Sized Motorcycles (Over 250cc)				
1970	895,599	1,407,205	259,145	385,723	2,052,073	2,947,672	114.4	
1975	1,030,822	1,887,701	331,733	552,291	2,771,725	3,802,547	84.3	
1980	2,493,910	2,181,206	660,831	1,098,577	3,940,614	6,434,524	143.8	
1985	2,014,850	1,373,423	469,728	678,346	2,521,497	4,536,347	112.7	
1990	1,343,220	686,734	270,304	506,637	1,463,675	2,806,895	100.4	
1995	951,803	1,038,938	217,738	544,760	1,801,436	2,753,239	101.0	
2000	636,546	630,221	297,433	851,191	1,778,845	2,415,391	107.3	
2004	331,449	304,622	271,126	832,387	1,408,135	1,739,584	95.0	
2005	298,549	260,343	279,274	953,419	1,493,036	1,791,585	103.0	
2006	306,246	149,868	276,043	1,039,229	1,465,140	1,771,386	98.9	
2007	264,336	178,827	269,689	963,245	1,411,761	1,676,097	94.6	
2008	162,928	128,381	192,863	742,667	1,063,911	1,226,839	73.2	
2009	108,417	57,424	125,384	353,676	536,484	644,901	52.6	
2010	87,513	80,630	108,950	387,082	576,662	664,175	103.0	
2011	104,936	64,507	104,636	365,108	534,251	639,187	96.2	
2012	90,886	39,569	91,925	373,093	504,587	595,473	93.2	
2013	74,940	27,670	88,108	372,591	488,369	563,309	94.6	

Notes: 1. KD sets have been excluded since 1979; they represent less than 60% of the cost of compositional components per vehicle and have been treated as components since 1988. 2. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

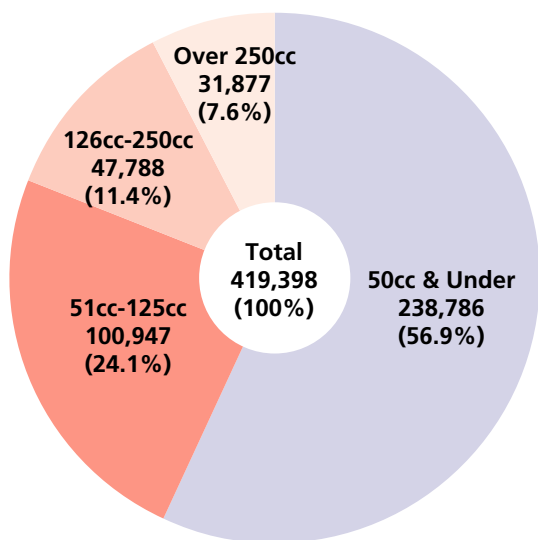
Source: Japan Automobile Manufacturers Association

# Overall Motorcycle Sales Show First Increase in 2 Years

Domestic motorcycle sales (defined here as ex-factory shipments to domestic dealers, not as new registrations) in 2013 totalled 419,000 units, up 4.4% from the previous year. By engine capacity, whereas sales of Class 1 motor-driven cycles (50cc and under) dropped 3.0% to 239,000 units, sales of Class 2 motor-driven cycles (51cc to 125cc), mini-sized motorcycles (126cc to 250cc), and small-sized motorcycles (over 250cc) grew 11.8%, 20.4%, and 23.5%, to 101,000, 48,000, and 32,000 units respectively. Overall sales of motorcycles with engine capacity over 50cc thus totalled 181,000 units, an increase of 15.9% over 2012.

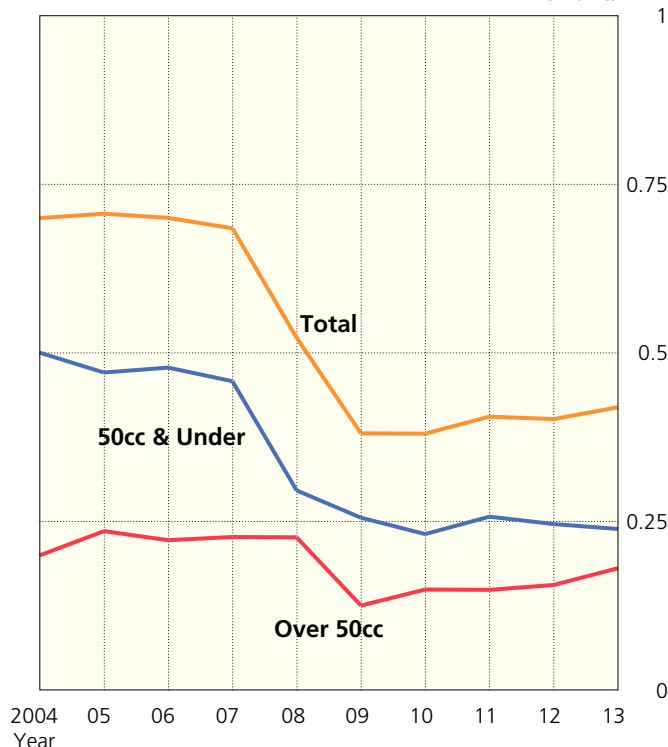
## MOTORCYCLE SALES BY ENGINE CAPACITY IN 2013

In vehicle units



## TRENDS IN MOTORCYCLE SALES

x 1 million units



## MOTORCYCLE SALES (SHIPMENTS TO DOMESTIC DEALERS)

In vehicle units

Year	Motor-Driven Cycles Class 1 (50cc & Under)	Over 50cc				Subtotal	Total	Chg. (%)
		Motor-Driven Cycles Class 2 (51cc-125cc)	Mini-Sized Motorcycles (126cc-250cc)	Small-Sized Motorcycles (Over 250cc)				
1980	1,978,426	200,238	88,188	103,184	391,610	2,370,036	122.7	
1985	1,646,115	130,574	173,887	145,674	450,135	2,096,250	102.6	
1990	1,213,512	169,618	158,882	76,921	405,421	1,618,933	97.6	
1995	884,718	138,115	98,833	91,186	328,134	1,212,852	101.6	
2000	558,459	102,116	72,886	46,416	221,418	779,877	93.2	
2004	500,388	62,780	97,135	39,718	199,633	700,021	92.1	
2005	470,922	88,747	99,658	47,186	235,591	706,513	100.9	
2006	478,196	82,211	91,395	48,564	222,170	700,366	99.1	
2007	458,023	100,720	86,081	40,120	226,921	684,944	97.8	
2008	295,908	120,990	55,674	49,743	226,407	522,315	76.3	
2009	255,561	65,888	37,180	22,148	125,216	380,777	72.9	
2010	231,247	96,368	27,275	25,352	148,995	380,242	99.9	
2011	257,045	95,702	31,767	21,019	148,488	405,533	106.7	
2012	246,095	90,291	39,707	25,802	155,800	401,895	99.1	
2013	238,786	100,947	47,788	31,877	180,612	419,398	104.4	

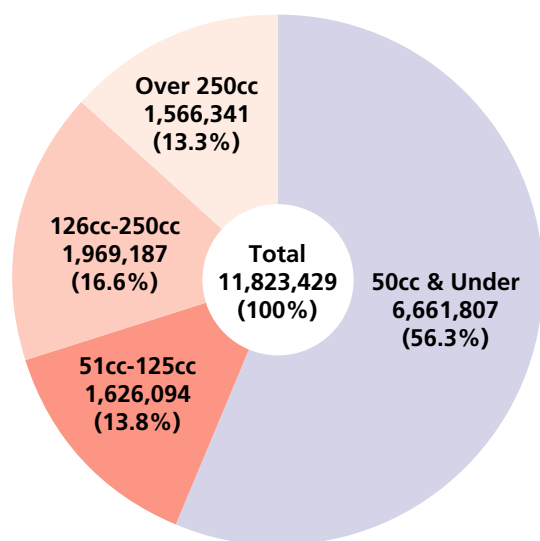
Note: "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

# Continued Rise in Number of In-Use Motorcycles Over 50cc in Engine Capacity

As of March 31, 2013, the number of motorcycles in use in Japan dipped to 11.82 million, down 1.3% from the previous year. By engine capacity, Class 1 motor-driven cycles, which account for 56.3% of all motorcycles in use, dropped 3.4% to 6.66 million units, whereas Class 2 motor-driven cycles, mini-sized motorcycles and small-sized motorcycles in use rose 2.7%, 0.5% and 1.5%, to 1.63 million, 1.97 million and 1.57 million units respectively. Thus, motorcycles over 50cc in use increased 1.5%, to a total of 5.16 million units.

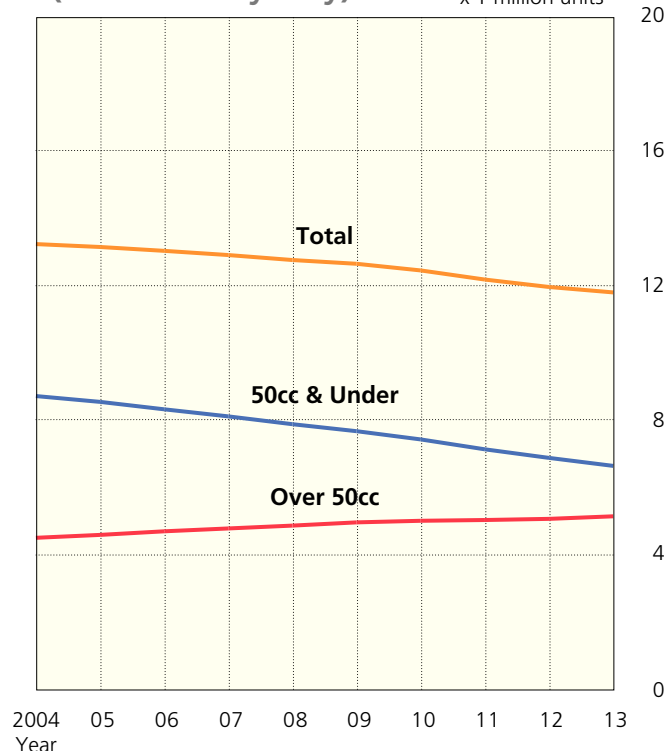
**MOTORCYCLES IN USE BY ENGINE CAPACITY (at March 31, 2013)**

In vehicle units



**TRENDS IN MOTORCYCLES IN USE (at March 31 yearly)**

x 1 million units



**MOTORCYCLES IN USE (at March 31 yearly)**

In vehicle units

Year	Motor-Driven Cycles Class 1 (50cc & Under)	Over 50cc				Total	Chg. (%)
		Motor-Driven Cycles Class 2 (51cc-125cc)	Mini-Sized Motorcycles (126cc-250cc)	Small-Sized Motorcycles (Over 250cc)	Subtotal		
1970	3,727,426	4,431,745	583,316	109,771	5,124,832	8,852,258	100.5
1975	4,851,140	3,132,818	492,307	276,715	3,901,840	8,752,980	101.9
1980	8,794,335	2,281,006	506,567	383,639	3,171,212	11,965,547	109.8
1985	14,609,399	1,747,957	1,047,426	775,627	3,571,010	18,180,409	104.8
1990	13,539,269	1,517,228	1,669,771	1,045,519	4,232,518	17,771,787	97.6
1995	11,165,390	1,421,031	1,823,446	1,177,229	4,421,706	15,587,096	98.0
2000	9,643,487	1,337,395	1,704,522	1,288,399	4,330,316	13,973,803	98.0
2004	8,739,686	1,341,088	1,810,594	1,370,331	4,522,013	13,261,699	99.2
2005	8,566,613	1,353,732	1,857,439	1,397,392	4,608,563	13,175,176	99.3
2006	8,345,225	1,378,714	1,908,402	1,428,149	4,715,265	13,060,490	99.1
2007	8,134,692	1,397,085	1,950,512	1,452,893	4,800,490	12,935,182	99.0
2008	7,902,051	1,429,738	1,976,829	1,478,724	4,885,291	12,787,342	98.9
2009	7,694,009	1,479,588	1,996,311	1,505,304	4,981,203	12,675,212	99.1
2010	7,448,862	1,511,440	1,992,939	1,524,176	5,028,555	12,477,417	98.4
2011	7,154,455	1,540,667	1,975,623	1,535,181	5,051,471	12,205,926	97.8
2012	6,899,459	1,582,925	1,959,845	1,542,856	5,085,626	11,985,085	98.2
2013	6,661,807	1,626,094	1,969,187	1,566,341	5,161,622	11,823,429	98.7

Notes: 1. Motor-driven cycle data is as at April 1, and since 2006 motorcycles with engine capacity of 125cc and under whose owners fail to pay the mandatory motorcycle ownership tax are not included in this data. 2. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).

Sources: Ministry of Land, Infrastructure, Transport and Tourism; since 2006 (only for the 125cc-and-under categories), Ministry of Internal Affairs and Communications

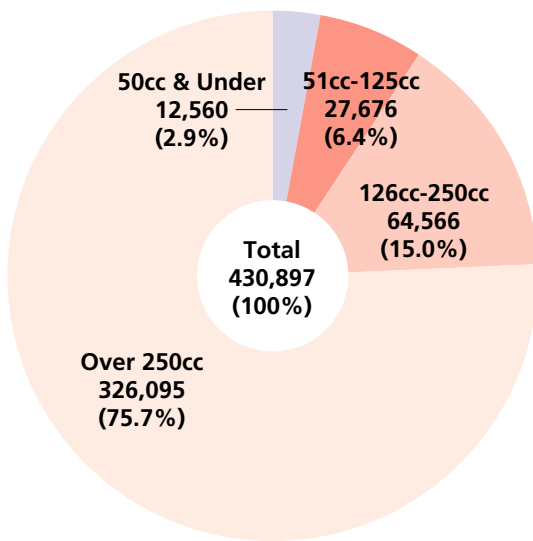


# Motorcycle Exports Decline for Second Consecutive Year

Motorcycle exports in 2013 decreased 10.1% from the previous year to 431,000 units. By engine capacity, exports of Class 1 motor-driven cycles, Class 2 motor-driven cycles, mini-sized motorcycles, and small-sized motorcycles dropped 29.4%, 22.2%, 7.7%, and 8.4%, to 13,000, 28,000, 65,000, and 326,000 units respectively. In 2013 the total value of motorcycle and motorcycle components exports decreased 9.5% to US\$ 4.1 billion, with the value of motorcycle exports declining 7.8% to US\$ 2.9 billion and the value of components exports falling 13.5% to US\$ 1.2 billion.

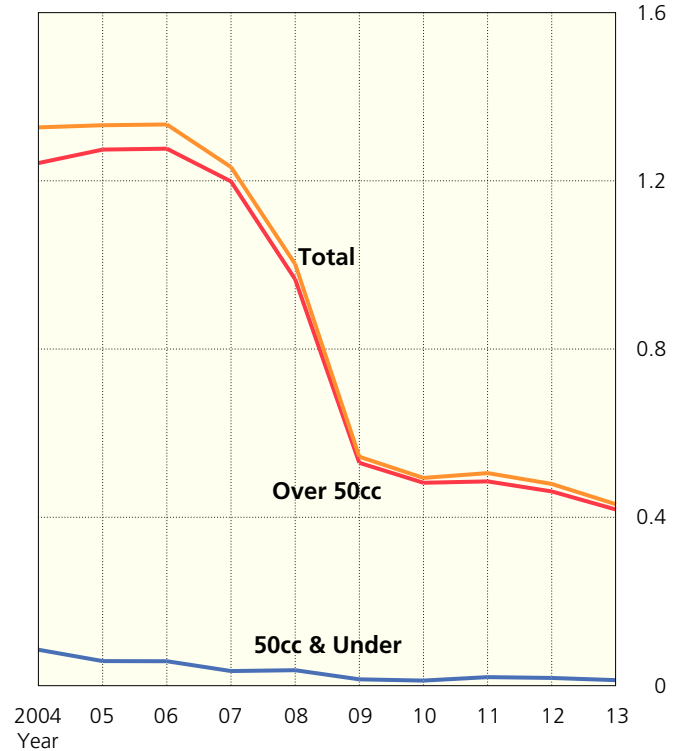
## MOTORCYCLE EXPORTS BY ENGINE CAPACITY IN 2013

In vehicle units



## TRENDS IN MOTORCYCLE EXPORTS

x 1 million units



## MOTORCYCLE EXPORTS

In vehicle units

Year	Motor-Driven Cycles Class 1 (50cc & Under)	Over 50cc				Subtotal	Total	Chg. (%)
		Motor-Driven Cycles Class 2 (51cc-125cc)	Mini-Sized Motorcycles (126cc-250cc)	Small-Sized Motorcycles (Over 250cc)				
1970	326,815	914,325	187,185	309,277	1,410,787	1,737,602	133.8	
1975	288,843	1,546,170	328,313	527,344	2,401,827	2,690,670	83.0	
1980	501,027	1,907,481	548,306	972,226	3,428,013	3,929,040	144.0	
1985	369,167	1,350,412	296,865	525,038	2,172,315	2,541,482	119.7	
1990	147,301	507,840	117,222	411,381	1,036,443	1,183,744	107.3	
1995	61,627	691,433	129,961	442,689	1,264,083	1,325,710	94.2	
2000	82,038	549,040	204,591	805,508	1,559,139	1,641,177	116.1	
2004	84,832	265,245	173,037	804,030	1,242,312	1,327,144	103.6	
2005	57,860	197,378	177,824	899,161	1,274,363	1,332,223	100.4	
2006	57,558	124,335	183,980	968,153	1,276,468	1,334,026	100.1	
2007	34,192	134,570	177,673	886,361	1,198,604	1,232,796	92.4	
2008	36,234	95,114	149,530	721,309	965,953	1,002,187	81.3	
2009	14,493	44,708	101,298	383,380	529,386	543,879	54.3	
2010	11,522	48,976	85,506	347,460	481,942	493,464	90.7	
2011	19,745	45,853	83,594	355,793	485,240	504,985	102.3	
2012	17,794	35,579	69,963	355,827	461,369	479,163	94.9	
2013	12,560	27,676	64,566	326,095	418,337	430,897	89.9	

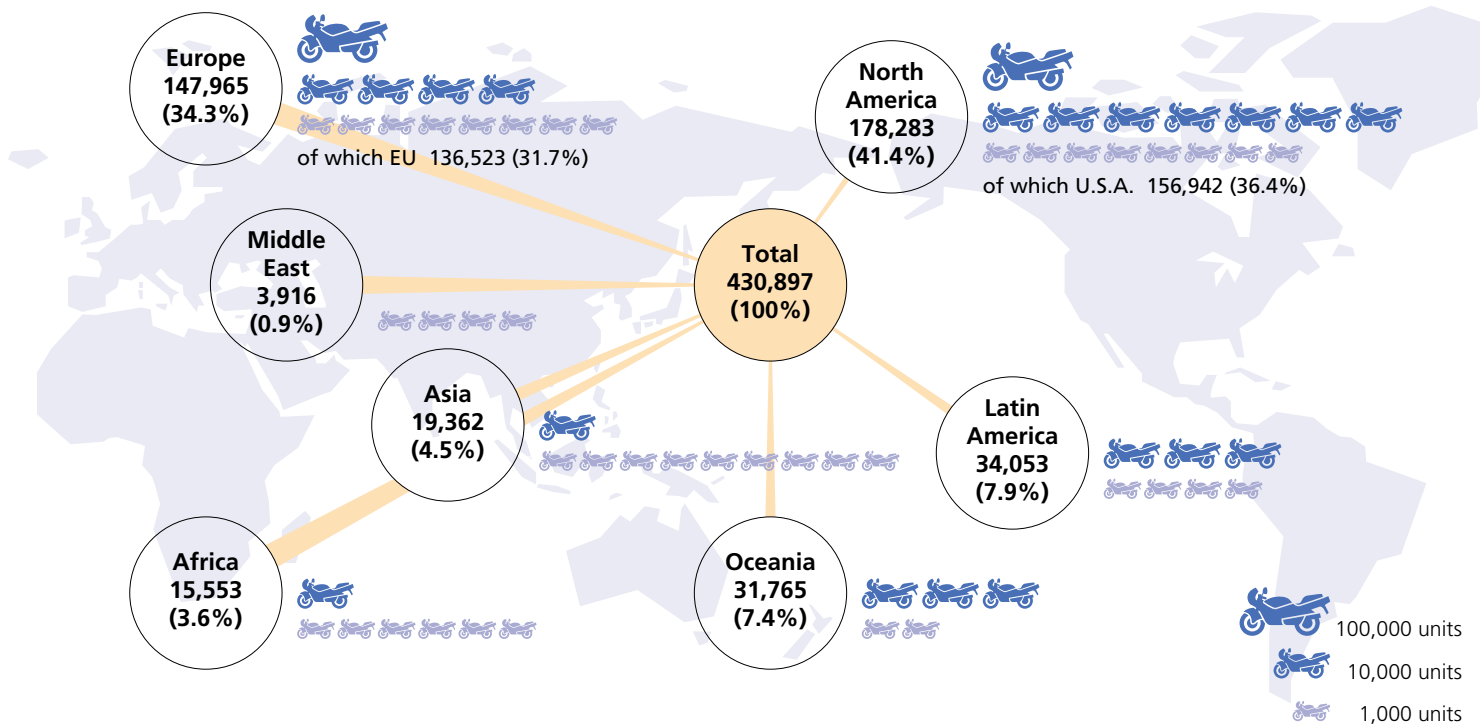
Notes: 1. Figures represent ex-factory export shipments of motorcycles manufactured in Japan. 2. Class 2 motor-driven cycles include three-wheeled motor-driven cycles. 3. KD sets have been excluded since 1979; they represent less than 60% of the cost of compositional components per vehicle and have been treated as components since 1988. 4. "Chg. (%)" means change from the previous year (with the previous year's result indexed at 100).  
Source: Japan Automobile Manufacturers Association

# A Decline in Motorcycle Exports to All Destinations

Motorcycle exports to all destinations decreased in 2013 from the previous year, dropping 31.3% to the Middle East, 29.4% to Latin America, 18.9% to Africa, 16.8% to Asia, 9.5% to Oceania and Europe, and 3.2% to North America.

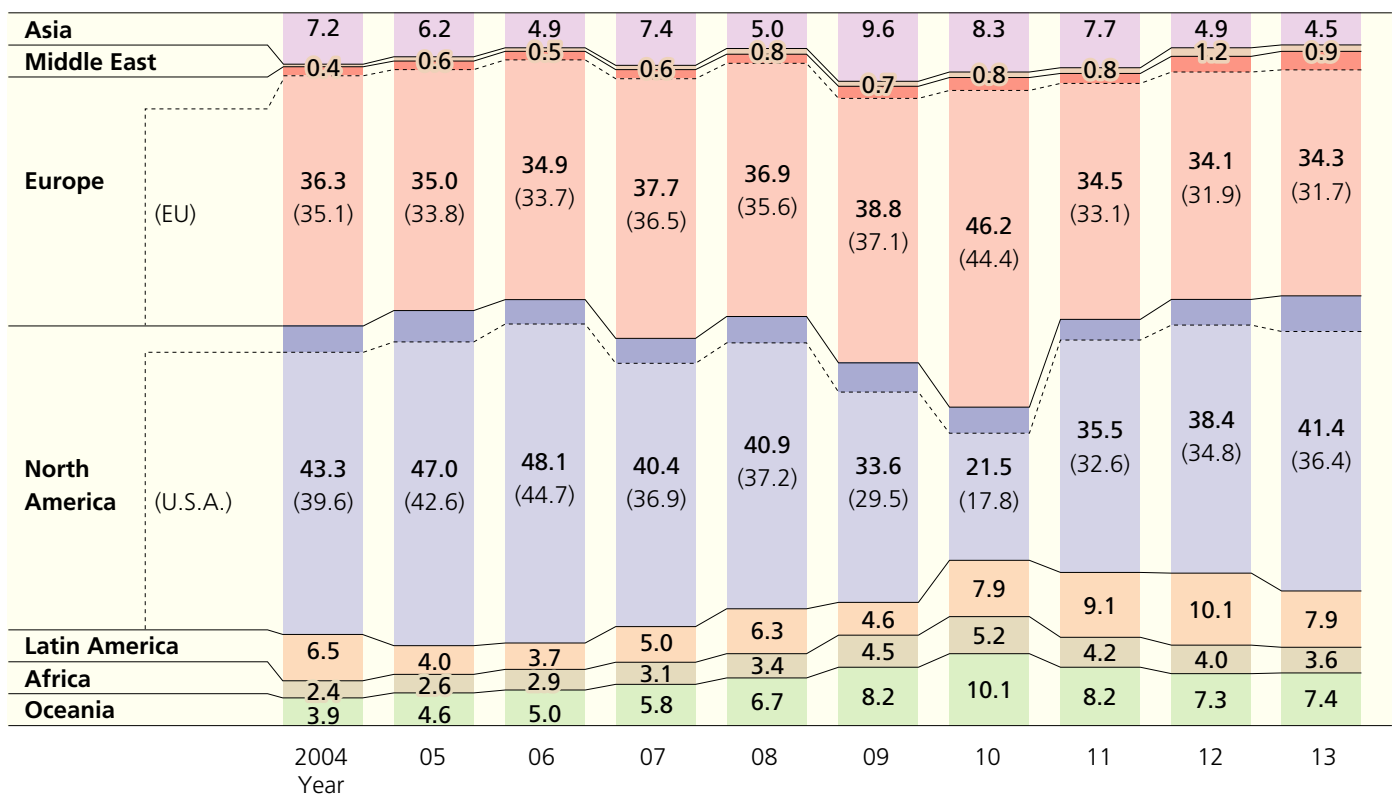
## MOTORCYCLE EXPORTS BY DESTINATION IN 2013

In vehicle units



## MOTORCYCLE EXPORT TRENDS (BY REGION OF DESTINATION)

In %



## MOTORCYCLE EXPORTS BY DESTINATION IN 2013

In vehicle units

Destination		Motor-Driven Cycles Class 1 (50cc & Under)	Over 50cc				Total
			Motor-Driven Cycles Class 2 (51cc-125cc)	Mini-Sized Motorcycles (126cc-250cc)	Small-Sized Motorcycles (Over 250cc)	Subtotal	
Asia	South Korea	0	0	0	1,034	1,034	1,034
	Taiwan	12	920	0	2,266	3,186	3,198
	Hong Kong	0	10	74	2,070	2,154	2,154
	Singapore	0	13	42	1,857	1,912	1,912
	Malaysia	0	3	39	6,058	6,100	6,100
	Philippines	3	0	1,720	260	1,980	1,983
	Other	59	228	435	2,259	2,922	2,981
	Subtotal	74	1,174	2,310	15,804	19,288	19,362
Middle East	Saudi Arabia	0	21	776	406	1,203	1,203
	Israel	0	38	78	656	772	772
	United Arab Emirates	27	196	186	632	1,041	1,041
	Other	12	19	33	836	888	900
	Subtotal	39	274	1,073	2,530	3,877	3,916
Europe	Sweden	0	0	334	884	1,218	1,218
	Denmark	0	0	111	180	291	291
	UK	0	196	755	7,876	8,827	8,827
	Netherlands	0	1,331	2,745	15,149	19,225	19,225
	Belgium	0	22	15	340	377	377
	France	618	4,010	1,590	38,959	44,559	45,177
	Germany	243	570	1,810	29,634	32,014	32,257
	Portugal	0	0	9	630	639	639
	Spain	42	517	265	5,825	6,607	6,649
	Italy	39	175	883	16,514	17,572	17,611
	Finland	75	64	67	544	675	750
	Poland	0	0	176	432	608	608
	Hungary	0	2	105	589	696	696
	Greece	0	0	19	669	688	688
	Slovenia	15	4	10	346	360	375
	Czech Republic	0	0	12	383	395	395
	Other	0	0	103	637	740	740
	Subtotal	1,032	6,891	9,009	119,591	135,491	136,523
	Norway	0	5	100	310	415	415
	Switzerland	21	32	175	6,183	6,390	6,411
Turkey	0	0	18	1,680	1,698	1,698	
Russia	60	20	130	2,438	2,588	2,648	
Other	0	0	17	253	270	270	
Subtotal	1,113	6,948	9,449	130,455	146,852	147,965	
North America	Canada	755	1,335	3,272	15,979	20,586	21,341
	U.S.A.	7,695	6,213	24,215	118,819	149,247	156,942
	Subtotal	8,450	7,548	27,487	134,798	169,833	178,283
Latin America	Mexico	0	0	290	1,492	1,782	1,782
	Guatemala	6	14	606	111	731	737
	Nicaragua	0	0	160	4	164	164
	Panama	0	35	151	517	703	703
	Colombia	0	66	5,453	2,819	8,338	8,338
	Venezuela	0	0	840	2,320	3,160	3,160
	Peru	0	12	1,731	187	1,930	1,930
	Chile	39	98	578	1,030	1,706	1,745
	Brazil	0	59	227	12,305	12,591	12,591
	Argentina	0	0	75	930	1,005	1,005
	Other	79	37	1,086	696	1,819	1,898
	Subtotal	124	321	11,197	22,411	33,929	34,053
Africa	Guinea	0	233	378	0	611	611
	Ghana	0	70	38	0	108	108
	Togo	0	990	150	0	1,140	1,140
	Mali	0	446	210	0	656	656
	Niger	0	458	132	0	590	590
	Rwanda	0	565	0	0	565	565
	Dem Rep Congo	0	1,868	58	0	1,926	1,926
	Ethiopia	0	0	2,074	17	2,091	2,091
	Kenya	0	321	163	1	485	485
	Uganda	0	510	36	0	546	546
	South Africa	69	438	966	2,103	3,507	3,576
	Malawi	0	188	91	0	279	279
	Other	6	1,787	681	506	2,974	2,980
	Subtotal	75	7,874	4,977	2,627	15,478	15,553
Oceania	Australia	2,358	2,356	6,463	16,009	24,828	27,186
	New Zealand	324	1,167	1,592	1,369	4,128	4,452
	Other	3	14	18	92	124	127
	Subtotal	2,685	3,537	8,073	17,470	29,080	31,765
<b>Grand Totals</b>		<b>12,560</b>	<b>27,676</b>	<b>64,566</b>	<b>326,095</b>	<b>418,337</b>	<b>430,897</b>

Source: Japan Automobile Manufacturers Association

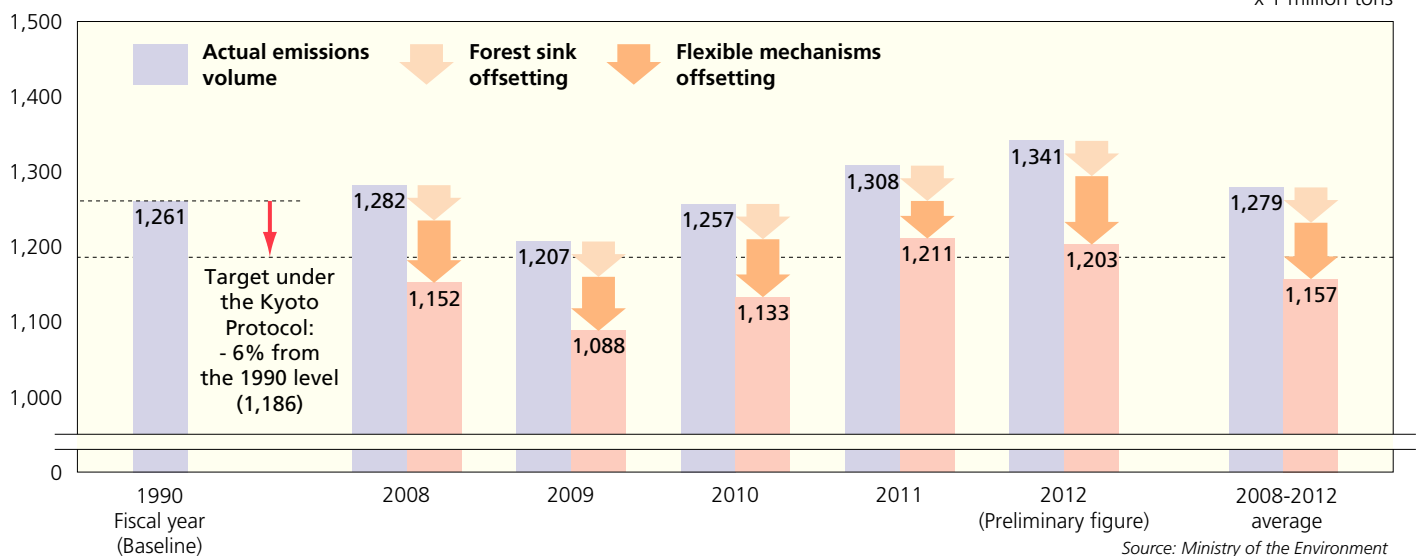
## Climate Change and CO<sub>2</sub> Emissions Reduction: The Response of the Transport Sector

Under the Kyoto Protocol, adopted in 1997 by most industrialized countries to reduce CO<sub>2</sub> and other greenhouse gas emissions and enforced in February 2005, Japan pledged to reduce its average GHG emissions volume in the first commitment period (2008-2012) to 6% below the 1990 level. In April 2005, the Japanese government formulated a target achievement plan (revised in March 2008) and then promoted diverse CO<sub>2</sub> reduction measures in all major sectors including the industrial, consumer, and transport sectors. In line with the national initiative, the automobile industry has been making vigorous efforts with respect to increasing vehicle fuel efficiency, developing and promoting alternative energy-powered vehicles, raising public awareness of eco-friendly driving practices, and supporting the government's efforts to improve traffic flow. After peaking in 2001, CO<sub>2</sub> emissions in Japan's transport sector have been on a steady decline, owing largely to increased fuel efficiency in passenger cars, greater efficiency in goods distribution, and the widespread adoption of fuel-conserving ecodriving.

### ● REDUCTIONS IN JAPAN'S GHG EMISSION VOLUMES

Japan's GHG emissions in 1990 totalled 1,261 million tons (in equivalent tons of CO<sub>2</sub>). In order for Japan to meet its target under the Kyoto Protocol, it was determined that its average GHG emissions volume during the first commitment period (2008-2012) would have to be reduced to 1,186 million tons. Japan's GHG emissions in 2012 totalled 1,341 million tons (preliminary figure). When the forest sink and flexible mechanisms credits are taken into account, the average emissions volume for the 2008-2012 period shows an 8.2% reduction from the 1990 level, meaning that the "6% below 1990" target is expected to be achieved.

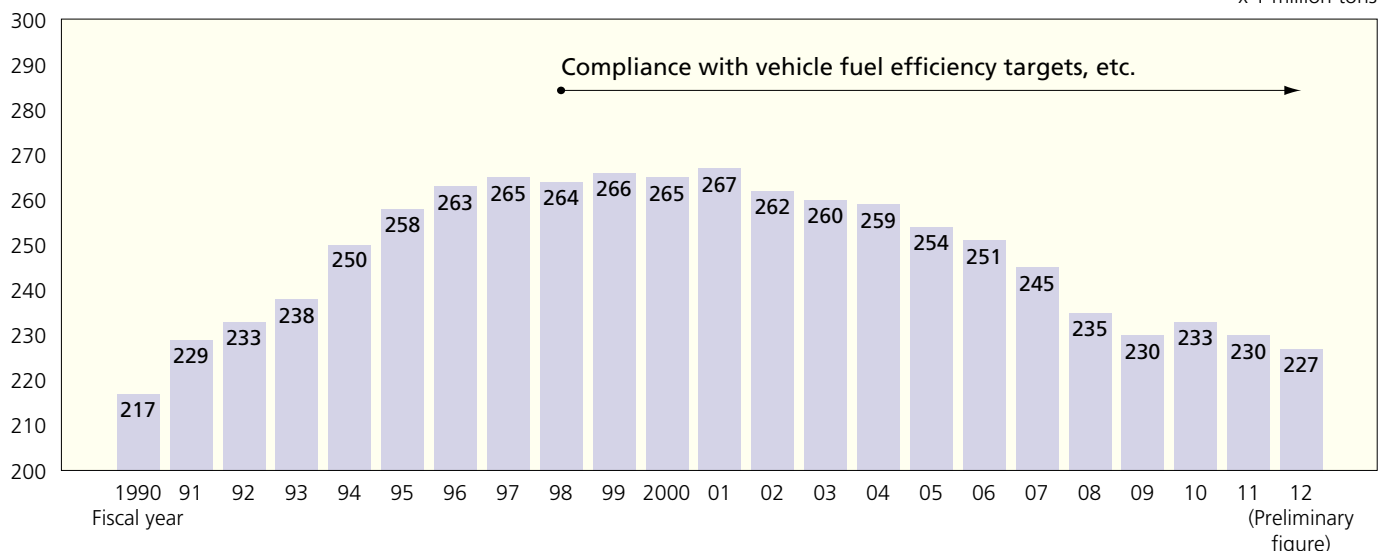
x 1 million tons



### ● TRENDS IN CO<sub>2</sub> EMISSION VOLUMES IN JAPAN'S TRANSPORT SECTOR

Of Japan's total CO<sub>2</sub> emissions, the transportation sector accounts for roughly 20%, of which 90% are auto-emitted—making CO<sub>2</sub> reduction in road transport a priority concern. After peaking in 2001, CO<sub>2</sub> emission volumes in Japan's transport sector have been steadily declining.

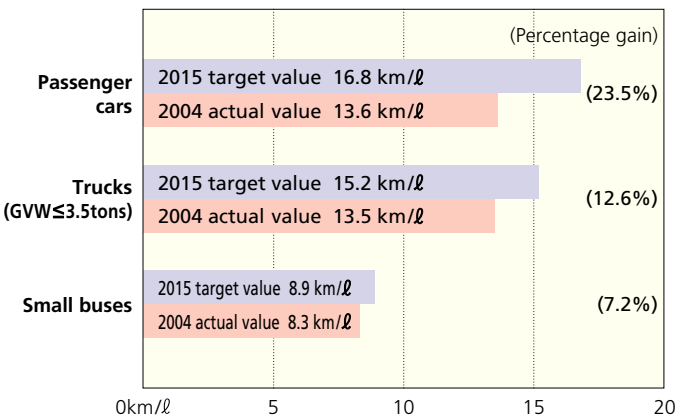
x 1 million tons



# CO<sub>2</sub> Emissions Reduction: Improving Vehicle Fuel Efficiency

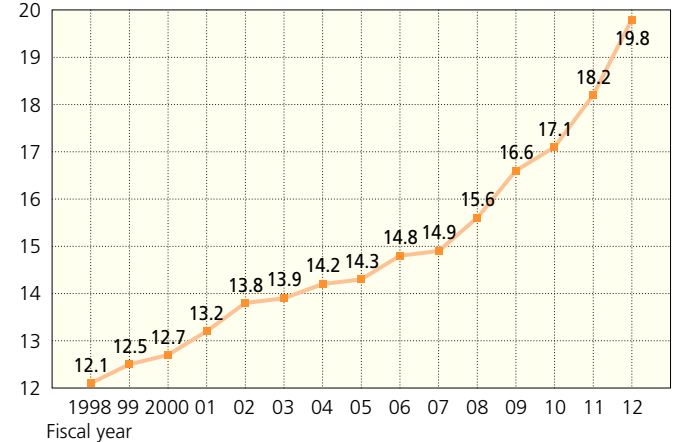
For gasoline-powered passenger cars and trucks weighing 3.5 tons or less, fuel efficiency targets for 2015 were formulated in 2007, applying "top runner" criteria whereby the target value for a given vehicle weight category is established based on the leading fuel efficiency performance to date for that weight category. The 2015 target for passenger cars signifies a nearly 24% increase in average fuel efficiency compared to the 2004 level. For heavy-duty vehicles (trucks and buses with GVW>3.5 tons), fuel efficiency targets—the first in the world—were introduced in 2006. Compliance here will mean that by 2015 the average fuel efficiency of heavy-duty vehicles will increase by over 12% compared to the 2002 level. Japan's automakers are working hard to further advance fuel efficiency technologies, aiming now to comply with an even more stringent target established in 2012 for passenger cars for enforcement in 2020.

## 2015 AVERAGE FUEL EFFICIENCY TARGETS FOR NEW PASSENGER CARS & TRUCKS/SMALL BUSES



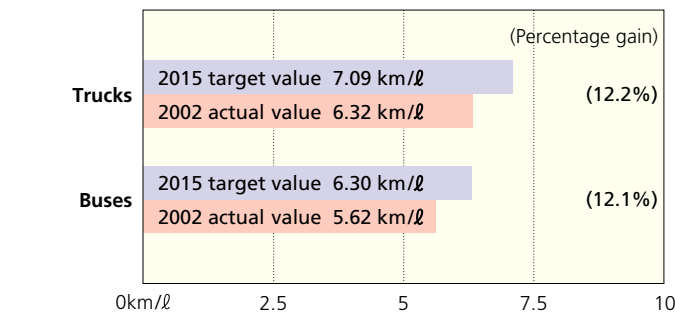
Note: Fuel efficiency here is JC08 test cycle-based (see page 67), and targets were established assuming the same shipment volume ratios by vehicle weight category for 2015 as those recorded in 2004.  
Sources: Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism

## AVERAGE FUEL EFFICIENCY OF DOMESTIC NEW GASOLINE-POWERED PASSENGER CARS



Note: All figures here have been converted from their 10·15-mode test cycle values to their JC08 test cycle values (see page 67).  
Source: Japan Automobile Manufacturers Association

## 2015 AVERAGE FUEL EFFICIENCY TARGETS FOR NEW HEAVY-DUTY VEHICLES (GVW>3.5t)

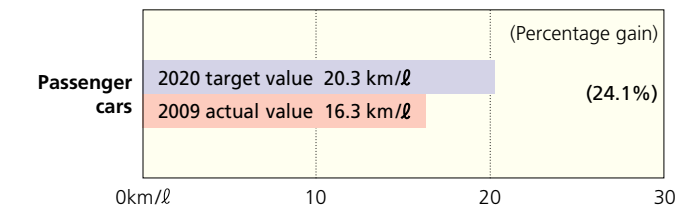


Note: Fuel efficiency here is JE05 test cycle-based (see page 67), and targets were established assuming the same shipment volume ratios by vehicle weight category for 2015 as those recorded in 2002.  
Sources: Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism

## VEHICLE TECHNOLOGIES FOR INCREASED FUEL EFFICIENCY

- Improved engine efficiency**
  - Improvements in thermal efficiency:
    - Direct injection
    - Variable mechanisms (variable cylinder activation, VVT&L, etc.)
  - Reduction of friction loss:
    - Reduction of piston & piston ring friction loss
    - Low-viscosity lubricating oil
- Reduced aerodynamic drag**
  - Improved body configuration
- Reduced vehicle weight**
  - Expanded use of lightweight materials
  - Improved body structure
- Improved powertrain performance**
  - Expansion of lock-up area
  - Expanded number of transmission gears
  - Continuously variable transmission
- Reduced rolling resistance**
  - Low rolling-resistance tires
- Other**
  - Electric power steering
  - Idling prevention (stop-start)
  - Hybridization

## 2020 AVERAGE FUEL EFFICIENCY TARGET FOR NEW PASSENGER CARS



Note: Fuel efficiency here is JC08 test cycle-based (see page 67), and the target was established assuming the same shipment volume ratios by vehicle weight category for 2020 as those recorded in 2009.  
Sources: Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism

## In-Use Status of Next-Generation Vehicles

Beginning in April 2009, when the government's tax incentive/subsidy programs for the purchase of eco-friendly vehicles were first introduced, the share of next-generation vehicles (including hybrid, electric, fuel cell, natural gas, clean diesel, and other new-energy vehicles) in total passenger car sales surged. In 2013 about 4.14 million next-generation vehicles were in circulation in Japan, but this is still a very small number, accounting for only 5.4% of all the motor vehicles in use in Japan today. The more widespread use of these vehicles requires not only further advances in vehicle and related technologies, but also, among other government initiatives, the establishment of the necessary fuel/energy infrastructures and the continued provision of purchasing incentives.

### TRENDS IN NEXT-GENERATION PASSENGER CAR NEW REGISTRATIONS

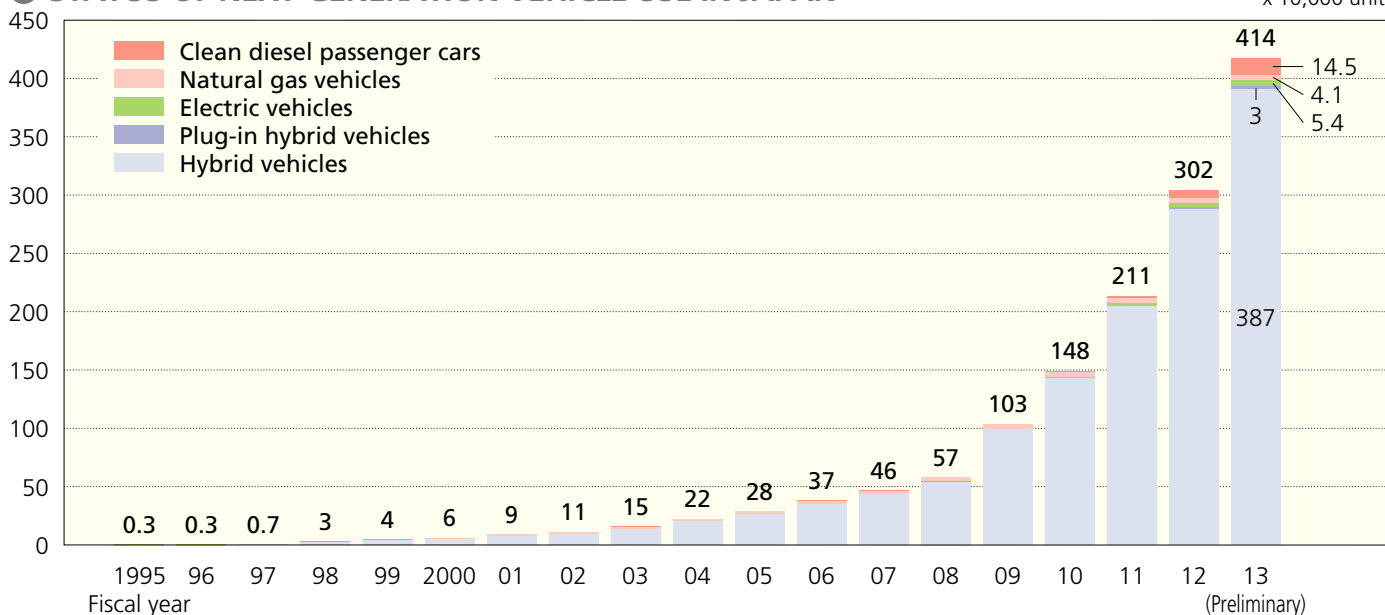
In vehicle units

Fiscal Year	2009	2010	2011	2012	2013
Hybrid vehicles	452,202	447,840	631,335	857,240	1,015,356
Plug-in hybrid vehicles	0	0	3,742	13,178	12,972
Electric vehicles	1,587	6,983	11,226	13,911	15,594
Clean diesel vehicles	3,119	7,988	11,861	55,513	78,384
<b>Total</b>	<b>456,908</b>	<b>462,811</b>	<b>658,164</b>	<b>939,842</b>	<b>1,122,306</b>

Source: Japan Automobile Manufacturers Association

### STATUS OF NEXT-GENERATION VEHICLE USE IN JAPAN

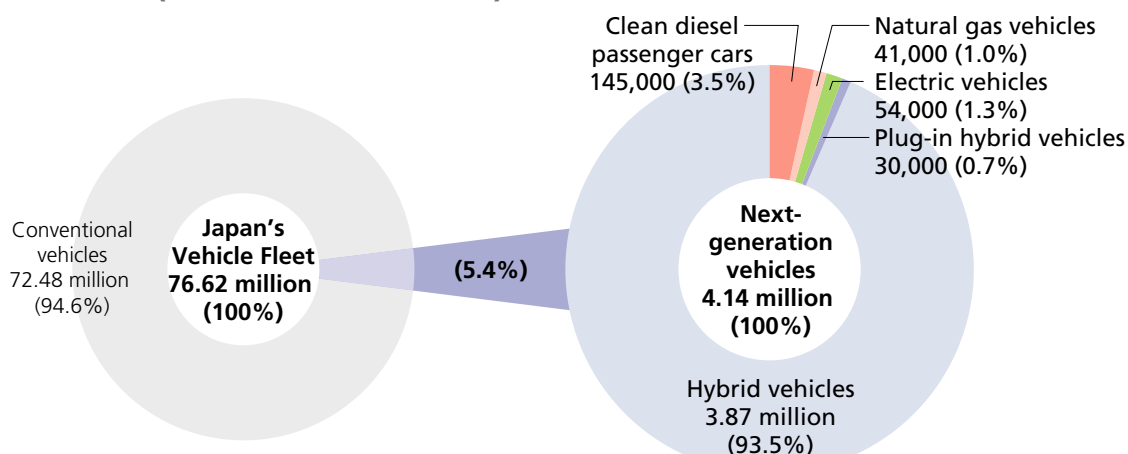
x 10,000 units



Source: Japan Automobile Manufacturers Association

### COMPOSITION OF JAPAN'S VEHICLE FLEET, WITH BREAKDOWN OF NEXT-GENERATION VEHICLE SHARE (FISCAL 2013 ESTIMATE)

In vehicle units



Note: Figures are rounded off.

Source: Japan Automobile Manufacturers Association



## Promoting Fuel-Conserving Ecodriving

Individual drivers can increase fuel efficiency and thus help reduce CO<sub>2</sub> emissions by improving their driving habits. JAMA has therefore been conducting an ongoing public-awareness campaign, in collaboration with the government and industry partners, to promote sound, fuel-conserving ecodriving practices, urging drivers to adopt the ten smart tips listed below. While the already widespread use of digital tachographs in truck fleet operations in Japan continues to expand, automakers are equipping more and more passenger cars not only with fuel efficiency gauges and systems for real-time on-screen displays of fuel efficiency performance, but also with idling-prevention (stop-start) systems and “eco-mode” buttons that activate fuel efficiency-promoting functions.

### ● TEN TIPS FOR FUEL-CONSERVING ECODRIVING as promoted in Japan

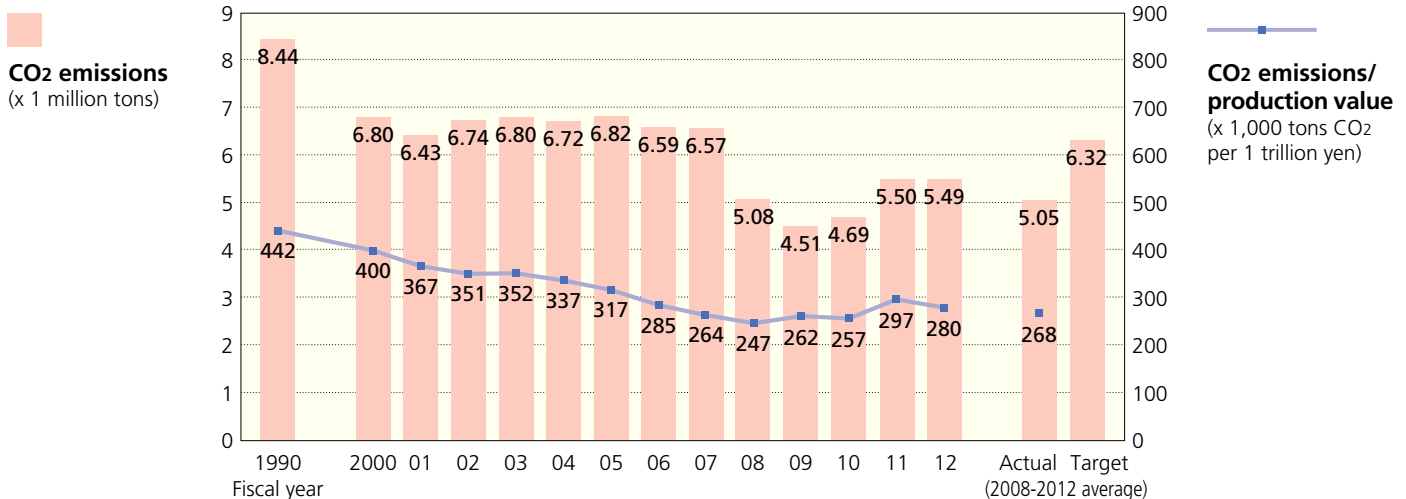
	<p><b>1. Accelerate gently.</b></p> <p>Think “eco-start” when you accelerate—increasing your speed at a relaxed pace, to 20km/h in 5 seconds, boosts fuel efficiency by 10%. Gentle acceleration also contributes to safer driving.</p>		<p><b>6. Plan your itinerary to avoid congested routes.</b></p> <p>Plan the route to your destination using a map or your navigation system before starting off. Check traffic information to avoid congested areas and save time and fuel. Ten minutes of unnecessary driving in a one-hour trip results in a 17% drop in fuel efficiency.</p>
	<p><b>2. Maintain a steady speed and keep your distance.</b></p> <p>Maintain a suitably steady speed for safe and fuel-efficient driving. Tailgating leads to unnecessary acceleration/deceleration, resulting in 2% and 6% lower fuel efficiency in urban and suburban areas, respectively.</p>		<p><b>7. Check your tire pressure regularly.</b></p> <p>Driving on tires whose air pressure is 50kPa (0.5kg/cm<sup>2</sup>) lower than it should be decreases fuel efficiency by 2% in urban areas and 4% in suburban areas. Timely replacement of engine oil and items such as oil filters and air cleaner elements also contributes to increased fuel efficiency.</p>
	<p><b>3. Slow down by releasing the accelerator.</b></p> <p>Releasing the accelerator when recognizing the need to slow down (e.g., at changing traffic lights) stops the fuel supply, resulting in a 2% gain in fuel efficiency. Use your engine’s braking function whenever appropriate, including on downhill descents.</p>		<p><b>8. Reduce your load.</b></p> <p>Onboard weight is a key factor in fuel efficiency performance. Driving with 100kg of unnecessary onboard weight causes a 3% loss in fuel efficiency. Another factor is your vehicle’s aerodynamic drag, which you can reduce by removing exterior rack equipment when not in use.</p>
	<p><b>4. Make appropriate use of your air conditioner.</b></p> <p>The AC function is for cooling and dehumidifying <i>only</i>, so don’t leave your AC on when you’re heating the cabin. When you do use it, be sure not to set it too low. (Continuous use of the AC functioning at 25°C when the outdoor temperature is 25°C results in a fuel efficiency loss of 12%.)</p>		<p><b>9. Respect parking rules and regulations.</b></p> <p>Don’t leave your vehicle where it blocks traffic. Illegal or imprudent on-street parking causes traffic congestion which leads to increased emissions and a greater risk of accident. Roads that are not encumbered by illegally or improperly parked vehicles promote smoother traffic flow and higher fuel efficiency.</p>
	<p><b>5. Don’t warm up or idle your engine.</b></p> <p>Today’s passenger cars don’t require warming up, so start off slowly right after turning on the ignition. When waiting or loading/unloading, make a habit of turning your engine off instead of letting it idle. Ten minutes of engine idling (with the AC off) wastes 130cc of fuel. (See notes below.)</p>		<p><b>10. Check the readings on your fuel efficiency-monitoring equipment.</b></p> <p>Be aware of your vehicle’s fuel efficiency performance by consulting onboard equipment that monitors it.</p>

Notes: 1. Warming up a vehicle engine is necessary only in extremely cold climates (-20°C or colder) or after long periods of non-use. 2. For drivers stopping engine idling manually, i.e. by turning their vehicle’s ignition off and then back on again, caution is advised as follows (but does not apply to drivers of vehicles equipped with idling-prevention systems): 1) Stepping on the brake pedal repeatedly during engine shut-down may diminish braking power; 2) Drivers not accustomed to shutting down their engines and starting them up again may experience slow or faulty restarts; 3) Excessive shutting down and restarting may drain the batteries, resulting in engine start-up failure; 4) Do not use this method when stopped at the head of a line or on a gradient, because turn signals and windshield wipers, as well as airbags and other safety features, will not function during engine shut-down.

## CO<sub>2</sub> Reductions at Manufacturers' Facilities

Japan's automakers, together with the member companies of the Japan Auto-Body Industries Association (JABIA) since 2008, have taken measures to reduce energy consumption and otherwise cut CO<sub>2</sub> emissions at their production facilities. As a result, between 2008 and 2012, the annual average for plant-emitted CO<sub>2</sub> was 5.05 million tons, surpassing the target of 6.32 million tons. Expanding their voluntary CO<sub>2</sub> reduction activities to also include administrative and research facilities, JAMA and JABIA now aim to reduce their combined facility-emitted CO<sub>2</sub> to 7.09 million tons by 2020, representing a 28% decrease from the volume of those emissions in 1990.

### ● PRODUCTION PLANT-GENERATED CO<sub>2</sub> EMISSION VOLUMES, 1990-2012



Source: Japan Automobile Manufacturers Association

## Voluntary Initiatives to Reduce the Use of Hazardous Substances in Motor Vehicles

JAMA member manufacturers have, on a voluntary basis, eliminated the use of four so-called substances of concern (SOCs)—lead, mercury, hexavalent chromium and cadmium—in new vehicles to lessen their environmental impact, particularly when they are dismantled and processed at the end of their service life. Separate restrictions on the use of SOC's have been established for motorcycles.

### ● RESTRICTIONS ON THE USE OF SUBSTANCES OF CONCERN IN NEW VEHICLES & COMPLIANCE STATUS

SOC	Restrictions	Compliance Status
<b>Lead</b>	As of January 2006, a 90% decrease or more from the 1996 level of 1,850 grams (i.e., a maximum permissible level of 185 grams); for large commercial vehicles including buses, a 75% decrease or more from the 1996 level (or a maximum level of 462.5 grams). Batteries are exempt.	All models have complied since January 2006.
<b>Mercury</b>	As of January 2005, banned except for trace amounts in safety-related components such as: - Instrument panel displays - Liquid crystal displays in navigation devices - Discharge lamps - Fluorescent cabin lamps	All models have complied since January 2003. Instrument panel displays are now mercury-free in all models, as are fluorescent cabin lamps in passenger cars. Navigation-device liquid crystal displays and discharge lamps will be mercury-free in the near future.
<b>Hexavalent chromium</b>	Banned as of January 2008.	All models have complied since January 2008. (Erroneous use in 2010 in a large commercial vehicle model was promptly discontinued.)
<b>Cadmium</b>	Banned as of January 2007.	All models have complied since January 2006.

# A Voluntary Approach to Reducing Vehicle Cabin VOCs

New-model passenger cars marketed in and after 2007 and new-model commercial vehicles sold in and after 2008 have met the target values established by Japan’s Ministry of Health, Labor and Welfare for indoor concentration levels of 13 volatile organic compounds (VOCs). In July 2012, ISO 12219-1 was established as the global standard for restricting the use of in-cabin VOCs in passenger cars. Accordingly, JAMA’s previously established VOC test procedure for passenger cars will be replaced by the ISO procedure. However, for trucks and buses not covered by the ISO standard, JAMA test methods for measuring in-cabin VOC concentration levels will remain in application. Automakers will work to lower in-cabin VOC concentration levels even further in future. This voluntary initiative applies only to vehicles that are manufactured and sold in Japan.

## ● COMPARISON OF JAMA AND NEW ISO IN-CABIN VOC TEST PROCEDURES (for passenger cars)

	JAMA Procedure	ISO Procedure
<b>Heating method</b>	Radiation lamp heating from above the cabin (No radiation density prescribed.)	Radiation lamp heating from above the cabin (Radiation density: 400±50 W/m <sup>2</sup> )
<b>In-cabin temperature</b>	40°C in driver’s breathing zone	No in-cabin test temperature prescribed. (Presumed to be 40°C in driver’s breathing zone [compact car].)
<b>Pre-test conditions</b>	Cabin doors and windows left open for at least 30 minutes.	Cabin doors and windows left open for one hour.
<b>Ambient mode</b>	—	Cabin doors and windows closed for at least 7.5 hours, then cabin air sample-tested over a period of 30 minutes.
<b>Parking mode (airtight state)</b>	Cabin air sample-tested over a period of 30 minutes, 4.5 hours after reaching the prescribed temperature.	Cabin air sample-tested over a period of 30 minutes, 3.5 hours after start of heating.
<b>Driving mode</b>	Cabin air sample-tested over a period of 15 minutes, with engine and AC on (internal air circulation mode).	Cabin air sample tested over a period of 30 minutes, with engine and AC on (external air ventilation mode).
<b>Test procedure schematic</b>	<p>The JAMA schematic shows a temperature profile starting at 23°C, rising to 40°C over 0.5-2.0 hours, staying at 40°C for 4.5 hours during 'Lamp heating', and then cooling back to 23°C. Sample testing phases are indicated below: 'B.G.' (Background) at the start and end, 'Driving mode' during the 4.5h heating phase, and 'Parking mode' during the 4.5h steady-state phase.</p>	<p>The ISO schematic shows a temperature profile starting at 23°C, rising to 40°C over 8.0 hours, staying at 40°C for 3.5 hours during 'Lamp heating', and then cooling back to 23°C. Sample testing phases are indicated below: 'B.G.' at the start and end, 'Ambient mode' during the 8.0h heating phase, 'Driving mode' during the 3.5h steady-state phase, and 'Parking mode' during the 3.5h steady-state phase.</p>

B.G.: "Background" air, i.e., air in test chamber.

Source: ISO 12219-1:2012

## ● TARGET VALUES FOR INDOOR CONCENTRATION LEVELS OF 13 SUBSTANCES (VOCs)

Substance	Target Value for Indoor Concentration Level	Principal Sources
Formaldehyde	100 µg/m <sup>3</sup> (0.08 ppm)	Adhesives for plywood, wallpaper, etc.
Toluene	260 µg/m <sup>3</sup> (0.07 ppm)	Adhesives/paints for interior finishing materials, furniture, etc.
Xylene	870 µg/m <sup>3</sup> (0.20 ppm)	Adhesives/paints for interior finishing materials, furniture, etc.
Paradichlorobenzene	240 µg/m <sup>3</sup> (0.04 ppm)	Moth repellents, lavatory air fresheners
Ethylbenzene	3,800 µg/m <sup>3</sup> (0.88 ppm)	Adhesives/paints for plywood, furniture, etc.
Styrene	220 µg/m <sup>3</sup> (0.05 ppm)	Insulation materials, bath units, tatami-mat core materials
Chlorpyrifos	1 µg/m <sup>3</sup> (0.07 ppb) (see note)	Insecticides (esp. ant exterminators)
Di-n-butyl phthalate	220 µg/m <sup>3</sup> (0.02 ppm)	Paints, pigments, adhesives
Tetradecane	330 µg/m <sup>3</sup> (0.04 ppm)	Kerosene, paints
Di-2-ethylhexyl phthalate	120 µg/m <sup>3</sup> (7.6 ppb)	Wallpaper, flooring materials, wire-coating materials
Diazinon	0.29 µg/m <sup>3</sup> (0.02 ppb)	Pesticides
Acetaldehyde	48 µg/m <sup>3</sup> (0.03 ppm)	Adhesives for construction materials, wallpaper, etc.
Fenobucarb	33 µg/m <sup>3</sup> (3.8 ppb)	Insecticides (esp. termite exterminators)

Note: 0.1 µg/m<sup>3</sup> (0.007 ppb) for children.

## Vehicle Exhaust Emissions: New Regulations Enforced in 2009

Japan's vehicle exhaust emissions regulations have always been among the strictest in the world, and its automakers have worked very hard to develop the advanced technologies required to comply with them. As a result, NO<sub>x</sub> and other atmospheric pollutant levels have been on a steady decline even in large urban areas. Based on the Ministry of the Environment-affiliated Central Environment Council's policy recommendations for future reductions in motor vehicle exhaust emissions (released in April 2005), comprehensive new regulations were implemented by the Japanese government in 2009, of which the regulations for trucks and buses were, at the time of their enforcement, the most stringent in the world. Starting in 2016, the NO<sub>x</sub> regulation for heavy-duty diesel vehicles will be even stricter, as will be the NO<sub>x</sub>, THC and CO emission limit values for motorcycles.

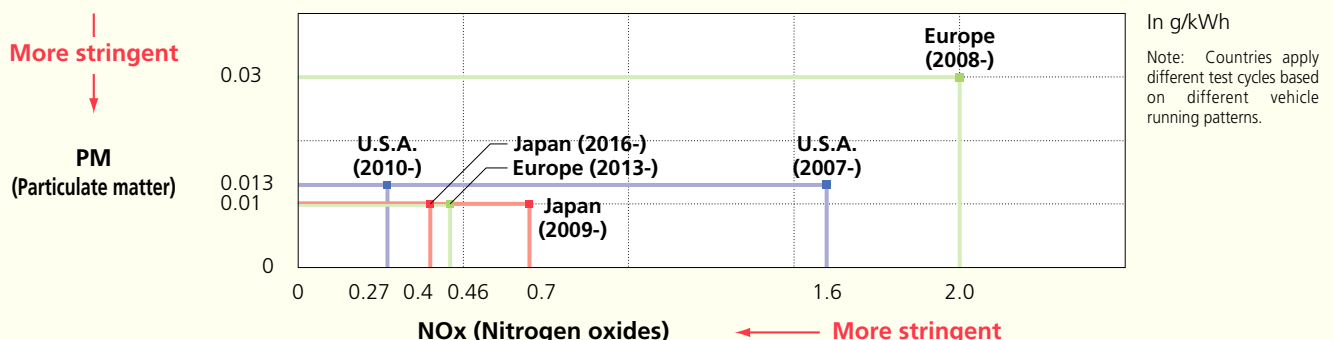
### ● COMPARISON OF HEAVY-DUTY DIESEL TRUCK EMISSIONS REGULATIONS

All regulatory values below apply to the heaviest truck categories. In g/kWh

	NO <sub>x</sub> Nitrogen oxides	THC Total hydrocarbons	NMHC Non-methane hydrocarbons	CO Carbon monoxide	PM Particulate matter	
<b>Japan (GVW=Over 3.5 tons) (1)</b>						
Long-term regulations (1997, 1998, 1999)	4.50	2.90	—	7.40	0.25	
New short-term regulations (2003, 2004)	3.38	0.87	—	2.22	0.18	
New long-term regulations (2005) (2)	2.0	—	0.17	2.22	0.027	
Post-new long-term regulations (2009, 2010)	0.7	—	0.17	2.22	0.01	
Future regulations (2016, 2017, 2018)	0.4	—	0.17	2.22	0.01	
<b>U.S.A. (GVW=Over 3.85 tons)</b>						
1998 standard	5.36	1.74	—	20.78	0.134	
2004 standard	Automobile manufacturers must comply with one of the following: 1) NO <sub>x</sub> + NMHC 3.22 2) NO <sub>x</sub> + NMHC 3.35 with mandatory NMHC value of 0.67			20.78	0.134	
2007 standard (3)	0.27 (1.6)	—	0.188	20.78	0.013	
2010 standard	0.27	—	0.188	20.78	0.013	
<b>Europe (GVW=Over 3.5 tons)</b>						
EURO II (1995)	7.0	1.1	—	4.0	0.15	
EURO III (2000) (4)	Transient mode	5.0	—	0.78	5.45	0.16
	Steady state mode	(5.0)	(0.66)	—	(2.1)	(0.10)
EURO IV (2005)	Transient mode	3.5	—	0.55	4.0	0.03
	Steady state mode	(3.5)	(0.46)	—	(1.5)	(0.02)
EURO V (2008)	Transient mode	2.0	—	0.55	4.0	0.03
	Steady state mode	(2.0)	(0.46)	—	(1.5)	(0.02)
EURO VI (2013)	Transient mode	0.46	0.16	—	4.0	0.01
	Steady state mode	(0.4)	(0.13)	—	(1.5)	(0.01)
EEV (5)	Transient mode	2.0	—	0.40	3.0	0.02
	Steady state mode	(2.0)	(0.25)	—	(1.5)	(0.02)

(1) GVW (gross vehicle weight) (Japan) = Vehicle weight + Maximum load + Maximum occupants x 55 kg. Weight per occupant and other details slightly differ from those of U.S. and European regulations. (2) Japan's 1997-2004 regulations applied to the over-2.5t GVW vehicle category; regulations as of 2005 apply to the over-3.5t GVW vehicle category. (3) The U.S.'s 2007 standard permitted an NO<sub>x</sub> compliance level of around 1.6g until 2010 depending on engine family type. (4) EURO III (Europe): All vehicle categories were regulated in the steady state (ESC) mode only, except DPF- and NO<sub>x</sub> reduction catalyst-equipped vehicles, which were regulated in both the steady state (ESC) and transient (ETC) modes. Beginning with EURO IV, all vehicle categories, whether DPF- and NO<sub>x</sub> reduction catalyst-equipped or not, are regulated in both modes. (5) EEV (Europe): Enhanced Environmentally Friendly Vehicles. EEV regulations constitute a special category and are applied by EU member countries only in specific instances when urban air quality is particularly poor (for example, when temporary restrictions on vehicle circulation in cities are enforced). Emission values indicated are provisional.

### ● COMPARISON OF HEAVY-DUTY DIESEL TRUCK EMISSIONS REGULATIONS (PM and NO<sub>x</sub>)



## MOTOR VEHICLE EMISSIONS REGULATIONS IN JAPAN

Vehicle Type		Previous Regulations				Current/Future Regulations					
		Test cycle	Year enforced	Emission	Regulatory value (Average)	Test cycle	Year enforced	Emission	Regulatory value (Average)		
Gasoline and LPG Vehicles	Passenger cars	10•15-mode + 11-mode (g/km) (1)	2005	CO	1.15	JC08 (g/km) (1)	2009	CO	1.15		
				NMHC	0.05			NMHC	0.05		
				NOx	0.05			NOx	0.05		
	Trucks and buses	Mini	10•15-mode + 11-mode (g/km) (1)	2007	CO	4.02	JC08 (g/km) (1)	2009	CO	4.02	
					NMHC	0.05			NMHC	0.05	
					NOx	0.05			NOx	0.05	
		Light-duty (GVW≤1.7t)	10•15-mode + 11-mode (g/km) (1)	2005	CO	1.15	JC08 (g/km) (1)	2009	CO	1.15	
						0.05				NMHC	0.05
						0.05				NOx	0.05
		Medium-duty (1.7t<GVW≤3.5t)	10•15-mode + 11-mode (g/km) (1)	2005	CO	2.55	JC08 (g/km) (1)	2009	CO	2.55	
						0.05				NMHC	0.05
						0.07				NOx	0.07
		Heavy-duty (GVW>3.5t)	JE05 (g/kWh)	2005	CO	16.0	JE05 (g/kWh)	2009	CO	16.0	
						0.23				NMHC	0.23
						0.7				NOx	0.7
Diesel Vehicles	Passenger cars (3)	10•15-mode + 11-mode (g/km)	2005	CO	0.63	JC08 (g/km)	2009	CO	0.63		
				NMHC	0.024			NMHC	0.024		
				NOx	Small-sized			0.14	NOx	0.08	
					Mid-sized			0.15			
				PM	Small-sized			0.013	PM	0.005	
					Mid-sized			0.014			
	Trucks and buses	Light-duty (GVW≤1.7t)	10•15-mode + 11-mode (g/km)	2005	CO	0.63	JC08 (g/km)	2009	CO	0.63	
					NMHC	0.024			NMHC	0.024	
					NOx	0.14			NOx	0.08	
		Medium-duty (1.7t<GVW≤3.5t)	10•15-mode + 11-mode (g/km)	2005	CO	0.63	JC08 (g/km)	2009 (4)	CO	0.63	
						0.024				NMHC	0.024
						0.25				NOx	0.15
	Heavy-duty (GVW>3.5t)	JE05 (g/kWh)	2005	CO	2.22	JE05 (g/kWh)	2009 (4)	CO	2.22		
					0.17				NMHC	0.17	
					2.0				NOx	0.7	
						WHTC (g/kWh) (5)	2016 (5)	CO	2.22		
								0.17	NMHC	0.17	
								0.4	NOx (6)	0.4	
Motor-cycles	Motor-driven cycles Class 1	Motorcycle test cycle (g/km)	2006	CO	2.0	WMTC (g/km) (7)	2010	CO	2.2		
				HC	0.5			THC	0.45		
				NOx	0.15			NOx	0.16		
	Motor-driven cycles Class 2	Motorcycle test cycle (g/km)	2007	CO	2.0	WMTC (g/km) (7)	2010	CO	2.2		
					0.5				THC	0.45	
					0.15				NOx	0.16	
	Mini-sized motorcycles	Motorcycle test cycle (g/km)	2006	CO	2.0	WMTC (g/km) (7)	2010	CO	2.62		
					0.3				THC	0.27	
					0.15				NOx	0.21	
	Small-sized motorcycles	Motorcycle test cycle (g/km)	2007	CO	2.0	WMTC (g/km) (7)	2010	CO	2.62		
					0.3				THC	0.27	
					0.15				NOx	0.21	
Class I motorcycles*	Under 0.150l in engine capacity with a maximum speed of 50km/h, or under 0.150l in engine capacity with a maximum speed of 99km/h. *Equivalent to motor-driven cycles, Class 1 and Class 2.	WMTC (g/km) (7)	2016	CO	1.14						
					THC	0.30					
						NOx	0.07				
Class II motorcycles*	Under 0.150l in engine capacity with a maximum speed of <130km/h, or 0.150l or over in engine capacity with a maximum speed of <130km/h. *Equivalent to mini-sized and small-sized motorcycles with a maximum speed of <130km/h.	WMTC (g/km) (7)	2016	CO	1.14						
					THC	0.20					
						NOx	0.07				
Class III motorcycles*	With a maximum speed of ≥130km/h. *Equivalent to mini-sized and small-sized motorcycles with a maximum speed of ≥130km/h.	WMTC (g/km) (7)	2016	CO	1.14						
					THC	0.17					
						NOx	0.09				

(1) All vehicles weighing 3.5t or less are regulated as follows: Beginning in 2008, on the basis of (values measured in cold-start state in JC08 test cycle) x 0.25 + (values measured in 10•15-mode test cycle) x 0.75; and beginning in 2011, on the basis of (values measured in cold-start state in JC08 test cycle) x 0.25 + (values measured in warm-start state in JC08 test cycle) x 0.75.

(2) PM values apply only to direct-injection, lean-burn vehicles equipped with absorption-type NOx reduction catalysts. (3) Small-sized diesel passenger cars have an equivalent inertia weight (EIW) of 1.25t (GVW of 1.265t) or less, and mid-sized diesel passenger cars have an EIW over 1.25t. (4) Enforced since 2010 for medium-duty diesel vehicles (1.7t<GVW≤2.5t) and heavy-duty diesel vehicles (3.5t<GVW≤12t). (5) On the basis of (values measured in cold-start state in WHTC (World Harmonized Transient Cycle) test cycle) x 0.14 + (values measured in warm-start state in WHTC test cycle) x 0.86. (6) Enforcement: 2016 for GVW>7.5t; 2017 for tractors; 2018 for 3.5t<GVW≤7.5t. (7) WMTC: World Motorcycle Test Cycle.

Note: CO: carbon monoxide; NMHC: non-methane hydrocarbons; THC: total hydrocarbons; NOx: nitrogen oxides; PM: particulate matter.

Sources: Ministry of the Environment; Ministry of Land, Infrastructure, Transport and Tourism



## Improving Air Quality

Japan's central government as well as local governments in major metropolitan areas have implemented measures to address air quality problems caused by motor vehicles. In accordance with national legislation aimed at curbing nitrogen oxide (NOx) and particulate matter (PM) emissions, the issuance of inspection-compliance certification is prohibited for vehicles that fail to meet the legal standards at inspection time. Moreover, local governments in major metropolitan areas have introduced additional regulations for diesel trucks and buses for the specific purpose of reducing PM emissions. Enforcement of those regulations means that restrictions are imposed on diesel vehicle circulation in the areas concerned.

### ● PROVISIONS OF THE NATIONAL AUTOMOTIVE NOx AND PM LAW/ DIESEL TRUCK & BUS PM EMISSION REGULATIONS FOR MAJOR METROPOLITAN AREAS

	Provisions of the National Automotive NOx and PM Law (Major Metropolitan Areas)	Provisions of PM Emission Regulations for Diesel Vehicles (Major Metropolitan Areas)
<b>Areas Regulated</b>	Tokyo and Aichi, Chiba, Hyogo, Kanagawa, Mie, Osaka, and Saitama (designated areas)	Tokyo (except for islands) and Chiba, Kanagawa, and Saitama (all areas); Hyogo (designated areas); Osaka (same areas as those designated under the Automotive NOx & PM Law)
<b>Vehicle Types Regulated</b>	Diesel, gasoline, and LPG trucks and buses Diesel passenger cars	Diesel trucks and buses  Note: Not applicable to diesel passenger vehicles with up to 10-passenger occupancy.
<b>Substances Regulated</b>	NOx and PM	PM only NOx and PM in Hyogo and Osaka
<b>Regulatory Values in Force</b>	<p><b>Trucks and Buses</b> GVW = Gross vehicle weight</p> <p><b>GVW=1.7 tons &amp; under:</b> NOx: 0.48g/km (same as 1988 regulatory value for new gasoline vehicles) PM: 0.055g/km (half the 2002 regulatory value for new diesel vehicles)</p> <p><b>GVW=Over 1.7 tons to 2.5 tons:</b> NOx: 0.63g/km (same as 1994 regulatory value for new gasoline vehicles) PM: 0.06g/km (half the 2003 regulatory value for new diesel vehicles)</p> <p><b>GVW=Over 2.5 tons to 3.5 tons:</b> NOx: 5.9g/kWh (same as 1995 regulatory value for new gasoline vehicles) PM: 0.175g/kWh (half the 2003 regulatory value for new diesel vehicles)</p> <p><b>GVW=Over 3.5 tons:</b> NOx: 5.9g/kWh (same as 1998-1999 regulatory value for new diesel vehicles) PM: 0.49g/kWh (same as 1998-1999 regulatory value for new diesel vehicles)</p> <p><b>Passenger Cars</b> NOx: 0.48g/km (same as 1978 regulatory value for new gasoline vehicles) PM: 0.055g/km (half the 2002 regulatory value for new diesel vehicles)</p>	<p>In Chiba and Kanagawa, same as 1997, 1998, and 1999 regulatory values for new diesel trucks and buses</p> <p>In Tokyo and in Saitama, same as 2002, 2003, and 2004 regulatory values for new diesel trucks and buses</p> <p>In Hyogo and Osaka, same values as those mandated by the Automotive NOx &amp; PM Law</p>
<b>Specific Provisions</b>	<p><b>New Vehicles</b> In regulated areas, new vehicles not meeting the standards cannot be registered.</p> <p><b>Vehicles in Use</b> Regulated vehicles whose principal places of use (as declared in their inspection certificates) fall in regulated areas and that do not meet the standards will not be granted inspection certification after grace periods have expired.</p> <p>Note: Vehicles whose principal places of use (as declared in their inspection certificates) do not fall in regulated areas can travel through regulated areas even if they do not meet the standards.</p>	<p><b>New Vehicles</b> No restriction.</p> <p><b>Vehicles in Use</b> Vehicles not meeting the standards are prohibited from travelling through regulated areas after grace periods have expired. In Osaka, vehicles not meeting the standards are prohibited from travelling on roads directly accessing regulated areas. In Tokyo and in Chiba, Kanagawa, and Saitama, vehicles equipped with local government-specified PM reduction systems are deemed to be in compliance with the standards.</p> <p>Note: Applicable to diesel trucks and buses registered anywhere in Japan and travelling through regulated areas.</p>
<b>Grace Periods</b>	<p>From first registration:</p> <ul style="list-style-type: none"> <li>● Small trucks ..... 8 years etc.</li> <li>● Diesel passenger cars ..... 9 years etc.</li> <li>● Standard trucks ..... 9 years etc.</li> <li>● Minibuses ..... 10 years etc.</li> <li>● Large buses ..... 12 years etc.</li> </ul>	<p>Seven years from first registration, regardless of vehicle type (truck or bus)</p> <p>Note: In Chiba, vehicles neither registered in nor travelling through areas designated under the Automotive NOx &amp; PM Law will be exempted for a period of 12 years, provided vehicle owners apply for such an exemption. In Hyogo, grace periods differ according to year of first registration and vehicle type. In Osaka, grace periods are the same as those specified in the Automotive NOx &amp; PM Law.</p>






## Promoting Vehicles with Greater Fuel Efficiency and Lower Emissions

Vehicles with greater fuel efficiency help counter global warming through their reduced emission of CO<sub>2</sub>, while vehicles with reduced tailpipe emissions help improve air quality. For gasoline, diesel, and LPG vehicles, the Japanese government has established environmental performance certification criteria keyed to Japan's latest fuel efficiency and emission standards. Trucks and buses that comply with NO<sub>x</sub> (nitrogen oxides) and PM (particulate matter) emissions requirements are also certified, separately. To boost widespread public awareness of vehicles with advanced fuel efficiency and/or low emissions, such vehicles are identified with appropriately coded stickers.




### ● CERTIFICATION FOR VEHICLES WITH ADVANCED FUEL EFFICIENCY

For Gasoline and Diesel Vehicles  
Including Trucks and Buses with GVW≤2.5t

Rating/Performance Level		Vehicle Sticker
<b>Compliant +20% compared to standards</b>	Performing at least 20% better compared to 2015 fuel efficiency standards	
<b>Compliant +10% compared to standards</b>	Performing at least 10% better compared to 2015 fuel efficiency standards	
<b>Compliant with standards</b>	Compliant with 2015 fuel efficiency standards	




Note: Fuel efficiency is JC08 test cycle-based.

For Trucks and Buses with GVW>2.5t

Rating/Performance Level		Vehicle Sticker
<b>Compliant +10% compared to standards</b>	Performing at least 10% better compared to 2015 fuel efficiency standards	
<b>Compliant +5% compared to standards</b>	Performing at least 5% better compared to 2015 fuel efficiency standards	
<b>Compliant with standards</b>	Compliant with 2015 fuel efficiency standards	







Note: Fuel efficiency is JC08 or JE05 test cycle-based.

For Gasoline and LPG Vehicles  
Including Gasoline Trucks with GVW≤2.5t




Rating/Performance Level		Vehicle Sticker
<b>Compliant +50% compared to standards</b>	Performing at least 50% better compared to 2010 fuel efficiency standards	
<b>Compliant +38% compared to standards</b>	Performing at least 38% better compared to 2010 fuel efficiency standards	
<b>Compliant +25% compared to standards</b>	Performing at least 25% better compared to 2010 fuel efficiency standards	

Note: Fuel efficiency is 10・15-mode test cycle-based.

### ● CERTIFICATION FOR VEHICLES WITH LOW EMISSIONS

Rating/Performance Level		Vehicle Sticker
	Emissions down by 10% from 2009 standards	
	Emissions down by 75% from 2005 standards	
	Emissions down by 50% from 2005 standards	

### ● CERTIFICATION FOR TRUCKS AND BUSES WITH LOW NO<sub>x</sub> & PM EMISSIONS

Rating/Performance Level		Vehicle Sticker
<b>Compliant with 2009 emission standards</b>		
<b>Compliant with 2005 emission standards</b>		
<b>Compliant with other certification criteria (see above)</b>		

## Vehicle Recycling and Waste Reduction

Under Japan’s End-of-Life Vehicle (ELV) Recycling Law which entered into force in January 2005, automobile manufacturers and importers are responsible for recovery, recycling and appropriate disposal with respect to fluorocarbons, airbags, and automobile shredder residue (ASR). Compliance with the law was anticipated to enable ASR to be recycled at a rate of 70% by 2015, resulting in an automobile recycling rate, by vehicle weight, of 95% (as compared with the 80% rate prevailing prior to the introduction of the law); those rates were in fact surpassed in 2008. Japan’s vehicle recycling infrastructure as mandated by its ELV Recycling Law is the first in the world to administer the entire process of auto recycling—from ELV recovery to final disposal—on the basis of electronic “manifests” (or compliance checklists). JAMA itself played a central role in the development and implementation of this advanced vehicle recycling system. It also provided financial support for related software development and continues to help finance system maintenance and upgrades. In line with national efforts to “reduce, reuse, recycle,” Japan’s automakers are also striving to design vehicles using lightweight materials that are easy to dismantle and recycle, and to reduce and recycle waste generated in the manufacturing process. In 2012 the volume of auto plant-generated waste destined for landfill disposal totalled 600 tons, a 99.8% decrease from the 1990 level, very largely surpassing the 2015 target of 10,000 tons.

### ● INDUSTRY MEASURES IN LINE WITH NATIONAL LEGISLATION

	Promotion of Effective Utilization of Resources Law (the “3-R” Law)		Distribution, Servicing and Use	End-of-Life Vehicle Recycling Law
	Product Design	Waste Management		ELV Recycling
<b>“Reduce” initiatives</b>	For designated products: <ul style="list-style-type: none"> <li>- Weight reduction/ Downsizing</li> <li>- Longer product life</li> <li>- Reduced use of hazardous substances</li> </ul>	For designated areas of activity: <ul style="list-style-type: none"> <li>- Reduction/recycling of designated waste products generated in vehicle manufacturing operations:                             <ol style="list-style-type: none"> <li>1) Scrap metals</li> <li>2) Casting sand residue</li> </ol> </li> </ul>		- Recovery and recycling of: <ol style="list-style-type: none"> <li>1) Fluorocarbons</li> <li>2) Airbags</li> <li>3) ASR</li> </ol> Note: Motorcycles are not covered by the ELV Recycling Law.
<b>“Reuse” initiatives</b>	For designated products: <ul style="list-style-type: none"> <li>- Use of recyclable materials</li> </ul>			
<b>“Recycle” initiatives</b>	<ul style="list-style-type: none"> <li>- Ease of dismantling</li> <li>- Ease of sorting</li> <li>- Non-hazardous recycling</li> <li>- Materials identification</li> </ul>	- Total waste volume*: <ul style="list-style-type: none"> <li>1990 (baseline): 352,000 tons</li> <li>↓</li> <li>2012: 600 tons (a 99.8% reduction from 1990)</li> <li>JAMA target: 10,000 tons by fiscal 2015</li> </ul> *For landfill disposal, including scrap metals, casting sand residue, and other waste		

### ● ELV RECOVERY IN NUMBERS

In vehicle units

Fiscal Year		2012	2013
<b>No. of ELVs recovered</b>		3,405,662	3,433,356
<b>Appropriate disposal of 3 designated items</b>	Fluorocarbons	2,816,486	2,911,189
	Airbags (1)	2,157,945	2,273,857
	ASR (2)	3,391,787	3,391,740

(1) Through recovery/appropriate disposal of inflators or through onboard deactivation.  
 (2) Covers all categories of processors, whether for direct disposal or for transfer to other markets.

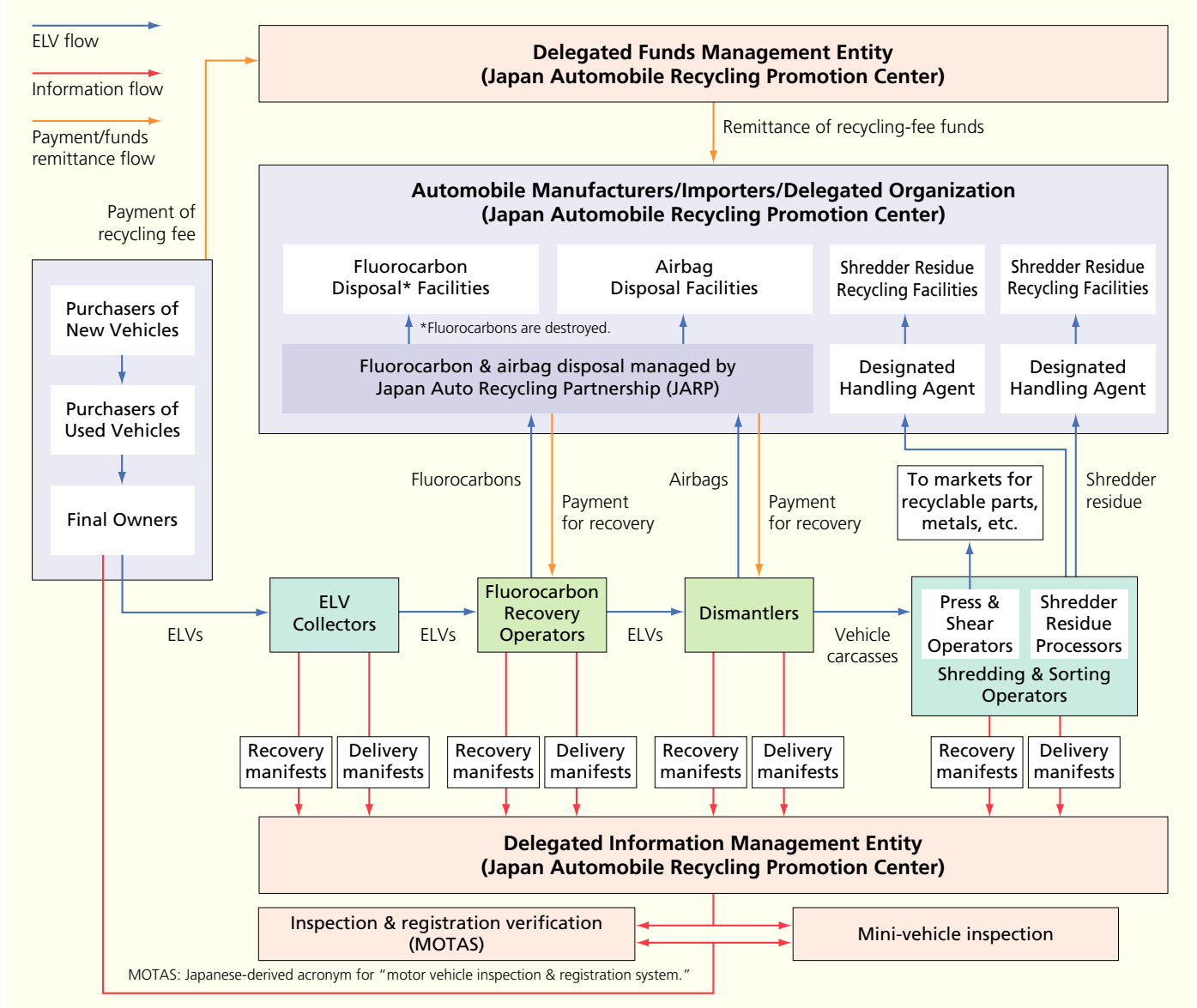
Source: Japan Automobile Recycling Promotion Center

### ● RECYCLING RATES: TARGETED & ACHIEVED

Three Designated Items	Target	Achieved
Fluorocarbons	Destruction	2.158 million vehicle units (2012)
Airbags	85%	93-95% (2012)
ASR	2005: 30% 2010: 50% 2015: 70%	93-96.8% (2012)

Sources: Government-affiliated entities

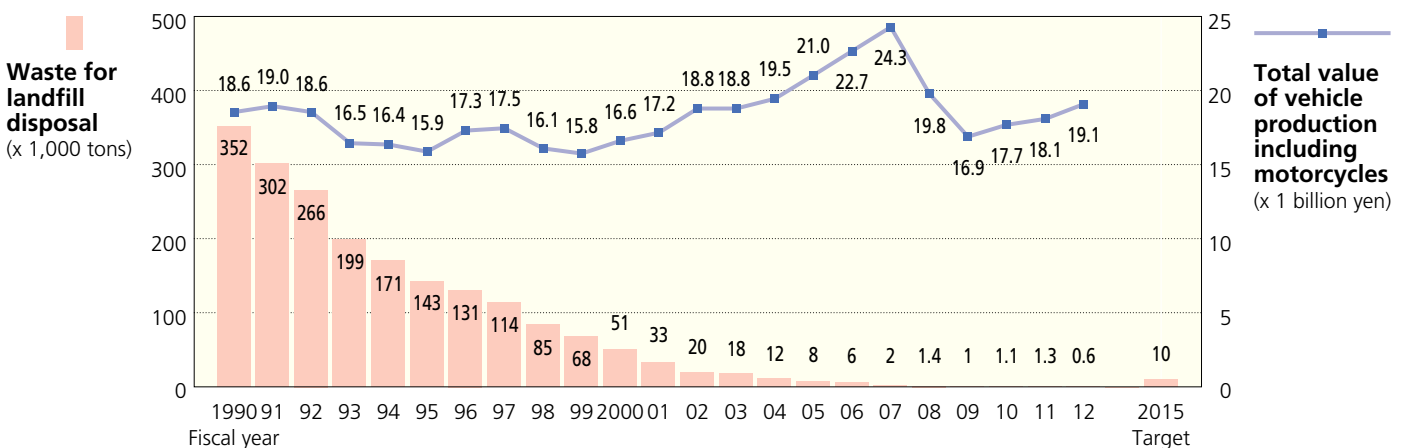
## ● THE ELV RECYCLING FLOW (as per the provisions of the End-of-Life Vehicle Recycling Law)



Note: The Japan Automobile Recycling Promotion Center assumes the same responsibilities as automobile manufacturers and importers when an ELV has no manufacturer representation under the provisions of this law. It also assumes transport-to-mainland costs for ELVs turned in on Japan's smallest islands.

## ● REDUCTIONS IN PRODUCTION PLANT-GENERATED WASTE

As a result of the efforts made by Japan's automobile manufacturers, the total volume of auto plant-generated waste destined for landfill has decreased dramatically. It surpassed the 2015 target of 10,000 tons for the first time in 2005, shrinking more than 97% from the 1990 baseline level to 8,000 tons. In 2012 plant-generated waste totalled 600 tons, marking not only a large decrease from the previous year, but also a 99.8% reduction from the 1990 level—and thus very significantly surpassing the 2015 target.



Source: Japan Automobile Manufacturers Association

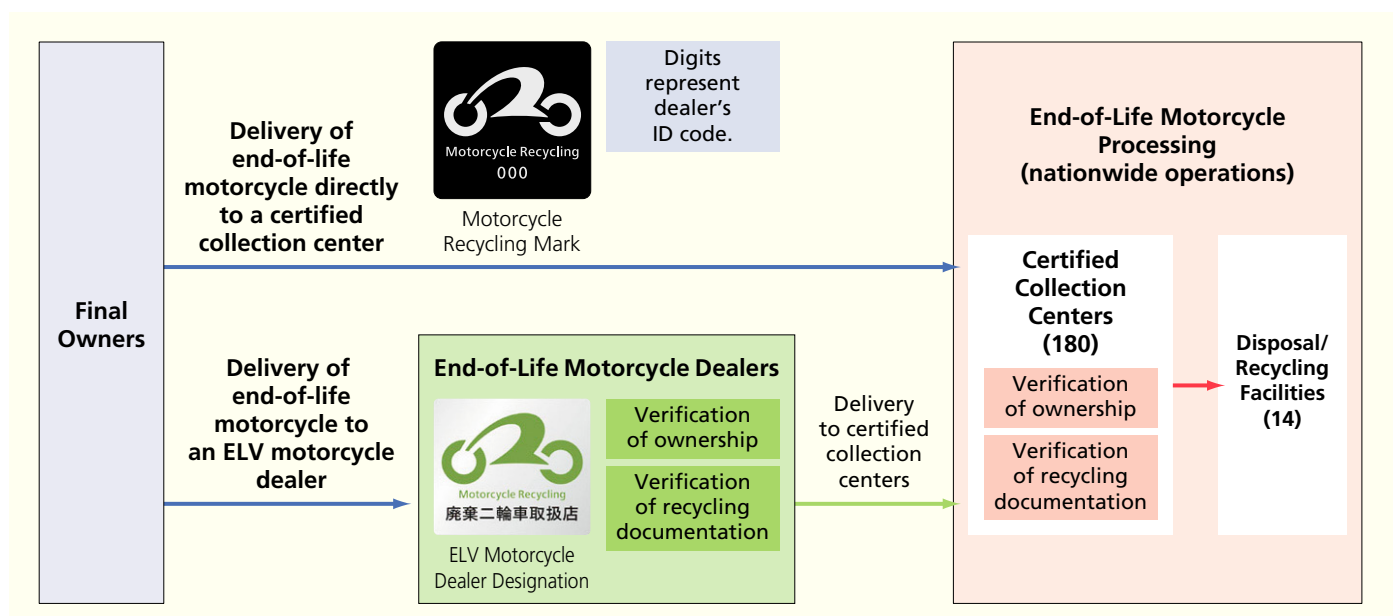
# Voluntary Initiatives to Recycle Commercial Vehicle Rack Equipment and Motorcycles

Japan’s End-of-Life Vehicle Recycling Law does not cover some types of commercial vehicle rack and custom equipment, nor does it cover motorcycles. In response, JAMA, in cooperation with the Japan Auto-Body Industries Association, promotes the development and use of rack equipment that is easy to dismantle and contains minimal amounts of hazardous substances. JAMA has also introduced a recycling-and-disposal system for such equipment. As of January 2014, a total of 163 operators across Japan are participating in the system voluntarily. Since October 2004, JAMA’s four motorcycle-manufacturing members, along with 12 motorcycle importers, have been voluntarily operating a recycling system under which motorcycle dealers nationwide sell only vehicles that feature an official motorcycle recycling mark, enabling, without any additional charge to their final owners, their recovery and processing through the proper disposal channels at the end of their service life. In October 2011, the motorcycle recycling fee was eliminated for vehicles sold prior to the introduction of the motorcycle recycling system seven years earlier. Municipally-owned motorcycles require a pre-approval by the Japan Automobile Recycling Promotion Center prior to their appropriate disposal.

## ● COMMERCIAL VEHICLE RACK EQUIPMENT NOT COVERED BY THE END-OF-LIFE VEHICLE RECYCLING LAW

<p><b>Voluntary Recovery (from Cab-Type Vehicles)</b></p> <p>(Color code explains cost burden placement.)</p>	<p><b>Voluntary Recovery (from Single-Body Vehicles)</b></p> <p>(Color code explains cost burden placement.)</p>	<p><b>Vehicles Not Covered by the End-of-Life Vehicle Recycling Law</b></p>	
		<p><b>Van-type CVs such as:</b></p>	<p>Freezer trucks/vans, refrigerator trucks/vans, dry vans, etc.</p>
		<p><b>Tank-type CVs such as:</b></p>	<p>Tank trucks, cement mixers, waterspraying trucks, water-supply trucks, sewage removal trucks, etc.</p>
<p><b>Cost Burden for Equipment Not Covered by the Law</b></p>	<p>The End-of-Life Vehicle Recycling Law does not cover some types of rack and custom equipment for commercial vehicles. Recovery costs through final disposal are therefore not included in the vehicle recycling fee but rather market-determined.</p>		
<p><b>Cost Burden for Equipment Covered by the Law</b></p>	<p>For all commercial vehicle rack equipment covered by the End-of-Life Vehicle Recycling Law, including single-body vehicle equipment (exclusive of custom equipment), the vehicle recycling fee covers the entire cost of recovery through final disposal.</p>		
		<p><b>Hauling CVs such as:</b></p>	<p>Specialized hauling trucks, vehicle carriers, container trucks, lift-equipped vehicles, etc.</p>
		<p><b>Special-purpose CVs such as:</b></p>	<p>Special all-terrain vehicles, fire trucks, wreckers, pump trucks, ladder-equipped vehicles, etc.</p>

## ● THE MOTORCYCLE RECYCLING FLOW

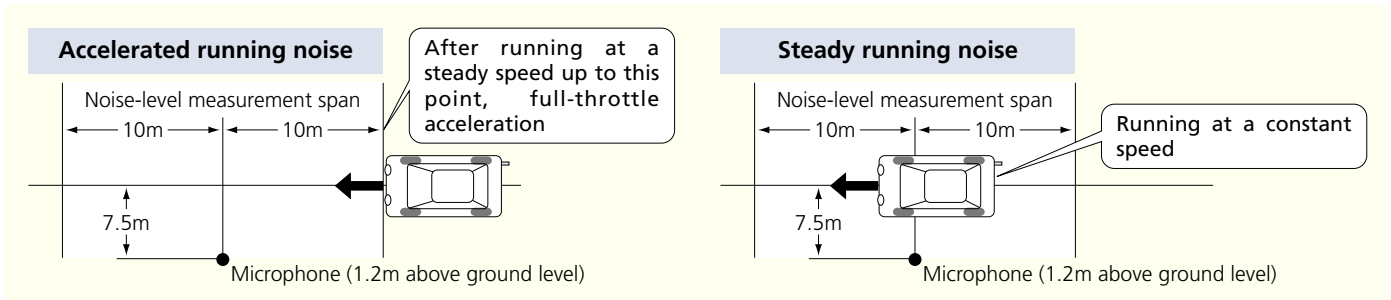


Note: The cost of ELV motorcycle delivery from ELV dealers to certified collection centers is financed by the motorcycle manufacturers on the basis of the consumer’s recycling fee paid at the time of motorcycle purchase. Source: Japan Automobile Recycling Promotion Center

## Reducing Automobile-Emitted Noise

Automobiles generate various kinds of noise, including the noise emitted by the engine, intake system, powertrain, and cooling and exhaust systems. Tires also generate tire/road noise. Automotive noise in Japan is regulated by standards—on accelerated running noise, steady running noise, and stationary exhaust proximity noise—which have become progressively more stringent, requiring automakers to develop the technologies necessary for compliance. As regards the noise intentionally emitted through tampered mufflers, which has been recognized as a public nuisance, strengthened regulations in effect since April 2010 mandate a) that mufflers be tamper-resistant so as to prevent the alteration of their noise-suppression mechanism, and b) that replacement mufflers not only meet Japan’s relevant noise standards through type approval compliance but also be ID-marked accordingly. Although very significant progress has been made as a result of all of these efforts, the Japanese government’s Central Environment Council is nevertheless working on the updating of noise regulations in line with the results of studies conducted under the United Nations’ World Forum for Harmonization of Vehicle Regulations (WP.29). Accordingly, in its “New Measures for Reducing Automobile-Emitted Noise” released in April 2012, the government announced its intention to introduce, beginning in 2014, UN R41-04, the new international standard on motorcycle acceleration noise, as well as UN R117-02, to regulate tire noise generated by passenger cars, trucks and buses. Meanwhile, the Forum’s Working Party on Noise continues to discuss the quietness of electric vehicles and hybrid vehicles running at low speed, with a view to creating a global technical standard in this regard.

### PROCEDURES FOR TESTING MOTOR VEHICLE NOISE LEVELS



### OVERVIEW OF JAPAN’S MOTOR VEHICLE NOISE REGULATIONS (for accelerated running noise) In dB(A)

Passenger Cars, Trucks and Buses							
Vehicle Type		Regulation					
		1971	1976-1977	1979	1982-1987	1998-2001	
Large-sized vehicles	Vehicles with GVW>3.5 tons and maximum engine output>150 kW	4WD vehicles, etc.	92	89	86	83	82
		Trucks					81
		Buses					81
Medium-sized vehicles	Vehicles with GVW>3.5 tons and maximum engine output≤150 kW	4WD vehicles, etc.	89	87	86	83	81
		Trucks					80
		Buses					80
Small-sized vehicles	Vehicles with GVW≤3.5 tons	Other than mini-vehicles	85	83	81	78	76
Passenger cars	Vehicles exclusively for the transport of passengers, with up to 10-passenger occupancy	Over 6 occupants	84	82	81	78	76
		6 occupants or fewer					

Notes: 1. In pre-1987 regulations, “150 kW” reads “200 horsepower.” 2. “4WD vehicles, etc.” includes 4WDs, tractors, and cranes.

Motorcycles							
Vehicle Type		Regulation					
		1971	1976-1977	1979	1982-1987	1998-2001	2014-
Small-sized motorcycles	Over 250cc	86	83	78	75	73	
Mini-sized motorcycles	126cc-250cc	84					
Class III (see note)	Over 50 (PMR*-based)	Mini-sized and small-sized motorcycles under the current classification					77
Motor-driven cycles Class 2	51cc-125cc	82	79	75	72	71	
Class II (see note)	26-50 (PMR*-based)	Mostly Class 2 but also some Class 1 motor-driven cycles and some mini-sized motorcycles under the current classification					74
Motor-driven cycles Class 1	50cc & under	80	79	75	72	71	
Class I (see note)	25 & under (PMR*-based)	Class 1 motor-driven cycles under the current classification					73

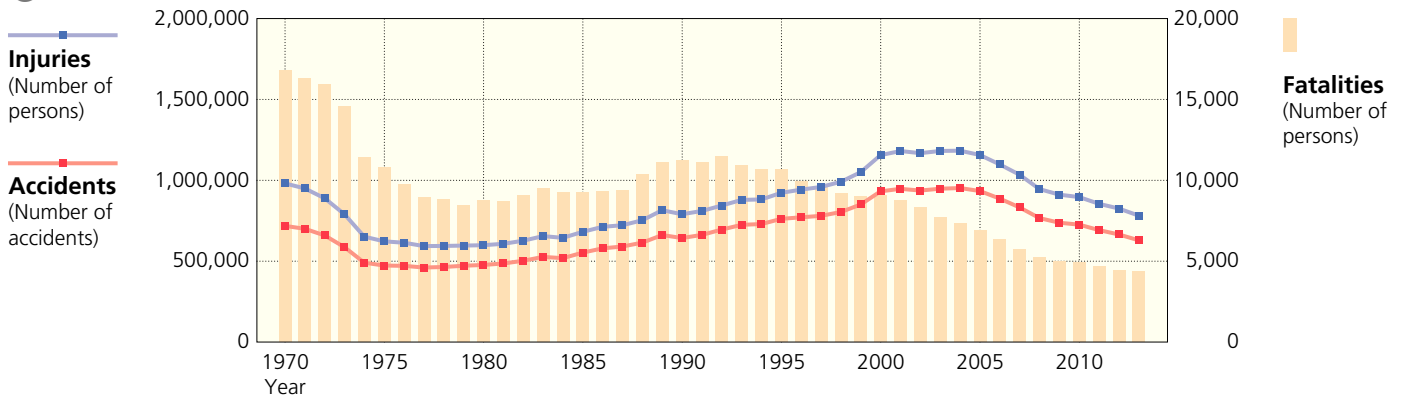
\*PMR: Power-to-mass ratio. Note: Beginning in 2014, for noise regulation purposes, motorcycles in Japan will be classified (based on their PMR values) under the Class I, II and III categories, and the Class 1 motor-driven cycle, Class 2 motor-driven cycle, mini-sized motorcycle and small-sized motorcycle categories will no longer apply.

Source: Ministry of the Environment

# Road Accidents and Resulting Fatalities and Injuries Continue to Decline

In 2013 road fatalities (defined as occurring within 24 hours after the accident) in Japan fell for the thirteenth straight year, to a total of 4,373. Road accidents and road injuries also declined, for the ninth consecutive year, to 629,021 and 781,494 respectively. Increased seatbelt use is one of the major factors behind the downward trend in road fatalities. The June 2008 revision to the Road Traffic Act requires all automobile passengers, including rear-seat occupants, to use seatbelts. Although the rate of use of rear seatbelts in 2013 stood at 35.1% on regular roads and at 68.2% on expressways, those rates remain low compared to the rate of use of front seatbelts, which approaches 100%. Further measures are needed to encourage rear-seat occupants to buckle up.

## ROAD ACCIDENTS/INJURIES/FATALITIES

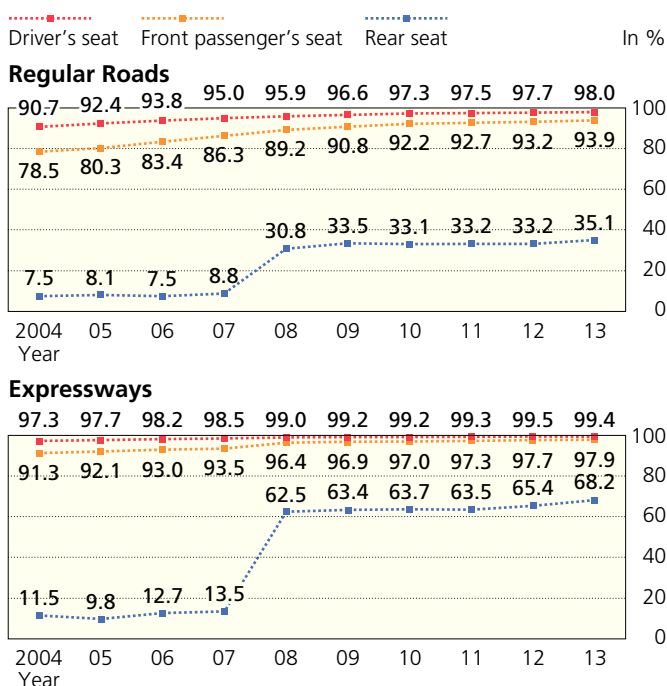


## ROAD ACCIDENTS/INJURIES/FATALITIES (exact figures)

Year	1970	1975	1980	1985	1990	1995	2000	2005	2009	2010	2011	2012	2013
<b>Accidents</b>	718,080	472,938	476,677	552,788	643,097	761,794	931,950	934,339	737,628	725,903	692,056	665,138	629,021
<b>Injuries</b> (Number of persons)	981,096	622,467	598,719	681,346	790,295	922,677	1,155,707	1,157,115	911,215	896,294	854,610	825,396	781,494
<b>Fatalities</b> (Number of persons)	16,765	10,792	8,760	9,261	11,227	10,684	9,073	6,927	4,968	4,922	4,663	4,411	4,373

Source: National Police Agency

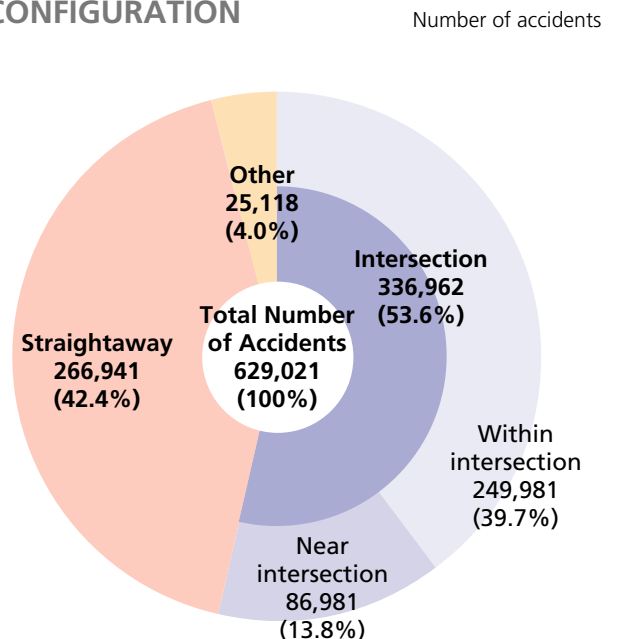
## SEATBELT USE RATES BY SEAT POSITION



Notes: 1. The survey on seatbelt use is conducted annually in October. 2. 2013 survey samples totalled roughly 411,000 on regular roads and 87,000 on expressways.

Sources: National Police Agency; Japan Automobile Federation

## ROAD ACCIDENTS IN 2013 BY ROAD CONFIGURATION



Notes: 1. "Straightaway" includes some curves and tunnels. 2. "Other" includes railroad crossings.

Source: National Police Agency





## JAMA Initiatives in Promoting Greater Road Safety

In April 2004, JAMA pledged its support of the Japanese government's goal to reduce road fatalities by 50% over a period of ten years. JAMA's own initiatives towards that goal are outlined below.

### ● JAMA'S ROAD SAFETY INITIATIVES IN EIGHT PRIORITY AREAS

Priority Area	Road Users: Public Awareness Campaigns	Vehicles: Safety Measures	Road Infrastructure: Proposals to Government
① Accidents involving pedestrians or cyclists	• Continued implementation of road safety public awareness campaigns, based on the results of accident causation studies.	• More widespread application of AFS (1), ABS (2), BA (3), and stability control.	• For infrastructural improvements, based on the results of accident causation studies.
② Special measures for the elderly	• Development of road safety educational programs specifically for the elderly.	• Development of technologies specifically geared to aging-related physical changes.	• For more widespread roadway/sidewalk demarcation and greater barrier-free mobility.
③ Greater use of seatbelts	• Public awareness campaigns to promote the use of seatbelts.		
④ Delays in driver recognition and incorrect vehicle control	• Campaigns aimed at preventing faulty driver recognition and incorrect vehicle control.	• Research into the mechanisms of accident causation and human-machine interface conditions using data recorders, etc.	
⑤ Accidents occurring at twilight/night	• Campaigns to promote the early lighting of automobile headlamps.	• More widespread application of AFS.	• For improved nighttime road illumination.
⑥ Accidents occurring at intersections	• Public awareness campaigns to encourage drivers to exercise greater caution at intersections, where the majority of fatal road accidents occur.	• More widespread application of ABS, BA, and stability control. • Improvement of side-impact protection performance.	• For road infrastructure regulations for effective utilization of ITS technologies.
⑦ Collisions with stationary objects		• Improvement of side-impact and vehicle occupant protection performance and of side and curtain airbags.	• For expanded provision of underground power lines and impact-absorbing road installations.
⑧ Compatibility		• R&D on crash-compatible vehicle bodies and compatibility evaluation methods to improve vehicle performance.	

(1) Adaptive front-lighting systems. (2) Anti-lock braking systems. (3) Brake-assist systems.

## Japan's 9th Basic Plan for Road Safety

Japan's road safety measures are promoted on the basis of its succession of consecutive "basic plans" for road safety, the first of which was implemented in 1970. In line with the government's goal of eventually achieving "zero road accidents" nationwide, Japan's ninth road safety plan (2011-2015) aims to create a highly road safety-conscious society that places maximum priority on human life and, in particular, the safety of those of its members who are most vulnerable to road accidents—namely, pedestrians, senior citizens, and persons who are disabled. The plan emphasizes the need to pursue aggressive measures targeting further reductions in the occurrence of road accidents and fatalities.

### ● JAPAN'S ROAD SAFETY TARGETS

- To reduce the annual number of road fatalities (occurring within 24 hours post-accident) to below 3,000 by 2015, and thus to make Japan's roads the safest in the world.
- To reduce the total annual number of road fatalities (occurring within 24 hours post-accident) and injuries to below 700,000 by 2015.

### ● EIGHT MAJOR AREAS OF ROAD SAFETY PROMOTIONAL ACTIVITY

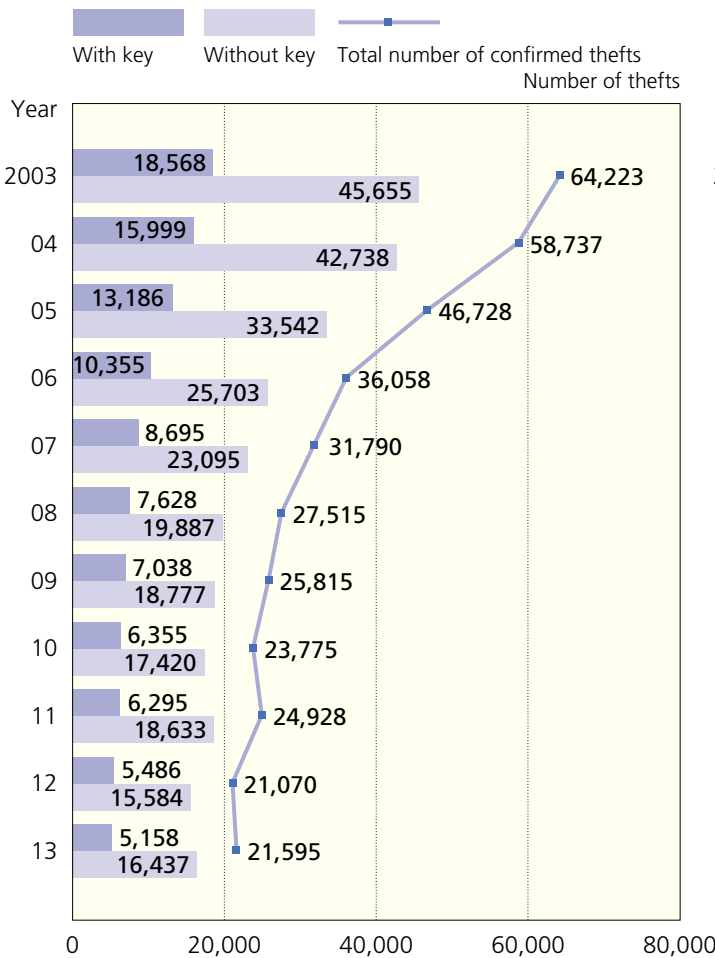
<b>Road Infrastructure Improvements</b> <ul style="list-style-type: none"> <li>- Sidewalk construction/upgrades, especially in school zones</li> <li>- More pedestrian routes suitable for the elderly and disabled</li> <li>- Increased use of ITS</li> </ul>	<b>Road Safety Public Awareness Campaigns</b> <ul style="list-style-type: none"> <li>- Promotion of safe cycling</li> <li>- Promotion of road safety education for the elderly</li> <li>- Promotion of seatbelt use by all vehicle occupants</li> <li>- Promotion of road safety activities in local communities with the participation of residents</li> </ul>
<b>Promotion of Safe Driving</b> <ul style="list-style-type: none"> <li>- Implementation of special driver-education programs for the elderly</li> <li>- Vehicle fleet operation-related road accident analysis</li> </ul>	<b>Enhancement of Vehicle Safety</b> <ul style="list-style-type: none"> <li>- Expanded development and onboard application of Advanced Safety Vehicle technologies</li> <li>- Implementation of improvements to the national vehicle recall system</li> <li>- Promotion of regular vehicle checks and maintenance</li> </ul>
<b>Enforcement of Road Traffic Laws</b> <ul style="list-style-type: none"> <li>- Strict enforcement of traffic regulations</li> <li>- Stronger crackdowns on "hot-rodding" motorcyclists</li> </ul>	<b>Reinforcement of Emergency Rescue Operations Infrastructure</b> <ul style="list-style-type: none"> <li>- Improved training and deployment of emergency rescue personnel</li> <li>- Upgrading of emergency dispatch support systems</li> <li>- Promotion of doctor-staffed helicopters</li> </ul>
<b>Provision of Fair Compensation for Road Accident Victims</b> <ul style="list-style-type: none"> <li>- Enhanced support for the provision of fair "damages" compensation</li> </ul>	<b>Promotion of Road Safety Research and Analysis</b> <ul style="list-style-type: none"> <li>- Promotion of further safe-driving research</li> <li>- Promotion of comprehensive analysis of road accident causation</li> </ul>

Source: Japan's 9th Basic Plan for Road Safety

## Efforts to Prevent Theft

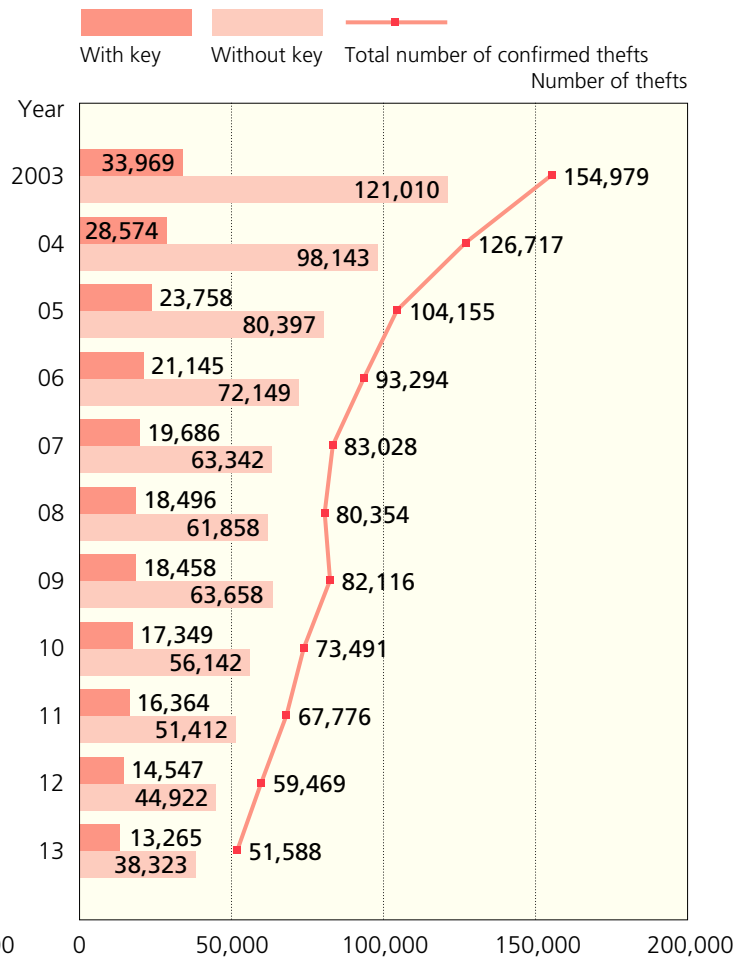
After peaking at 64,223 in 2003, the annual number of automobile thefts in Japan shrank for seven consecutive years, registering 23,775 in 2010. Although rising slightly in 2011 and 2013, automobile thefts have continued their downward trend overall (attributable to the widespread use of immobilizers, or portable electronic lock systems), totalling 21,595 in 2013. Meanwhile, although 51,588 motorcycle thefts were reported in 2013, that figure nevertheless extends the nearly uninterrupted decline in such thefts since 2000. To enhance motor vehicles' "theft-resistance," the automobile industry has very significantly expanded the supply of smart keys equipped with immobilizers.

### TRENDS IN CONFIRMED MOTOR VEHICLE THEFTS



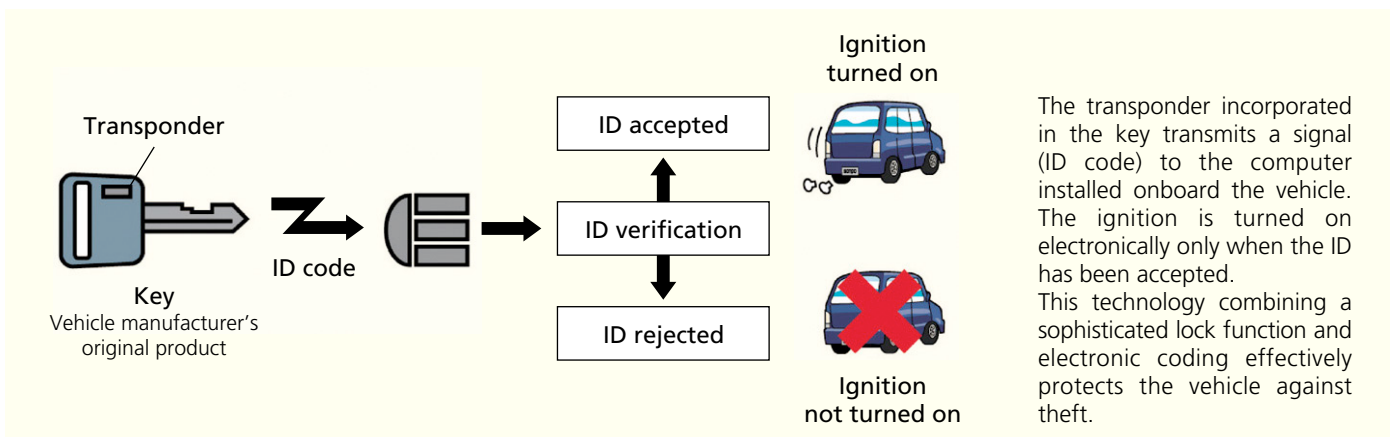
Source: National Police Agency

### TRENDS IN CONFIRMED MOTORCYCLE THEFTS



Source: National Police Agency

### A SAMPLE IMMOBILIZER DEVICE AND HOW IT WORKS



Note: The above diagram illustrates the operation of a vehicle manufacturer-supplied original product. Other types of immobilizers are available in the aftersales market.

## 81.9 Million People Hold Driver's Licenses

At the end of 2013 there were 81.9 million people, or 45.5 million men and 36.4 million women, holding valid driver's licenses in Japan. The number of driver's licenses held totalled 128.2 million (with one count allotted to each vehicle category covered, whenever a license covers multiple vehicle categories). By license category, Class 2 licenses were held by 2.33 million people, or 2.27 million men and 0.06 million women, and Class 1 licenses by 125.8 million people, or 81.65 million men and 44.19 million women.

### ● GENDER TRENDS IN DRIVER'S LICENSE HOLDERS (at end of every calendar year) Number of persons

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Men</b>	45,020,226	45,135,941	45,257,391	45,412,614	45,517,585	45,539,419	45,487,010	45,448,263	45,437,260	45,463,791
<b>Women</b>	33,226,722	33,662,880	34,072,475	34,494,598	34,930,257	35,272,526	35,523,236	35,767,003	36,050,586	36,396,221
<b>Total</b>	78,246,948	78,798,821	79,329,866	79,907,212	80,447,842	80,811,945	81,010,246	81,215,266	81,487,846	81,860,012

### ● TOTAL NUMBER OF LICENSES HELD, BY YEAR & LICENSE/VEHICLE CATEGORY Number of licenses held

Year		2007	2008	2009	2010	2011	2012	2013
<b>Class 2 Licenses</b>	Large motor vehicle	1,122,994	1,106,704	1,089,135	1,068,347	1,046,361	1,026,180	1,007,743
	Middle-category motor vehicle	1,234,075	1,200,328	1,162,250	1,121,287	1,081,474	1,042,120	1,002,043
	Ordinary motor vehicle	156,965	168,575	190,198	200,961	208,060	214,555	220,403
	Large special-purpose vehicle	48,030	47,753	47,238	46,698	46,055	45,463	45,041
	Traction vehicle	54,005	53,703	53,125	52,480	51,716	51,035	50,473
	Subtotal	2,616,069	2,577,063	2,541,946	2,489,773	2,433,666	2,379,353	2,325,703
<b>Class 1 Licenses</b>	Large motor vehicle	5,523,190	5,499,204	5,464,835	5,415,730	5,375,268	5,337,727	5,299,480
	Middle-category motor vehicle	75,632,238	75,059,457	74,378,308	73,587,938	72,814,101	72,070,665	71,409,459
	Ordinary motor vehicle	705,387	1,961,618	3,177,214	4,370,510	5,550,718	6,749,966	7,936,169
	Large special-purpose vehicle	2,402,921	2,417,497	2,428,901	2,435,324	2,443,687	2,454,123	2,465,978
	Traction vehicle	1,115,034	1,130,186	1,139,434	1,145,609	1,152,732	1,160,509	1,168,205
	Large two-wheeler	12,195,811	12,006,075	11,765,267	11,472,937	11,197,903	10,938,930	10,703,691
	Ordinary two-wheeler	8,454,617	8,663,075	8,839,410	8,996,934	9,154,873	9,310,786	9,472,692
	Small special-purpose vehicle	656,664	629,151	598,136	565,103	532,892	503,338	477,296
	Motorized bicycle	17,365,524	17,358,087	17,304,896	17,190,548	17,075,472	16,977,729	16,905,848
	Subtotal	124,051,386	124,724,350	125,096,401	125,180,633	125,297,646	125,503,773	125,838,818
<b>Total</b>	126,667,455	127,301,413	127,638,347	127,670,406	127,731,312	127,883,126	128,164,521	

Note: In the above figures, one count is allotted to each vehicle category covered, whenever a license covers multiple vehicle categories.

### ● CLASS 1 LICENSES AND THE VEHICLE CATEGORIES THEY COVER

Vehicle Category	Class 1 Licenses								
	Large motor vehicle	Middle-category motor vehicle	Ordinary motor vehicle	Large special-purpose vehicle	Large two-wheeler	Ordinary two-wheeler	Ordinary two-wheeler (51cc-125cc)	Small special-purpose vehicle	Motorized bicycle
Large motor vehicle	●								
Middle-category motor vehicle	●	●							
Ordinary motor vehicle	●	●	●						
Large special-purpose vehicle				●					
Large two-wheeler (over 400cc)					●				
Ordinary two-wheeler	126cc-400cc				●	●			
	51cc-125cc				●	●	●		
Small special-purpose vehicle	●	●	●	●	●	●	●	●	
Motorized bicycle (50cc & under)	●	●	●	●	●	●	●		●

Notes: 1. As per a revision to the Road Traffic Act, the middle-category motor vehicle license went into effect from June 2, 2007. 2. The ordinary motor vehicle and large two-wheeler license categories include licenses restricted to automatic transmission (AT) cars/motorcycles; the ordinary two-wheeler license category includes licenses restricted, respectively, to AT motorcycles, to small-sized (over 250cc) motorcycles, and to small-sized AT motorcycles.

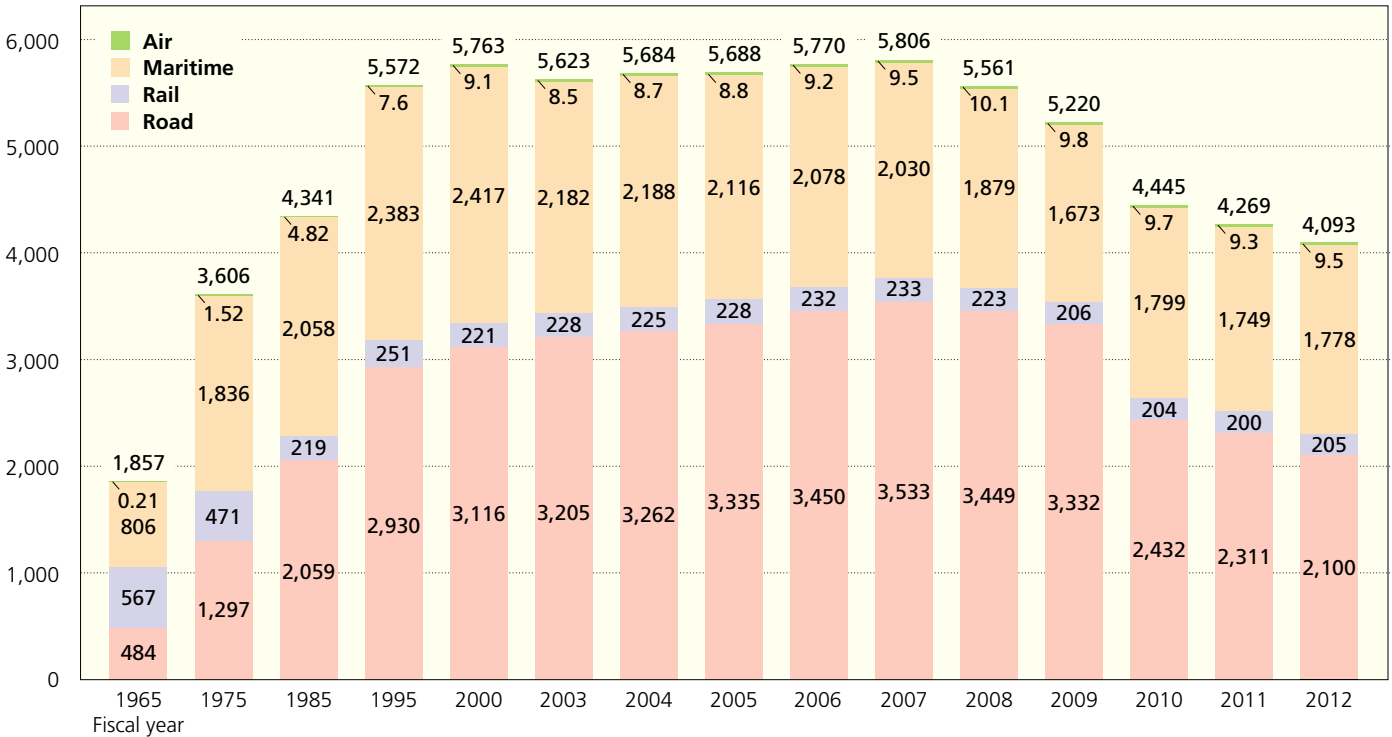
Source for all statistical data on this page: National Police Agency

## Motor Vehicles Are Vital to Goods Distribution

Accounting at present for 51% of Japan's total freight transport, road transportation plays an essential role in goods distribution. The role of motor vehicles in freight transport, especially small cargo transport, will become even more significant in the years ahead.

### TRENDS IN DOMESTIC FREIGHT TRANSPORT VOLUMES, BY MODE

x 100 million tons/km



Notes: 1. Since 1987, "Road" includes transport by mini-vehicles. 2. Survey and calculation methods for "Road" data changed in 2010. 3. "Road" figures for fiscal 2010 (ending March 31, 2011) and 2011 do not include March and April 2011 data from the Tohoku region and Hokkaido as a consequence of the March 11, 2011 earthquake. Sources: Ministry of Land, Infrastructure, Transport and Tourism, etc.

## Automobile Customs Tariffs

After repeated reductions in tariff rates, import tariffs in Japan on finished motor vehicles and major auto components were completely abolished in 1978. Meanwhile, some countries still impose high tariffs on imported vehicles. The United States imposes a 25% tariff on imported trucks, and EU import tariffs range from 10% (on finished passenger cars) to 22% (on larger-sized trucks). China's auto tariffs remain high despite having been progressively lowered after the country's accession to the World Trade Organization.

### AUTOMOBILE CUSTOMS TARIFFS, JAPAN/U.S.A./EU/CHINA

As of February 2014

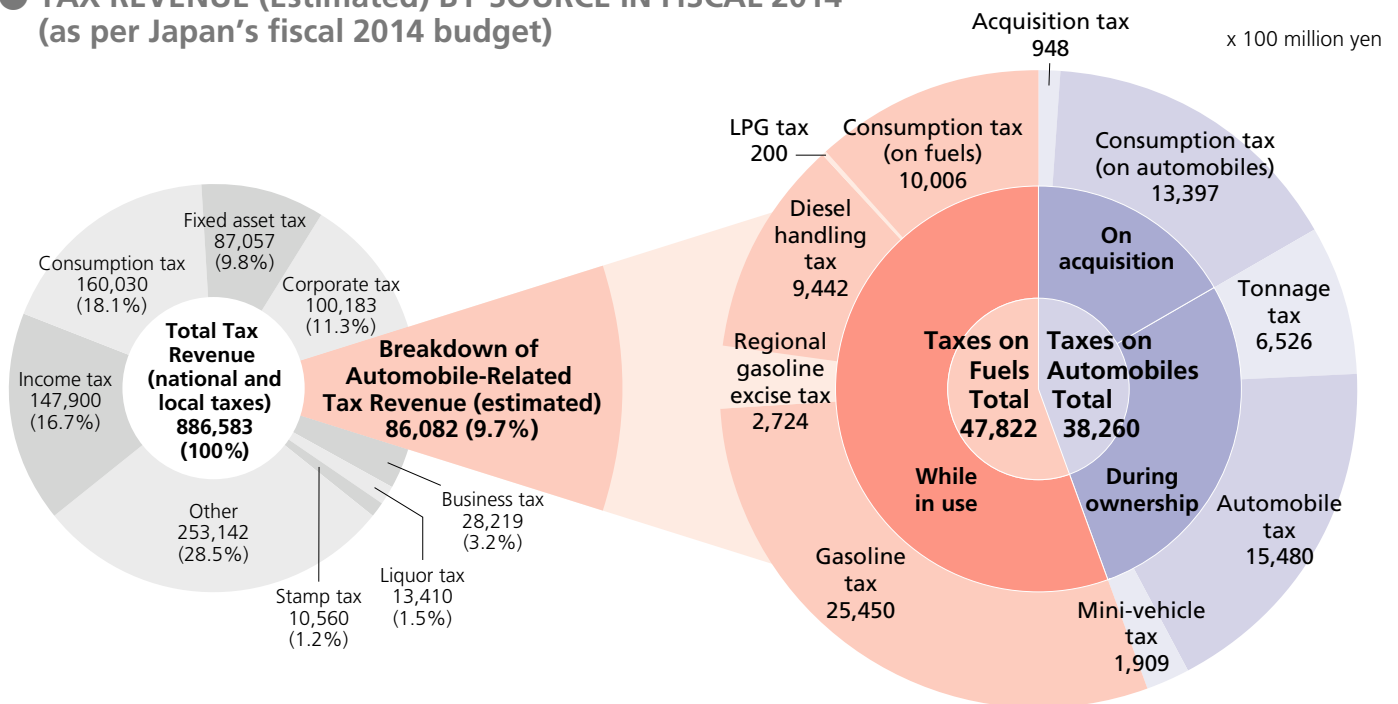
	Japan	U.S.A.	EU	China
<b>Passenger Cars</b>	None	2.5%	10%	25%
<b>Trucks</b>	None	25% Cab chassis, 5t or greater in GVW ..... 4%	Gasoline trucks, over 2800cc Diesel trucks, over 2500cc ..... 22% Gasoline trucks, 2800cc or under Diesel trucks, 2500cc or under ..... 10%	Trucks, under 5t in GVW ..... 25% Gasoline trucks, 5t or greater in GVW Diesel trucks, from 5t up to 20t in GVW .... 20% Diesel trucks, 20t or greater in GVW ..... 15%
<b>Buses</b>	None	Vehicles for the transport of 10 or more persons, incl. the driver ..... 2%	Vehicles for the transport of 10 or more persons, incl. the driver Gasoline buses, over 2800cc Diesel buses, over 2500cc ..... 16% Gasoline buses, 2800cc or under Diesel buses, 2500cc or under ..... 10%	25%
<b>Components, etc.</b>	Major components: None	Bodies, parts and accessories ..... 2.5%	Bodies, parts and accessories ..... 3-4.5%	Major components ..... 6-10%

Sources: Customs tariff schedules of countries/region concerned

# Nine Trillion Yen in Annual Automobile-Related Tax Revenue

Since the initial earmarking of funds for road construction and road maintenance programs in line with Japan’s first five-year road improvement plan in 1954, there has been a steady increase both in the number of automobile-related taxes assessed on users and in their respective rates. Currently, the automobile tax structure consists of nine different taxes, creating a very heavy tax burden for motor vehicle owners in Japan. Under the government’s budget for fiscal 2014, the total value of tax revenue from these automobile-related taxes has been estimated at 8.6 trillion yen, or 9.7% of Japan’s projected total tax revenue of 89 trillion yen in fiscal 2014.

## TAX REVENUE (Estimated) BY SOURCE IN FISCAL 2014 (as per Japan’s fiscal 2014 budget)



Notes: 1. Automobile-related consumption tax revenue is not included in the “Consumption tax” segment in the chart on the left, but is included in the breakdown of automobile-related tax revenue appearing in the chart on the right. 2. Automobile-related consumption tax revenue values (including the consumption tax revenue from automobile servicing, not shown but included in figures here) have been calculated by JAMA. 3. The consumption tax is a national sales tax, of which 1% of the revenue is redistributed as revenue to local governments. Sources: Ministry of Finance; Ministry of Internal Affairs and Communications

## AUTOMOBILE-RELATED TAXES IN JAPAN (as of April 1, 2014)

Tax Category	On Acquisition		During Ownership
	Acquisition Tax	Consumption Tax	Tonnage Tax
<b>How Assessed</b>	Assessed on the acquisition of an automobile, whether new or used, based on the purchase price	Assessed on the purchase price of the automobile	Assessed according to vehicle weight at each vehicle inspection
<b>National/Local Tax</b>	Prefectural tax	National and local tax	National tax
<b>Tax Rate/Amount</b>	(Private use) - 3% of purchase price (2% for commercial vehicles and mini-vehicles) - Exempted for vehicles purchased for ¥500,000 or less  Note: For eco-friendly vehicles, reductions/exemptions apply to the acquisition tax (see pages 48-50).	8% (of which 1.7% is a local tax)	1) Vehicles complying with 2015 fuel efficiency standards: ¥2,500/0.5t/year for private passenger cars (original rates apply) 2) Vehicles on the road 18 years or longer since first registration: ¥6,300/0.5t/year for private passenger cars 3) Vehicles on the road 13 years or longer since first registration: ¥5,400/0.5t/year for private passenger cars (¥5,700/0.5t/year for private passenger cars, from April 2016) 4) Other vehicles for private use: - Passenger cars: ¥4,100/0.5t/year - Trucks (GVW>2.5t): ¥4,100/t/year; Trucks (GVW≤2.5t): ¥3,300/t/year - Buses: ¥4,100/t/year; Mini-vehicles: ¥3,300/year - Motorcycles (251cc and over): ¥1,900/year - Motorcycles (126 to 250cc): ¥4,900 upon registration  Note: For eco-friendly vehicles, reductions/exemptions apply to the tonnage tax (see pages 48-50).



## ● JAPAN'S ESTIMATED AUTOMOBILE-RELATED TAX REVENUE IN FISCAL 2014

			Tax Revenue (x 100 million yen)	Original Tax Rate (for reference)	Current Tax Rate	Comparison with Original Tax Rate (multiplier value)
Taxes on Automobiles	On acquisition	Acquisition tax	948	3%	3% (Excluding commercial/mini-vehicles)	1.0
		Consumption tax (on automobiles)	13,397	8%	—	—
	During ownership	Tonnage tax	6,526	¥2,500/0.5t/year (Vehicles for private use)	¥4,100/0.5t/year (Vehicles for private use)	1.6
		Automobile tax	15,480	Based on engine capacity	No change	—
		Mini-vehicle tax	1,909	¥7,200/year (Passenger cars for private use)	No change	—
Total		38,260				
Taxes on Fuels	While in use	Gasoline tax	25,450	¥24.3/ℓ	¥48.6/ℓ	2.0
		Regional gasoline excise tax	2,724	¥4.4/ℓ	¥5.2/ℓ	1.2
		Diesel handling tax	9,442	¥15.0/ℓ	¥32.1/ℓ	2.1
		LPG tax	200	¥17.5/kg	No change	—
		Consumption tax (on fuels)	10,006	8%	—	—
		Total	47,822			
<b>Grand Total</b>			<b>86,082</b>			

Notes: 1. Consumption tax revenue values (including the consumption tax revenue from automobile servicing, not shown but included in figures here) have been calculated by JAMA.  
2. Current tax rates indicated effective as of April 1, 2014.

## ● TAX RATES IN EFFECT (Examples), 1954-2014, TO SUPPORT ROAD NETWORK IMPROVEMENTS

Duration	"Five-Year" Plan	Fiscal Year	Acquisition Tax	Tonnage Tax ¥/0.5t/year	Gasoline Tax ¥/ℓ	Regional Gasoline Excise Tax ¥/ℓ	Diesel Handling Tax ¥/ℓ	LPG Tax ¥/kg
1954-'57	First	'54 '55 '56 '57			13.0 11.0 14.8 19.2	2.0 3.5	6.0 8.0 10.4	
'58-'60	Second	'59			22.1	4.0	12.5	
'61-'63	Third	'61	Commercial and mini- vehicles excluded	In the case of a passenger car for private use	24.3	4.4	15.0	
'64-'66	Fourth	'64 '66						
'67-'69	Fifth	'67 '68	3%					5 10
'70-'72	Sixth	'70 '71		2,500				17.5
'73-'77	Seventh	'74 '76	5%	5,000 6,300	29.2 36.5 45.6	5.3 6.6 8.2	19.5 24.3	
'78-'82	Eighth	'79			48.6	5.2	32.1	
'83-'87	Ninth							
'88-'92	Tenth							
'93-'97	Eleventh	'93						
'98-'02	Twelfth	'98						
2003-'07	As per the national priority infrastructure development plan							
'08-	As per the national medium-term road infrastructure plan							
'10-'11	—			6,300 5,000				
'12-'13	—			4,100 (2,500*)				
'14-	—		3%	4,100 (2,500*)	48.6	5.2	32.1	17.5
Comparison with original tax rate (multiplier value)			1.00	1.64	2.00	1.18	2.14	1.00

Original tax rate \*The original tonnage tax rate (¥2,500/0.5t/year) is applied to vehicles compliant with 2015 fuel efficiency standards.

Source: Japan Automobile Manufacturers Association

Automobile Tax	Mini-Vehicle Tax	While in Use				
		Gasoline Tax	Regional Gasoline Excise Tax	Diesel Handling Tax	LPG Tax	Consumption Tax
Fixed amount assessed on the owner each year as of April 1	Fixed amount assessed on the owner each year as of April 1	Assessed on gasoline		Assessed on light oil	Assessed on LPG	Assessed on the purchase price of fuels
		Included in the fuel price				
Prefectural tax	Municipal tax	National tax		Prefectural tax	National tax	National and local tax
Passenger cars (for private use) - Up to 1,000cc ¥29,500/year - 1,001 to 1,500cc ¥34,500/year - 1,501 to 2,000cc ¥39,500/year - 2,001 to 2,500cc ¥45,000/year - 2,501 to 3,000cc ¥51,000/year - 3,001 to 3,500cc ¥58,000/year - 3,501 to 4,000cc ¥66,500/year - 4,001 to 4,500cc ¥76,500/year - 4,501 to 6,000cc ¥88,000/year - Over 6,000cc ¥111,000/year	1) Mini-vehicles (for private use) - Passenger cars ¥7,200/year - Trucks ¥4,000/year 2) Motorcycles - Up to 50cc ¥1,000/year - 51 to 90cc ¥1,200/year - 91 to 125cc ¥1,600/year - 126 to 250cc ¥2,400/year - 251cc and over ¥4,000/year	¥48.6/ℓ	¥5.2/ℓ	¥32.1/ℓ (light oil)	¥17.5/kg (LPG)	8% of the purchase price of fuels (of which 1.7% is a local tax)  [For light oil, imposed on the light oil price excluding the diesel handling tax]

Source: Japan Automobile Manufacturers Association

## Tax Incentives to Promote the Wider Use of Eco-Friendly Vehicles











To help expedite the shift to low-carbon road transport in the interest of curbing global warming, the Japanese government has, since April 2009, applied auto-related tax incentives to promote the wider use of eco-friendly vehicles. Expanded tax reductions have been in effect since April 1, 2014.

### INCENTIVES & ELIGIBILITY REQUIREMENTS FOR NEW VEHICLES

#### ● ACQUISITION AND TONNAGE TAX REDUCTIONS/EXEMPTIONS

Period in effect: April 1, 2014 through March 31, 2015 for the acquisition tax; April 1, 2014 through April 30, 2015 for the tonnage tax.

Vehicle Type			Reductions/Exemptions	
	Requirements	Certification Sticker(s)	Acquisition Tax (4)	Tonnage Tax
<b>Passenger Cars and Small Trucks and Buses (GVW≤2.5t)</b>				
<b>Electric Vehicles (including fuel cell vehicles), Plug-In Hybrid Vehicles, Clean Diesel Vehicles (1), Natural Gas Vehicles (2)</b>			Exempt	Exempt at time of 1st and 2nd vehicle inspection
<b>Gasoline Vehicles (including hybrid vehicles)</b>	Compliant +20% compared to 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards (3)		Exempt	Exempt at time of 1st and 2nd vehicle inspection
	Compliant +10% compared to 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards (3)		80% reduction	75% reduction
	Compliant with 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards (3)		60% reduction	50% reduction
<b>Mid-Sized Trucks and Buses (2.5t&lt;GVW≤3.5t)</b>				
<b>Electric Vehicles (including fuel cell vehicles), Plug-In Hybrid Vehicles, Natural Gas Vehicles (2)</b>			Exempt	Exempt at time of 1st and 2nd vehicle inspection
<b>Diesel Vehicles (including hybrid vehicles)</b>	Compliant +10% compared to 2015 fuel efficiency standards, with NOx and PM emissions down by 10% from 2009 standards		Exempt	Exempt at time of 1st and 2nd vehicle inspection
	Compliant +5% compared to 2015 fuel efficiency standards, with NOx and PM emissions down by 10% from 2009 standards		80% reduction	75% reduction
	Compliant +10% compared to 2015 fuel efficiency standards, and compliant with 2009 emission standards		80% reduction	75% reduction
	Compliant with 2015 fuel efficiency standards, with NOx and PM emissions down by 10% from 2009 standards		60% reduction	50% reduction
	Compliant +5% compared to 2015 fuel efficiency standards, and compliant with 2009 emission standards		60% reduction	50% reduction

Vehicle Type			Reductions/Exemptions	
	Requirements	Certification Sticker(s)	Acquisition Tax (4)	Tonnage Tax
<b>Mid-Sized Trucks and Buses (2.5t&lt;GVW≤3.5t)</b>				
<b>Gasoline Vehicles (including hybrid vehicles)</b>	Compliant +10% compared to 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards		Exempt	Exempt at time of 1st and 2nd vehicle inspection
	Compliant +5% compared to 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards		80% reduction	75% reduction
	Compliant +10% compared to 2015 fuel efficiency standards, with emissions down by 50% from 2005 standards		80% reduction	75% reduction
	Compliant with 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards		60% reduction	50% reduction
	Compliant +5% compared to 2015 fuel efficiency standards, with emissions down by 50% from 2005 standards		60% reduction	50% reduction
<b>Heavy-Duty Trucks and Buses (GVW&gt;3.5t)</b>				
<b>Electric Vehicles (including fuel cell vehicles), Plug-In Hybrid Vehicles, Natural Gas Vehicles (2)</b>			Exempt	Exempt at time of 1st and 2nd vehicle inspection
<b>Diesel Vehicles (including hybrid vehicles)</b>	Compliant +10% compared to 2015 fuel efficiency standards, with NOx and PM emissions down by 10% from 2009 standards		Exempt	Exempt at time of 1st and 2nd vehicle inspection
	Compliant +5% compared to 2015 fuel efficiency standards, with NOx and PM emissions down by 10% from 2009 standards		80% reduction	75% reduction
	Compliant +10% compared to 2015 fuel efficiency standards, and compliant with 2009 emission standards		80% reduction	75% reduction
	Compliant with 2015 fuel efficiency standards, with NOx and PM emissions down by 10% from 2009 standards		60% reduction	50% reduction
	Compliant +5% compared to 2015 fuel efficiency standards, and compliant with 2009 emission standards		60% reduction	50% reduction

(1) Passenger cars complying with 2009 emission standards. (2) With NOx emissions down by 10% from 2009 emission standards. (3) Fuel consumption and exhaust emission requirements are JC08 test cycle-based. The "Compliant +20% compared to 2015 fuel efficiency standards," "Compliant +10% compared to 2015 fuel efficiency standards," and "Compliant with 2015 fuel efficiency standards" requirements are equivalent to "Compliant +50% compared to 2010 fuel efficiency standards," "Compliant +38% compared to 2010 fuel efficiency standards," and "Compliant +25% compared to 2010 fuel efficiency standards," respectively, when measured in the 10·15-mode test cycle, on which basis the 2010 fuel efficiency standards were established. (4) Acquisition tax reductions/exemptions are applied once, at the time of new vehicle purchase during the period in which these reductions/exemptions are in effect.

### ● ACQUISITION AND TONNAGE TAX REDUCTIONS/EXEMPTIONS FOR HEAVY-DUTY VEHICLES EQUIPPED WITH ADVANCED SAFETY FEATURES AND PUBLIC-USE ASSISTED-MOBILITY VEHICLES

Period in effect: April 1, 2012 through March 31, 2015 for the acquisition tax; May 1, 2012 through April 30, 2015 for the tonnage tax.

Vehicle Type		Reductions/Exemptions	
		Acquisition Tax	Tonnage Tax
<b>Trucks (GVW&gt;8t), Tractors (GVW&gt;13t) and Buses (GVW&gt;5t, for seated passengers only)</b> equipped with a collision-mitigation braking system		¥3.5 million deduction from purchase price (1), (2)	50% reduction (1), (3)
<b>Assisted-Mobility Vehicles</b>	Low-floor ("non-step") buses (for use in public transport)	¥10 million deduction from purchase price (2)	Exempt (3)
	Buses equipped with an electric lift (for use in public transport)	• For large buses (occupancy≥30 persons), ¥6.5 million deduction from purchase price (2) • For small buses (occupancy<30 persons), ¥2 million deduction from purchase price (2)	Exempt (3)
	Universal design-based taxis (for use in public transport)	¥1.0 million deduction from purchase price (2)	Exempt (3)

(1) For large trucks (GVW>22t), some tractors (GVW>13t) and buses (GVW>12t, for seated passengers only), period in effect: April 1, 2012 through October 31, 2014. (2) Deductions are applied once, at the time of first registration. (3) Reductions/exemptions are applied once, at the time of first mandatory vehicle inspection.

Notes: 1. The acquisition tax is assessed on the amount remaining after deduction. 2. The above tonnage tax reductions/exemptions do not apply to vehicles targeted by this scheme that are eligible for the tonnage tax reductions/exemptions prescribed for eco-friendly vehicles (see page 48), to which the latter measures only are applied. Regarding the acquisition tax, owners of vehicles covered under this scheme can opt either for the deductions indicated here or for the acquisition tax reductions/exemptions prescribed for eco-friendly vehicles (see page 48).

### ● FISCAL 2014-2015 AUTOMOBILE TAX REDUCTIONS FOR PASSENGER CARS AND SMALL TRUCKS AND BUSES (GVW≤2.5t) \*

Requirements (1)	Reduction
Compliant +20% compared to 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards (also, compliant with 2020 fuel efficiency standards)	75% reduction approximately (2)
Compliant with 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards	50% reduction approximately (2)

\*Also applies to trucks and buses (2.5t<GVW<3.5t, gasoline vehicles only) certified as fuel-efficient and low-emission vehicles.

(1) Applies additionally to electric (including fuel cell) vehicles, plug-in hybrid vehicles, clean diesel passenger cars (compliant with 2009 emission standards) and natural gas vehicles (with NOx emissions down by 10% from 2009 standards). (2) For eligible vehicles newly registered in 2013 and 2014, the automobile tax reduction is applied in the fiscal year subsequent to the year of registration.

Note: This scheme also mandates a yearly 15% (10% for trucks and buses) surcharge on the automobile tax for gasoline and LPG-powered vehicles on the road 13 years or longer, and for diesel vehicles on the road 11 years or longer, since first registration.

## INCENTIVES & ELIGIBILITY REQUIREMENTS FOR USED VEHICLES

### ● FISCAL 2012-2013 ACQUISITION INCENTIVES FOR PASSENGER CARS AND SMALL TRUCKS AND BUSES (GVW≤2.5t) \*

Requirements (1)	Certification Stickers	Incentive
Compliant +20% compared to 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards (2)		¥450,000 deduction from purchase price
Compliant +10% compared to 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards (2)		¥300,000 deduction from purchase price
Compliant with 2015 fuel efficiency standards, with emissions down by 75% from 2005 standards (2)		¥150,000 deduction from purchase price

\*Also applies to trucks and buses (gasoline vehicles only) and heavy-duty trucks and buses (hybrid vehicles only) certified as fuel-efficient and low-emission vehicles.

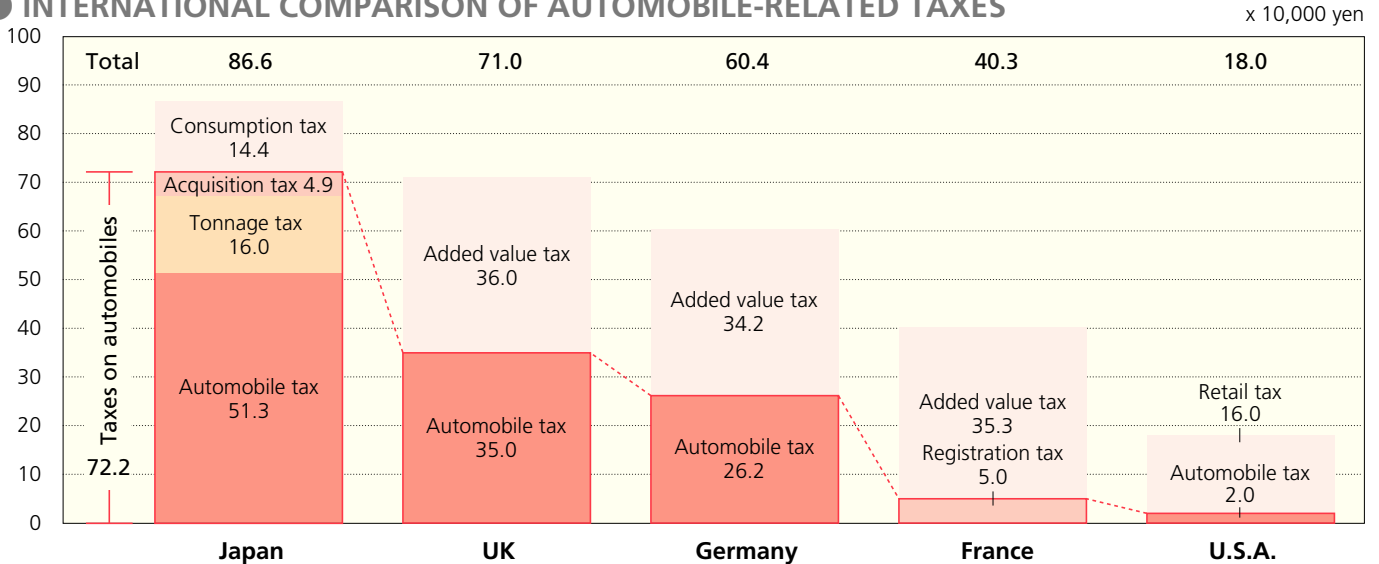
(1) Applies additionally to electric (including fuel cell) vehicles, plug-in hybrid vehicles, clean diesel passenger cars (compliant with 2009 emission standards) and natural gas vehicles (with NOx emissions down by 10% from 2009 standards). (2) Fuel consumption and exhaust emission requirements are JC08 test cycle-based, with "Compliant +20% compared to 2015 fuel efficiency standards," "Compliant +10% compared to 2015 fuel efficiency standards," and "Compliant with 2015 fuel efficiency standards" being equivalent to "Compliant +50% compared to 2010 fuel efficiency standards," "Compliant +38% compared to 2010 fuel efficiency standards," and "Compliant +25% compared to 2010 fuel efficiency standards," respectively, when measured in the 10·15-mode test cycle, on which basis the 2010 fuel efficiency standards were established.

Note: The acquisition tax is assessed on the amount remaining after deduction.

## Automobile-Related Taxes are Onerous

Consider the case of a passenger car costing 1.8 million yen when purchased new and providing 13 years of service to the original owner for private use. During that period, six different categories of taxes (including consumption tax at the time of vehicle purchase and on fuel) will be assessed on the owner/user, amounting to a grand total of roughly 1.73 million yen. In addition to these various taxes (totalling about 130,000 yen yearly), the user will also be required to pay onerous highway tolls, automobile insurance premiums (mandatory and optional), a recycling fee, periodic inspection fees and maintenance costs.

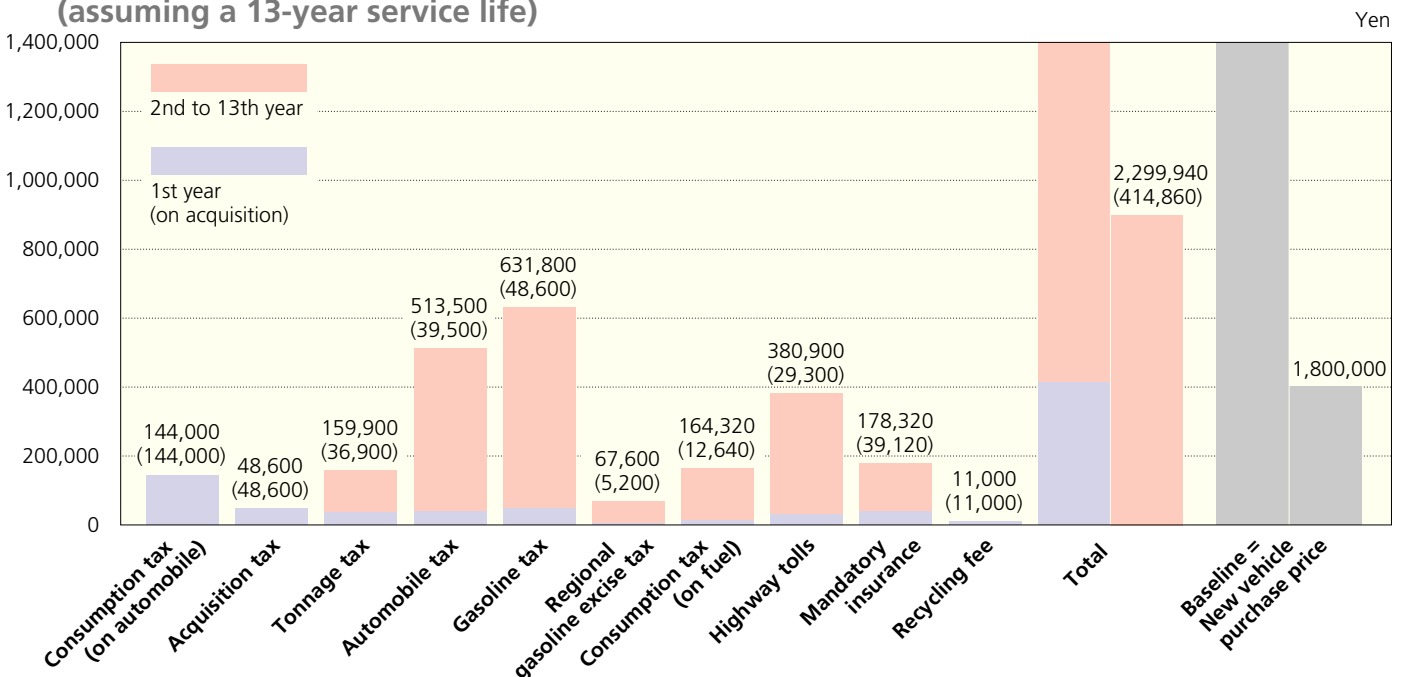
### INTERNATIONAL COMPARISON OF AUTOMOBILE-RELATED TAXES



Assumptions: 1) Engine capacity: 1800cc. 2) 1t<GVW≤1.5t. 3) Purchase price: ¥1.8 million. 4) Fuel consumption (JC08 test cycle-based): 15.4km/l (CO<sub>2</sub> emissions: 151g/km). 5) France = Paris; U.S.A. = New York City. 6) France: Vehicle in no. 8 horsepower "class." 7) Service life: 13 years. 8) Currency exchange rates: €1 = ¥136, £1 = ¥163, US\$1 = ¥101 (averaged April 2013-March 2014).

Notes: 1. As shown here, tax amounts other than Japan's may not be the most current. 2. Does not include applicable incentives/surcharges, if any. 3. Does not include registration fees. 4. Automobile tax on private vehicles (i.e. for personal use only) was abolished in France as of 2000. Source: Japan Automobile Manufacturers Association

### TAXES ASSESSED ON PASSENGER CAR OWNERSHIP/USE (PRIVATE) (assuming a 13-year service life)



Assumptions: 1) A passenger car with 1800cc engine capacity and purchase price of ¥1.8 million (retail price, excluding consumption tax). 2) 1t<GVW≤1.5t. 3) Annual fuel consumption: 1,000 liters. 4) Tonnage tax imposed yearly, but collected only at time of mandatory vehicle inspection. 5) Tax amounts reflect rates in effect from April 1, 2014. 6) Consumption tax = 8% of retail price. 7) The recycling fee indicated is the average rate for an 1800cc passenger car.

Notes: 1. Estimated highway tolls, mandatory insurance premium payments and recycling fee are included here because they can be considered similar to taxes. (Mandatory insurance premium values indicated effective as of April 1, 2014.) 2. Value of highway tolls was estimated by JAMA based on highway toll revenue in 2012.

Source: Japan Automobile Manufacturers Association

# Global Manufacturing Operations Expand Their Range

Japanese automobile manufacturers have continued to develop local production operations, whether as wholly-owned subsidiaries or as joint ventures, in the United States, Europe, Southeast Asia, China and, recently, Russia and other countries with emerging markets. These operations contribute to the strengthening of local economies

## ● GEOGRAPHICAL DISTRIBUTION OF JAPANESE AUTOMAKERS' OVERSEAS PRODUCTION BASES



## ● JAPANESE AUTOMAKERS' OVERSEAS PRODUCTION BASES: Number of Plants by Country &

Country/ Territory	Country No. (see map)	Motor Vehicles (incl. parts)	Motor-cycles (incl. parts)	Motor Vehicles & Motorcycles (incl. parts)	Parts Only
<b>Europe</b>					
Belgium	1	-	-	-	1
Czech Republic	2	1	-	-	-
France	3	1	1	-	-
Hungary	4	1	-	-	-
Italy	5	-	1	-	1
Poland	6	-	-	-	2
Portugal	7	2	-	-	-
Russia	8	5	-	-	-
Spain	9	1	1	-	-
Turkey	10	4	-	-	-
UK	11	3	-	-	1
<b>Europe Total</b>		18	3	-	5

Country/ Territory	Country No. (see map)	Motor Vehicles (incl. parts)	Motor-cycles (incl. parts)	Motor Vehicles & Motorcycles (incl. parts)	Parts Only
<b>Africa</b>					
Egypt	12	5	-	-	-
Kenya	13	4	-	-	-
Mauritius	14	1	-	-	-
Morocco	15	1	-	-	-
Nigeria	16	-	1	-	-
South Africa	17	6	-	-	-
Tunisia	18	1	-	-	-
Zimbabwe	19	1	-	-	-
<b>Africa Total</b>		19	1	-	-
<b>Middle East</b>					
Saudi Arabia	20	1	-	-	-
<b>Middle East Total</b>		1	-	-	-
<b>Oceania</b>					
Australia	21	1	-	-	1
<b>Oceania Total</b>		1	-	-	1



through employment creation, local parts purchasing and, in many cases, export revenue for the host countries. Locally-produced automobile parts such as engines and transmissions, as well as finished vehicles of some models, are exported to Japan and other destinations.



## Items Produced

Country/ Territory	Country No. (see map)	Motor Vehicles (incl. parts)	Motor- cycles (incl. parts)	Motor Vehicles & Motorcycles (incl. parts)	Parts Only
<b>Asia</b>					
Bangladesh	22	2	1	-	-
Cambodia	23	-	2	-	-
China	24	23	8	-	17
India	25	11	4	-	1
Indonesia	26	11	4	1	7
Laos	27	-	1	-	-
Malaysia	28	10	3	-	2
Myanmar	29	1	-	-	-
Pakistan	30	5	1	1	-
Philippines	31	8	4	-	4
Taiwan	32	9	2	-	-
Thailand	33	14	4	-	8
Vietnam	34	7	1	2	1
<b>Asia Total</b>		101	35	4	40

Country/ Territory	Country No. (see map)	Motor Vehicles (incl. parts)	Motor- cycles (incl. parts)	Motor Vehicles & Motorcycles (incl. parts)	Parts Only
<b>North America</b>					
Canada	35	4	-	-	1
U.S.A.	36	14	1	-	13
<b>North America Total</b>		18	1	-	14
<b>Latin America</b>					
Argentina	37	1	2	1	-
Brazil	38	6	4	-	2
Colombia	39	2	2	-	-
Ecuador	40	3	-	-	-
Mexico	41	6	1	1	-
Peru	42	-	1	-	-
Venezuela	43	2	1	-	-
<b>Latin America Total</b>		20	11	2	2
<b>World Total</b>		178	51	6	62

Source: Japan Automobile Manufacturers Association

## Overseas Production Benefits Local Economies

The global operations of Japanese automobile manufacturers continue to grow, focusing increasingly on on-site manufacturing to meet local needs. Whether as independent operations, joint ventures or technical tie-ups, local manufacturing activities are conducted in numerous countries around the world (see pages 54-55). Overseas production brings significant benefits to local economies and host countries, including employment, industrial development, and technology transfer.

### OVERSEAS PRODUCTION BY JAPANESE AUTOMOBILE MANUFACTURERS

In vehicle units

Year	Asia	Middle East	Europe	North America		Latin America	Africa	Oceania	Total	
				EU	U.S.A.					
1985	208,589	—	44,658	43,175	296,569	296,569	90,252	99,500	151,574	891,142
1986	282,912	—	75,163	73,903	426,087	425,644	87,115	119,000	133,109	1,123,386
1987	355,758	—	102,943	100,794	608,446	592,761	104,925	134,000	127,003	1,433,075
1988	456,489	—	132,129	130,326	723,396	672,766	125,531	145,000	152,334	1,734,879
1989	597,402	—	205,005	203,215	1,040,868	932,242	144,811	184,500	166,541	2,339,127
1990	952,390	—	226,613	223,164	1,570,114	1,298,878	160,654	186,000	169,169	3,264,940
1991	1,035,715	—	285,994	282,278	1,684,964	1,378,907	169,001	172,000	134,051	3,481,725
1992	1,120,430	—	358,601	351,296	1,853,097	1,547,361	195,161	167,500	109,276	3,804,065
1993	1,315,346	—	496,574	472,744	2,030,478	1,691,239	211,802	179,000	106,754	4,339,954
1994	1,553,585	—	502,332	477,728	2,346,619	1,982,209	197,325	168,000	128,213	4,896,074
1995	1,882,850	—	641,573	575,852	2,595,436	2,215,657	110,660	226,000	102,961	5,559,480
1996	1,950,621	—	738,378	650,990	2,641,451	2,275,525	140,031	195,674	118,097	5,784,252
1997	2,003,286	—	814,689	714,699	2,664,588	2,290,685	190,596	182,218	136,107	5,991,484
1998	1,215,202	5,688	920,985	814,847	2,674,299	2,270,516	260,131	144,181	150,685	5,371,171
1999	1,547,671	3,493	929,303	835,582	2,797,175	2,311,163	246,710	130,216	125,575	5,780,143
2000	1,673,740	4,258	953,170	837,679	2,991,924	2,480,691	387,732	146,435	130,933	6,288,192
2001	1,872,521	5,660	1,032,004	939,034	3,061,612	2,451,496	407,887	162,825	137,084	6,679,593
2002	2,380,621	6,000	1,153,059	1,015,748	3,375,453	2,720,449	445,862	155,973	135,498	7,652,466
2003	3,007,348	5,820	1,338,476	1,245,469	3,487,012	2,821,723	457,467	162,969	148,471	8,607,563
2004	3,638,978	10,800	1,454,903	1,296,516	3,840,744	3,143,603	534,863	191,537	125,726	9,797,551
2005	3,964,209	10,500	1,545,355	1,369,556	4,080,713	3,383,277	645,074	225,725	134,581	10,606,157
2006	4,129,856	11,400	1,702,836	1,509,402	4,001,639	3,281,073	745,827	259,050	121,635	10,972,243
2007	4,523,751	3,342	1,976,407	1,789,875	4,049,068	3,324,326	895,099	252,332	159,710	11,859,709
2008	4,877,074	0	1,876,109	1,693,151	3,576,246	2,893,466	920,738	257,646	143,741	11,651,554
2009	5,145,418	0	1,228,294	1,136,145	2,687,527	2,108,161	790,794	168,651	96,836	10,117,520
2010	7,127,042	0	1,356,126	1,250,226	3,390,095	2,653,231	982,342	206,476	119,473	13,181,554
2011	7,547,127	0	1,410,628	1,302,277	3,068,979	2,422,152	1,029,511	233,709	93,675	13,383,629
2012	8,500,825	0	1,484,110	1,383,583	4,253,869	3,324,703	1,234,584	248,711	101,381	15,823,480
2013	9,055,757	0	1,537,025	1,379,733	4,540,685	3,627,226	1,284,243	232,191	106,278	16,756,179

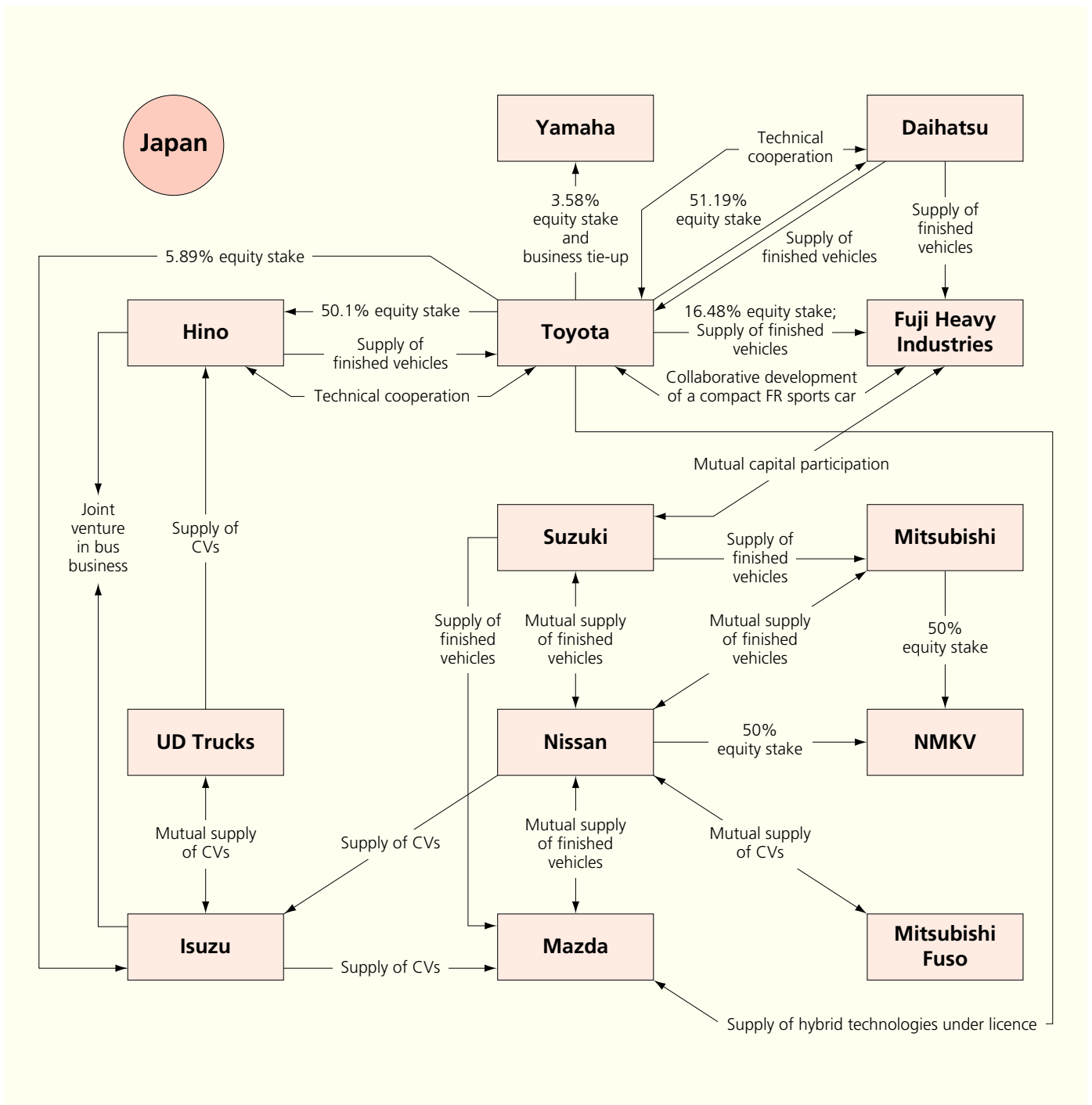
Notes: 1. Data in principle is for Japanese-brand vehicles only. 2. Until 1997, data was based on statistics supplied by the national automobile trade associations of respective countries. 3. Mexico is included in Latin America and Turkey in Europe. 4. Data excludes vehicles produced with technical assistance only provided by Japanese automakers. 5. The figures reflect the use of a new method, adopted as of January 2007, for computing overseas unit production.

Source: Japan Automobile Manufacturers Association

# Japanese Automakers Forge Extensive International Alliances

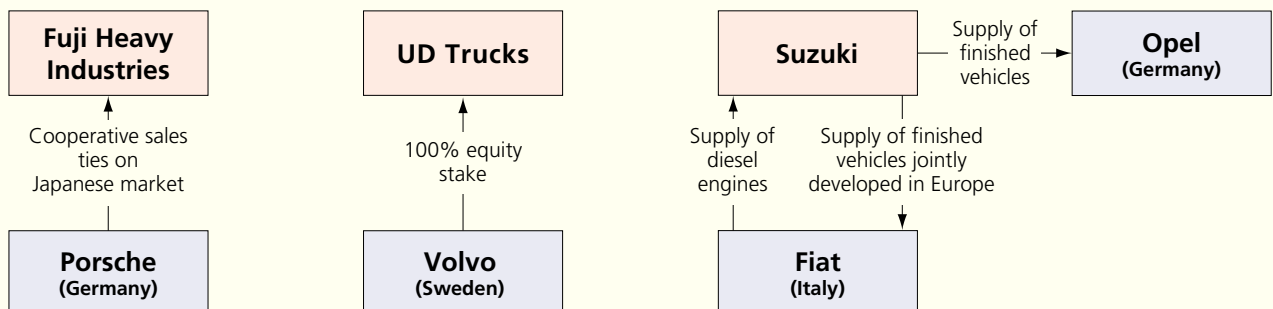
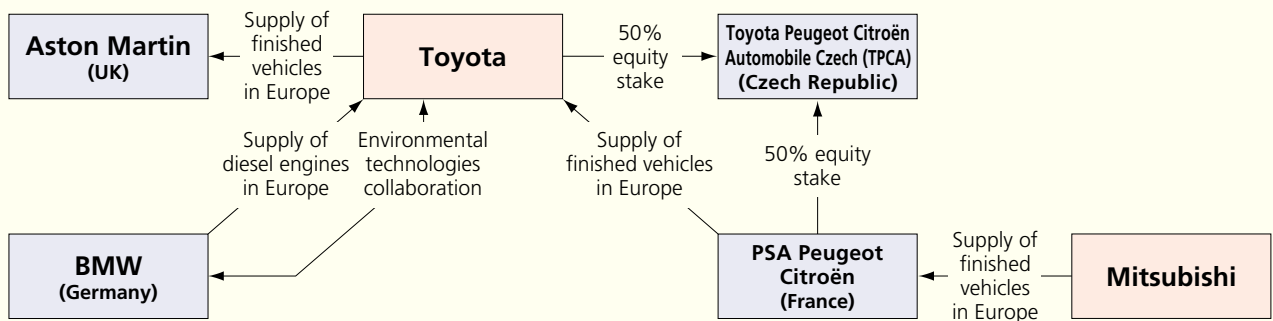
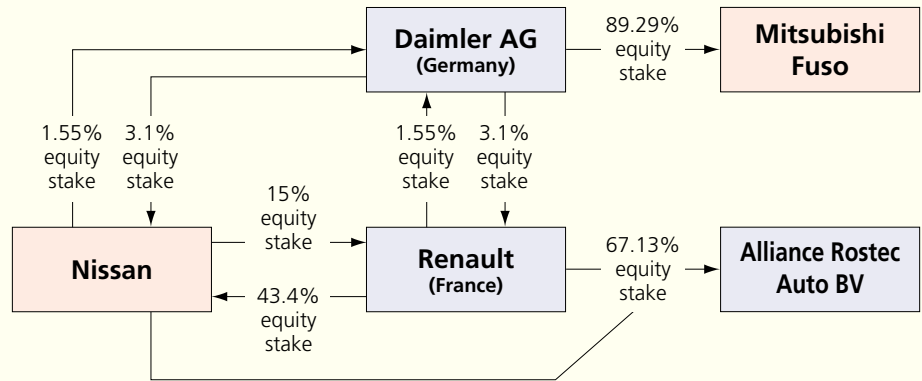
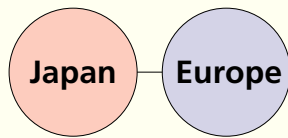
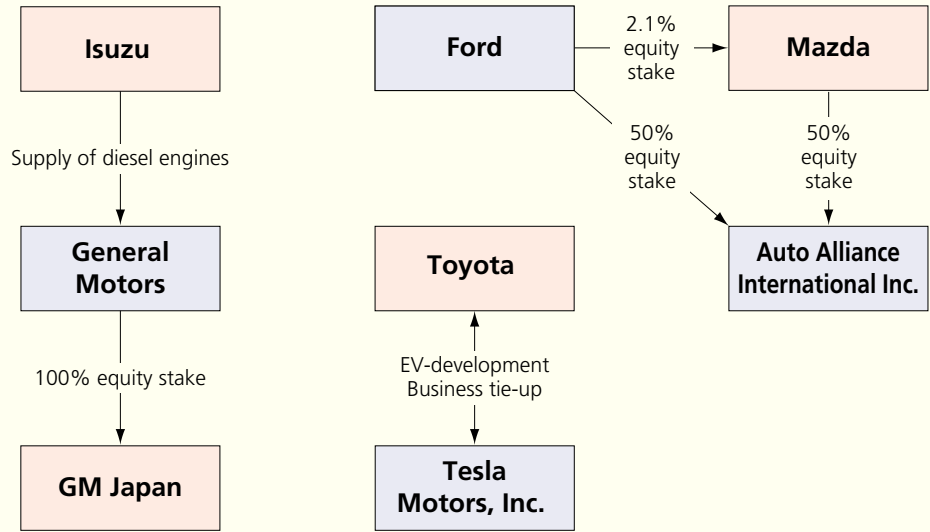
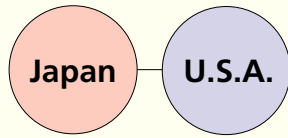
With economic globalization, Japanese automobile manufacturers have rapidly adapted to the needs of individual markets, not only by shifting production to those markets but also by forging extensive alliances with overseas manufacturers. Various forms of partnership currently exist between Japanese, U.S. and European automakers—including capital and technical tie-ups, joint R&D and production operations, and cooperative sales ties—and such arrangements are expanding yearly. With the rapid spread of motorization in China and Southeast Asia, Japanese automakers are actively building relationships with local manufacturers there on the basis of capital tie-ups and the supply of production as well as environment- and safety-related technologies.

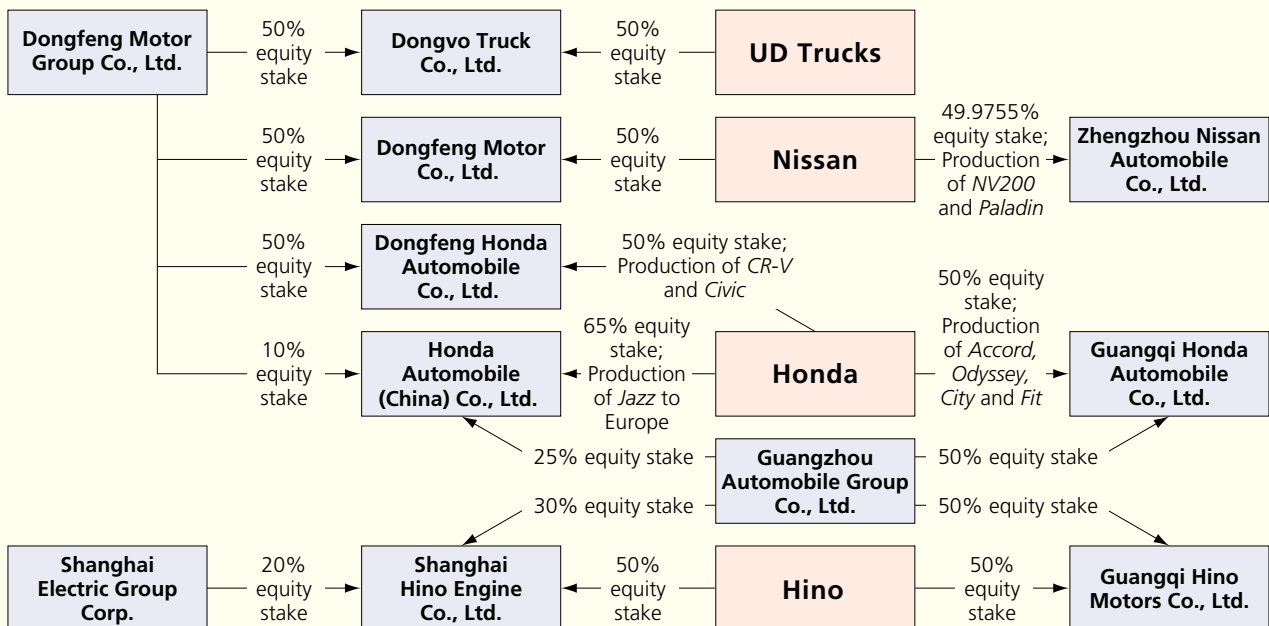
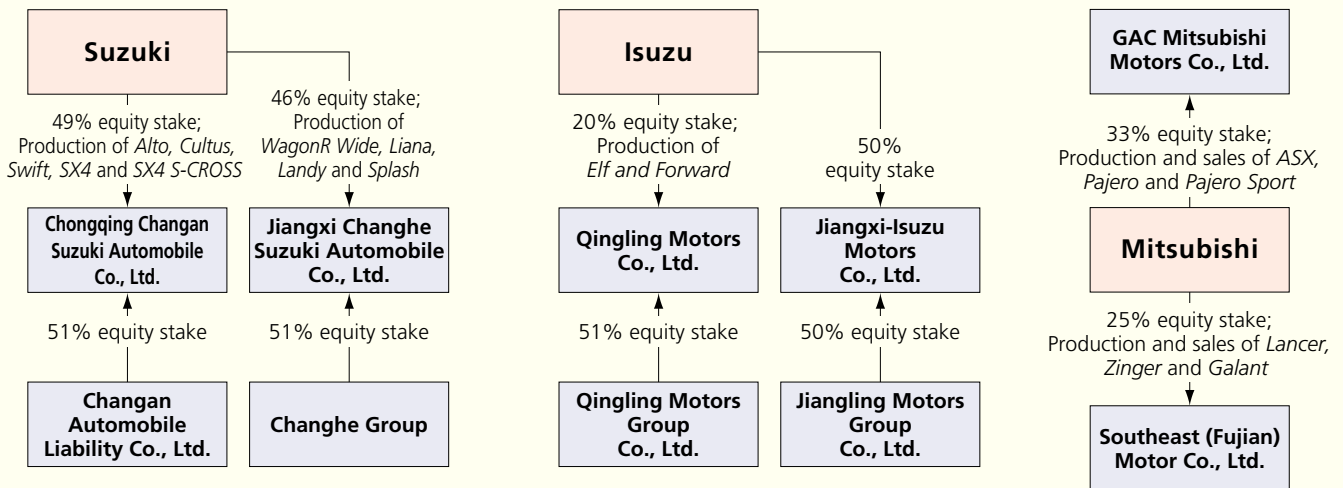
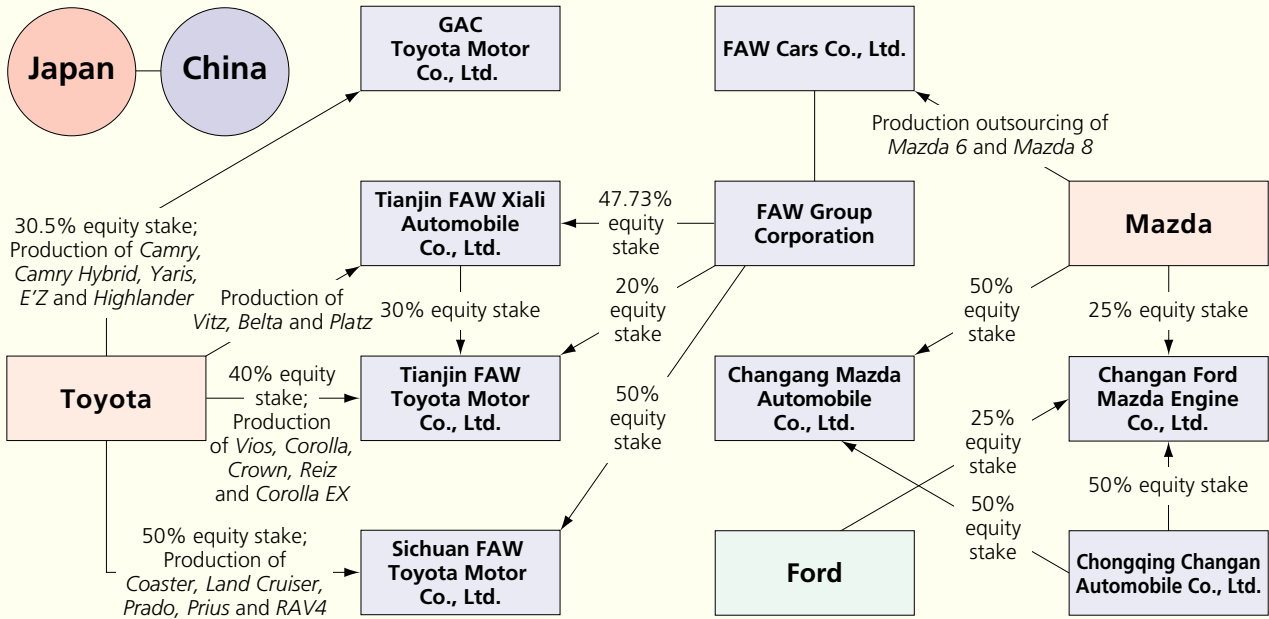
At March 31, 2014



Note: In principle, the tie-ups shown above cover only technical cooperation related to motor vehicle production and exclude sales tie-ups.

Source: Japan Automobile Manufacturers Association



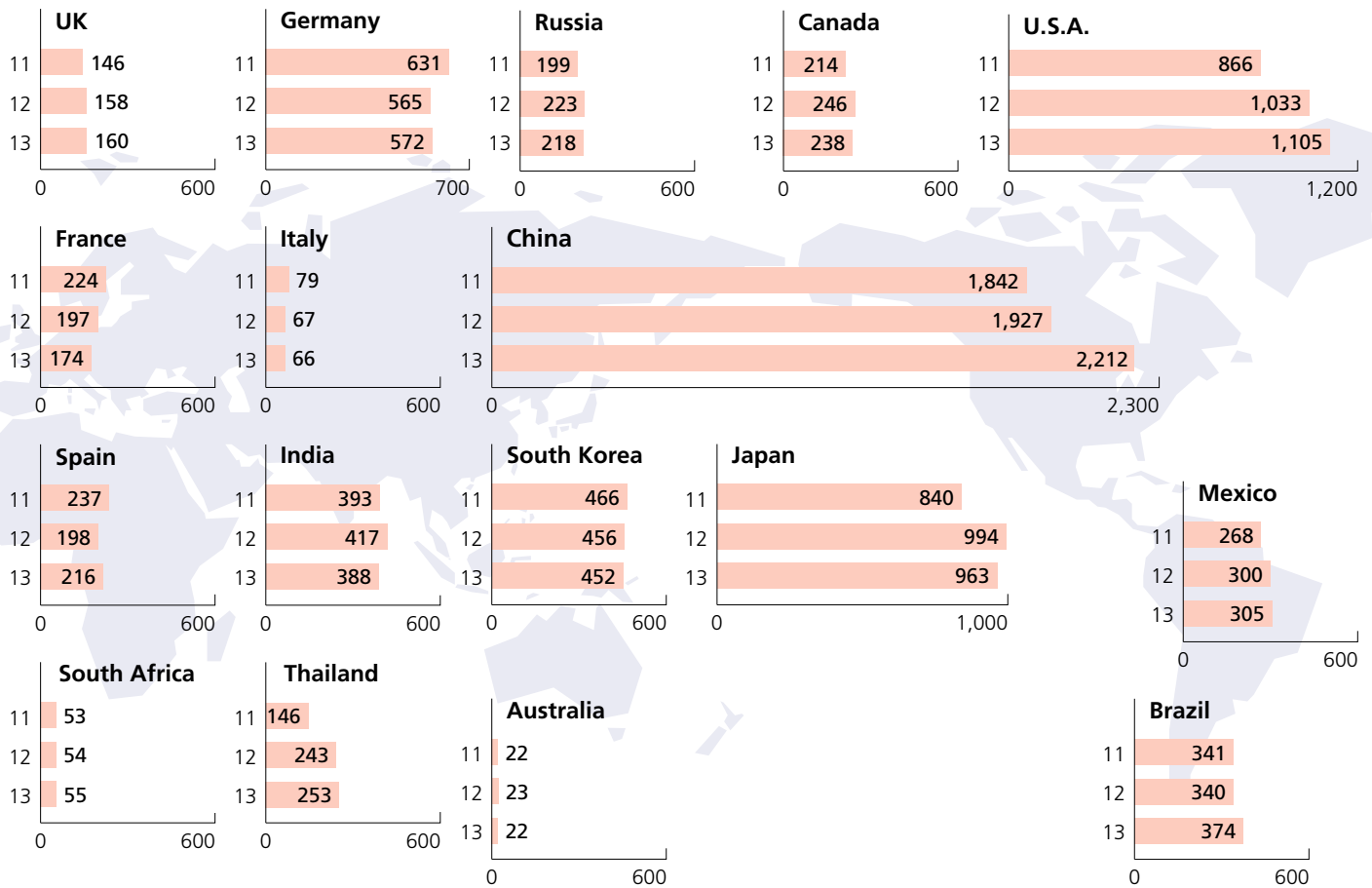


# Motor Vehicle Production Increases Worldwide Except in Europe

In 2013 worldwide motor vehicle production (excluding motorcycles) grew 3.6% from the previous year to a total of 87.25 million units. By region, production increased in Africa (up 8.5% to 63,700 units), Latin America (up 5.8% to 7.71 million units), North America (up 4.9% to 13.43 million units), and Asia-Oceania (up 4.6% to 45.75 million units), but decreased in Europe (down 0.5% to 19.73 million units).

## MOTOR VEHICLE PRODUCTION EXCLUDING MOTORCYCLES (MAJOR PRODUCING COUNTRIES)

x 10,000 units



## GLOBAL MOTORCYCLE PRODUCTION (BY COUNTRY/TERRITORY)

In vehicle units

Country/Territory	2010			2011			2012		
	Mopeds	Motorcycles	Total	Mopeds	Motorcycles	Total	Mopeds	Motorcycles	Total
Austria	—	39,909	39,909	—	—	48,710	—	—	76,575
Czech Republic	49	733	782	39	1,116	1,155	22	2,297	2,319
France	—	—	92,900	—	—	74,359	—	—	56,963
Germany	—	99,244	99,244	—	—	110,084	—	—	101,690
Italy	—	—	455,176	—	—	414,000	—	—	330,000
Spain	—	—	123,123	—	—	95,399	—	—	44,019
UK	—	—	23,455	—	—	23,886	—	—	20,590
Brazil	—	1,830,614	1,830,614	—	—	2,136,891	—	1,690,187	1,690,187
China	—	24,476,418	26,681,807	—	24,654,624	27,005,224	—	21,316,197	23,629,791
India	—	—	13,349,349	—	—	15,427,532	—	—	15,721,180
Indonesia	—	—	7,395,390	—	—	8,006,293	—	—	7,079,721
Japan	—	664,175	664,175	—	639,187	639,187	—	595,473	595,473
Malaysia	—	—	467,941	—	—	498,076	—	—	—
Pakistan	—	—	838,665	—	—	865,812	—	—	824,245
Philippines	—	813,261	813,261	—	—	762,947	—	—	588,458
Taiwan	—	—	1,028,517	—	—	1,207,428	—	—	1,076,317
Thailand	—	—	2,024,599	—	—	2,043,039	—	—	2,606,161

Note: "—" means data is not available.

Sources: Motorcycle manufacturers' associations of individual countries, etc.



# GLOBAL MOTOR VEHICLE PRODUCTION (BY COUNTRY/REGION/TERRITORY)

In vehicle units

Country/Region/ Territory	2011			2012			2013		
	Passenger Cars	Trucks & Buses	Total	Passenger Cars	Trucks & Buses	Total	Passenger Cars	Trucks & Buses	Total
Austria	130,343	22,162	152,505	123,602	19,060	142,662	148,320	22,900	171,220
Belgium	560,779	34,305	595,084	504,076	34,232	538,308	449,600	30,564	480,164
Finland	2,540	91	2,631	2,900	0	2,900	3,330	0	3,330
France	1,931,030	311,898	2,242,928	1,682,814	284,951	1,967,765	1,460,000	280,000	1,740,000
Germany	5,871,918	439,185	6,311,103	5,388,459	260,801	5,649,260	5,439,904	278,318	5,718,222
Italy	485,606	304,742	790,348	396,817	274,951	671,768	388,465	269,742	658,207
Netherlands	40,772	32,379	73,151	24,895	0	24,895	0	0	0
Portugal	141,779	50,463	192,242	115,735	47,831	163,566	109,698	44,318	154,016
Spain	1,839,068	534,261	2,373,329	1,539,680	439,499	1,979,179	1,719,700	443,638	2,163,338
Sweden	188,969	0	188,969	162,814	0	162,814	161,080	0	161,080
UK	1,343,810	120,189	1,463,999	1,464,906	112,039	1,576,945	1,509,762	87,671	1,597,433
Czech Republic	1,191,968	7,877	1,199,845	1,171,774	7,221	1,178,995	1,128,473	4,458	1,132,931
Hungary	211,218	2,313	213,531	215,440	2,400	217,840	220,000	2,400	222,400
Poland	741,000	97,133	838,133	539,671	115,085	654,756	475,000	108,258	583,258
Romania	310,243	24,989	335,232	326,556	11,209	337,765	410,959	38	410,997
Slovakia	639,763	0	639,763	926,555	0	926,555	975,000	0	975,000
Slovenia	168,955	5,164	174,119	126,836	4,113	130,949	89,395	4,339	93,734
Double Countings Germany/Belgium	-85,000	0	-85,000	-76,420	0	-76,420	-70,100	0	-70,100
Double Countings Germany/Italy	-6,570	0	-6,570	-5,400	0	-5,400	-5,300	0	-5,300
Double Countings Portugal/Japan	0	-8,847	-8,847	0	-7,071	-7,071	0	-6,084	-6,084
<b>European Union (EU27)</b>	<b>15,708,191</b>	<b>1,978,304</b>	<b>17,686,495</b>	<b>14,631,710</b>	<b>1,606,321</b>	<b>16,238,031</b>	<b>14,613,286</b>	<b>1,570,560</b>	<b>16,183,846</b>
Turkey	639,734	549,397	1,189,131	577,296	495,682	1,072,978	633,604	491,930	1,125,534
Serbia	10,227	796	11,023	10,227	805	11,032	10,100	805	10,905
Russia	1,744,097	246,058	1,990,155	1,970,087	263,016	2,233,103	1,919,636	255,675	2,175,311
Belarus	0	24,343	24,343	0	30,610	30,610	0	25,600	25,600
Ukraine	97,585	7,069	104,654	69,687	6,594	76,281	45,758	4,691	50,449
Uzbekistan	146,300	33,260	179,560	144,980	19,200	164,180	133,740	21,020	154,760
Double Countings Ukraine/World	-67,050	0	-67,050	0	0	0	0	0	0
<b>CIS</b>	<b>1,920,932</b>	<b>310,730</b>	<b>2,231,662</b>	<b>2,184,754</b>	<b>319,420</b>	<b>2,504,174</b>	<b>2,099,134</b>	<b>306,986</b>	<b>2,406,120</b>
<b>Europe</b>	<b>18,279,084</b>	<b>2,839,227</b>	<b>21,118,311</b>	<b>17,403,987</b>	<b>2,422,228</b>	<b>19,826,215</b>	<b>17,356,124</b>	<b>2,370,281</b>	<b>19,726,405</b>
Canada	990,482	1,144,639	2,135,121	1,040,298	1,423,066	2,463,364	965,191	1,414,615	2,379,806
U.S.A.	2,976,991	5,684,544	8,661,535	4,105,874	6,226,752	10,332,626	4,346,958	6,698,944	11,045,902
<b>North America</b>	<b>3,967,473</b>	<b>6,829,183</b>	<b>10,796,656</b>	<b>5,146,172</b>	<b>7,649,818</b>	<b>12,795,990</b>	<b>5,312,149</b>	<b>8,113,559</b>	<b>13,425,708</b>
Mexico	1,657,080	1,023,970	2,681,050	1,810,007	1,191,807	3,001,814	1,771,987	1,280,408	3,052,395
Argentina	577,233	251,538	828,771	497,376	267,119	764,495	506,539	284,468	791,007
Brazil	2,519,389	888,472	3,407,861	2,589,236	813,272	3,402,508	2,742,309	998,109	3,740,418
Venezuela	69,115	33,294	102,409	67,226	36,857	104,083	45,986	25,767	71,753
Double Countings Venezuela/World	-56,520	-18,770	-75,290	-55,800	-21,640	-77,440	-29,590	-14,600	-44,190
Other	28,030	24,322	52,352	70,686	24,322	95,008	74,900	24,322	99,222
<b>Latin America</b>	<b>4,794,327</b>	<b>2,202,826</b>	<b>6,997,153</b>	<b>4,978,731</b>	<b>2,311,737</b>	<b>7,290,468</b>	<b>5,112,131</b>	<b>2,598,474</b>	<b>7,710,605</b>
<b>North and Latin America</b>	<b>8,761,800</b>	<b>9,032,009</b>	<b>17,793,809</b>	<b>10,124,903</b>	<b>9,961,555</b>	<b>20,086,458</b>	<b>10,424,280</b>	<b>10,712,033</b>	<b>21,136,313</b>
Australia	189,503	34,690	224,193	189,949	36,553	226,502	185,427	30,499	215,926
China	14,485,326	3,933,550	18,418,876	15,523,658	3,748,150	19,271,808	18,085,213	4,031,612	22,116,825
India	3,040,144	887,267	3,927,411	3,296,240	878,473	4,174,713	3,138,988	741,950	3,880,938
Indonesia	562,250	276,138	838,388	743,501	322,056	1,065,557	925,111	283,100	1,208,211
Iran	1,412,803	236,508	1,649,311	871,997	141,564	1,013,561	538,170	87,940	626,110
Japan	7,158,525	1,240,105	8,398,630	8,554,503	1,388,574	9,943,077	8,189,323	1,440,747	9,630,070
Malaysia	488,441	45,254	533,695	509,621	59,999	569,620	540,200	55,970	596,170
Pakistan	139,700	22,494	162,194	137,424	22,175	159,599	119,000	20,162	139,162
Philippines	45,751	8,170	53,921	46,390	8,970	55,360	48,560	3,700	52,260
South Korea	4,221,617	435,477	4,657,094	4,167,089	394,677	4,561,766	4,122,604	398,825	4,521,429
Taiwan	288,523	54,773	343,296	278,043	60,995	339,038	291,037	47,683	338,720
Thailand	537,987	919,811	1,457,798	945,100	1,484,042	2,429,142	1,122,780	1,409,797	2,532,577
Vietnam	29,904	1,277	31,181	38,900	1,570	40,470	38,900	2,020	40,920
Double Countings China/World	-119,670	0	-119,670	-127,610	0	-127,610	-148,710	0	-148,710
<b>Asia-Oceania</b>	<b>32,480,804</b>	<b>8,095,514</b>	<b>40,576,318</b>	<b>35,174,805</b>	<b>8,547,798</b>	<b>43,722,603</b>	<b>37,196,603</b>	<b>8,554,005</b>	<b>45,750,608</b>
Egypt	53,072	28,659	81,731	36,880	19,600	56,480	25,650	13,400	39,050
Morocco	54,638	4,839	59,477	103,364	5,379	108,743	146,842	20,610	167,452
South Africa	312,265	220,280	532,545	274,873	264,551	539,424	265,257	280,656	545,913
Double Countings Egypt/World	-18,610	-9,220	-27,830	-11,660	-6,140	-17,800	-8,110	-4,100	-12,210
Double Countings South Africa/World	-25,780	-69,140	-94,920	-22,080	-84,140	-106,220	-20,050	-89,405	-109,455
Other	0	5,634	5,634	0	5,769	5,769	0	5,769	5,769
<b>Africa</b>	<b>375,585</b>	<b>181,052</b>	<b>556,637</b>	<b>381,377</b>	<b>205,019</b>	<b>586,396</b>	<b>409,589</b>	<b>226,930</b>	<b>636,519</b>
<b>Grand Totals</b>	<b>59,897,273</b>	<b>20,147,802</b>	<b>80,045,075</b>	<b>63,085,072</b>	<b>21,136,600</b>	<b>84,221,672</b>	<b>65,386,596</b>	<b>21,863,249</b>	<b>87,249,845</b>

Notes: 1. Includes preliminary figures. 2. Some EU countries do not release truck and bus production data.

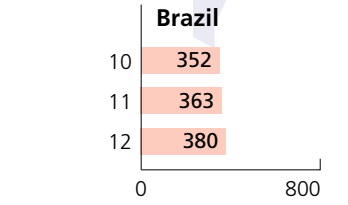
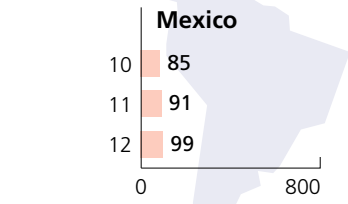
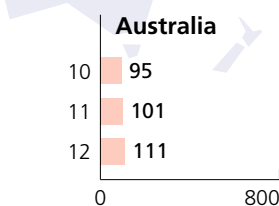
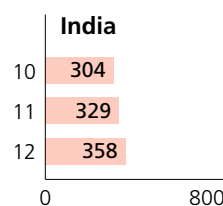
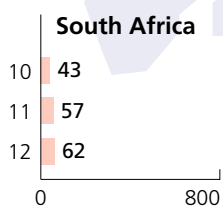
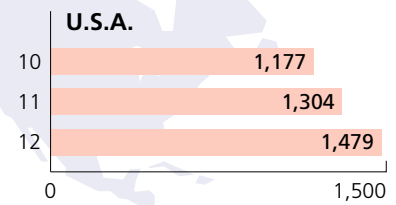
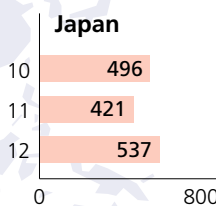
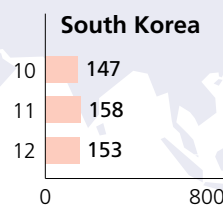
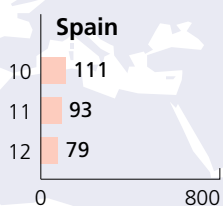
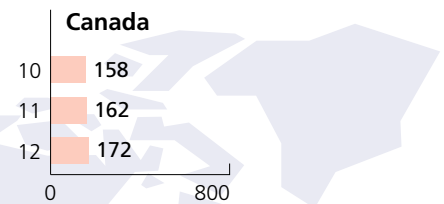
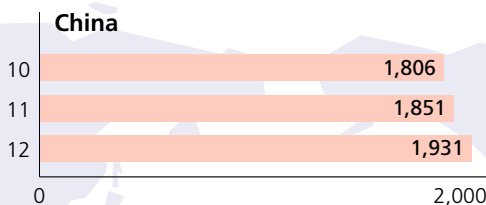
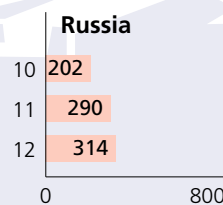
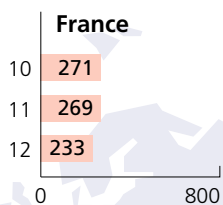
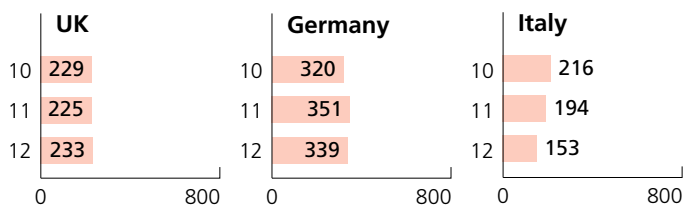
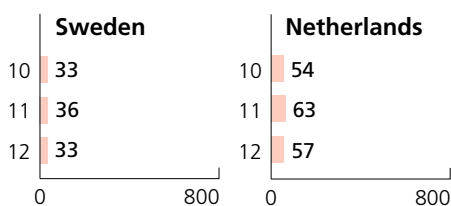
Sources: International Organization of Motor Vehicle Manufacturers (OICA); for Japan, Japan Automobile Manufacturers Association

# Motor Vehicle Sales Rise in Thailand, Japan, Indonesia, the U.S.A., Australia, and Elsewhere

In 2012 overall new motor vehicle registrations (excluding motorcycles) increased 4.9% over the previous year to a global total of 81.7 million units. Vehicle sales rose in Thailand (up 74.7% to 1.38 million units), Japan (up 27.5% to 5.37 million units), Indonesia (up 24.8% to 1.12 million units), the United States (up 13.4% to 14.79 million units), Australia (up 10.3% to 1.11 million units), Mexico (up 9.0% to 988,000 units), South Africa (up 9.0% to 624,000 units), India (up 8.8% to 3.58 million units), and Russia (up 8.3% to 3.14 million units). On the other hand, new registrations dropped from the previous year in Italy (down 21.0% to 1.53 million units), Spain (down 15.1% to 791,000 units), Belgium (down 14.5% to 551,000 units), and France (down 13.2% to 2.33 million units).

## NEW REGISTRATIONS OF MOTOR VEHICLES EXCLUDING MOTORCYCLES (SELECTED COUNTRIES)

x 10,000 units



## NEW REGISTRATIONS OF PASSENGER CARS AND COMMERCIAL VEHICLES (BY COUNTRY)

In vehicle units

Country	2010			2011			2012		
	Passenger Cars	Commercial Vehicles	Total	Passenger Cars	Commercial Vehicles	Total	Passenger Cars	Commercial Vehicles	Total
Austria	328,563	34,001	362,564	356,145	40,510	396,655	336,010	38,819	374,829
Belgium	547,347	61,177	608,524	572,211	71,300	643,511	486,737	63,782	550,519
Czech Republic	169,236	17,772	187,008	173,595	21,350	194,945	174,009	19,786	193,795
Denmark	153,562	19,675	173,237	170,036	28,482	198,518	170,763	28,384	199,147
Finland	111,956	14,428	126,384	126,123	18,302	144,425	111,251	15,254	126,505
France	2,251,669	457,215	2,708,884	2,204,229	482,823	2,687,052	1,898,760	432,971	2,331,731
Germany	2,916,260	282,157	3,198,417	3,173,634	334,820	3,508,454	3,082,504	311,498	3,394,002
Greece	141,499	12,341	153,840	97,680	7,002	104,682	58,482	4,036	62,518
Hungary	46,069	10,424	56,493	45,094	15,899	60,993	19,424	3,649	23,073
Italy	1,962,042	202,566	2,164,608	1,749,740	193,209	1,942,949	1,402,905	131,984	1,534,889
Netherlands	482,531	59,781	542,312	555,812	71,945	627,757	502,544	69,349	571,893
Poland	333,599	54,260	387,859	277,427	59,799	337,226	273,589	54,943	328,532
Portugal	223,491	49,270	272,761	153,404	37,958	191,362	95,309	18,126	113,435
Romania	106,328	13,089	119,417	81,709	13,799	95,508	66,436	14,287	80,723
Slovakia	64,033	9,800	73,833	68,203	9,701	77,904	69,268	8,921	78,189
Spain	982,015	132,104	1,114,119	808,051	123,353	931,404	699,589	91,402	790,991
Sweden	289,684	44,450	334,134	304,984	54,082	359,066	279,899	46,542	326,441
UK	2,032,977	260,599	2,293,576	1,941,253	308,230	2,249,483	2,044,609	289,154	2,333,763
Russia	1,910,573	104,800	2,015,373	2,653,688	247,924	2,901,612	2,755,384	386,167	3,141,551
Switzerland	294,239	30,540	324,779	318,958	36,298	355,256	328,139	38,134	366,273
Turkey	515,595	281,600	797,195	593,519	270,920	864,439	556,280	261,340	817,620
Canada	694,349	889,039	1,583,388	681,956	938,265	1,620,221	748,530	967,648	1,716,178
U.S.A.	5,635,433	6,136,787	11,772,220	6,089,403	6,951,210	13,040,613	7,241,900	7,544,036	14,785,936
Mexico	499,567	347,314	846,881	592,101	313,785	905,886	649,333	338,414	987,747
Brazil	2,644,706	870,358	3,515,064	2,647,245	986,003	3,633,248	2,851,540	950,531	3,802,071
Argentina	524,514	173,785	698,299	626,037	220,814	846,851	600,915	231,111	832,026
Venezuela	—	—	125,202	65,339	55,350	120,689	60,776	69,777	130,553
China	13,757,794	4,304,142	18,061,936	14,472,416	4,032,698	18,505,114	15,495,240	3,811,195	19,306,435
India	1,871,041	1,168,479	3,039,520	2,510,313	777,424	3,287,737	2,773,516	803,240	3,576,756
Japan	4,212,267	743,869	4,956,136	3,524,788	685,431	4,210,219	4,572,332	797,388	5,369,720
South Korea	1,217,764	247,662	1,465,426	1,316,320	263,000	1,579,320	1,293,585	237,000	1,530,585
Malaysia	543,594	61,562	605,156	535,113	65,010	600,123	552,189	75,564	627,753
Indonesia	541,475	223,235	764,710	602,291	291,873	894,164	780,785	335,445	1,116,230
Thailand	346,644	453,713	800,357	390,000	400,000	790,000	950,000	430,000	1,380,000
Australia	757,813	191,174	948,987	559,314	449,123	1,008,437	576,955	535,177	1,112,132
Egypt	192,848	56,069	248,917	210,300	61,600	271,900	222,700	63,600	286,300
South Africa	279,081	146,656	425,737	396,292	175,949	572,241	440,002	183,919	623,921
Other	1,187,405	423,403	1,610,808	5,613,702	1,553,275	7,166,977	5,264,334	1,549,999	6,814,333
<b>Grand Totals</b>	<b>50,769,563</b>	<b>18,589,296</b>	<b>69,484,061</b>	<b>57,258,425</b>	<b>20,668,516</b>	<b>77,926,941</b>	<b>60,486,523</b>	<b>21,252,572</b>	<b>81,739,095</b>

Note: Exact figures are not available for Venezuela's 2010 "Passenger Cars" and "Commercial Vehicles" entries.














Sources: Automobile manufacturers' associations of individual countries; for Japan, Japan Automobile Dealers Association; Japan Mini Vehicles Association; Japan Automobile Manufacturers Association

# More than 1.1 Billion Motor Vehicles in Use Worldwide

There were 1.11 billion motor vehicles (excluding motorcycles) in use worldwide in 2012, equivalent to 158 motor vehicles per 1,000 inhabitants or one vehicle for every 6.3 persons. Meanwhile, motorcycle density in recent years has been particularly high in Malaysia and Indonesia, with one motorcycle in use for every three persons; in Thailand, with one in use for every four persons; and in Italy, with one in use for every seven persons. In Japan, one motorcycle is in use for every 11 persons.

## MOTOR VEHICLE DENSITY: INTERNATIONAL COMPARISONS (at end of 2012)

In vehicle units  x 1 person

Country	No. of Motor Vehicles per 1,000 Inhabitants		No. of Persons per Motor Vehicle (No. of Persons per Passenger Car)
	Total Motor Vehicles	Passenger Cars	
U.S.A.	385	801	1.2 (2.6) 
Australia	560	704	1.4 (1.8) 
Italy	613	694	1.4 (1.6) 
Canada	595	623	1.6 (1.7) 
Switzerland	553	607	1.6 (1.8) 
France	497	600	1.7 (2.0) 
Japan	466	597	1.7 (2.1) 
Spain	482	595	1.7 (2.1) 
Austria	544	594	1.7 (1.8) 
Germany	530	568	1.8 (1.9) 
UK	494	561	1.8 (2.0) 
Belgium	485	561	1.8 (2.1) 
<b>World Average</b>	110	158	6.3 (9.1) 

Sources: Ministry of Land, Infrastructure, Transport and Tourism; Ward's, etc.; for population data, OECD, UN


## MOTOR VEHICLES IN USE WORLDWIDE (at end of 2012)











In vehicle units

Country	Passenger Cars	Commercial Vehicles	Total
Germany	43,431,124	3,107,000	46,538,124
Italy	37,078,274	4,921,712	41,999,986
France	31,600,000	6,538,000	38,138,000
UK	31,481,823	4,279,078	35,760,901
Spain	22,247,528	5,232,813	27,480,341
Netherlands	8,142,387	1,071,783	9,214,170
Belgium	5,392,908	846,083	6,238,991
Austria	4,584,202	426,081	5,010,283
Sweden	4,457,145	572,416	5,029,561
Poland	18,744,000	3,278,000	22,022,000
Switzerland	4,254,725	420,204	4,674,929
Turkey	8,648,875	4,178,324	12,827,199
Russia	38,482,000	6,901,000	45,383,000
U.S.A.	120,901,628	130,595,459	251,497,087
Canada	20,750,000	995,000	21,745,000
Mexico	22,961,571	9,881,728	32,843,299
Argentina	9,100,000	3,000,000	12,100,000
Brazil	29,566,116	7,705,144	37,271,260
Japan	59,421,009	16,704,524	76,125,533
China	52,165,000	57,275,000	109,440,000
South Korea	14,577,182	4,293,351	18,870,533
India	18,796,000	10,558,000	29,354,000
Thailand	6,273,983	6,591,061	12,865,044
Indonesia	10,494,000	7,510,000	18,004,000
Australia	12,714,235	3,265,521	15,979,756
South Africa	6,112,000	2,832,000	8,944,000
Other	130,945,230	38,255,408	169,200,638
<b>Grand Totals</b>	<b>773,322,945</b>	<b>341,234,690</b>	<b>1,114,557,635</b>

Sources: Ministry of Land, Infrastructure, Transport and Tourism; Ward's, etc.

## MOTORCYCLE DENSITY: INTERNATIONAL COMPARISONS (No. of Persons per Motorcycle)

 x 1 person

2012	Malaysia	3 
2012	Indonesia	3 
2012	Thailand	4 
2012	Italy	7 
2012	Switzerland	9 
2012	Spain	9 
2012	Japan	11 
2012	Austria	12 
2012	China	13 
2012	Netherlands	14 

Note: Data for Japan as at March 31.

Sources: Ministry of Land, Infrastructure, Transport and Tourism; Ministry of Internal Affairs and Communications; Federation of Asian Motorcycle Industries (FAMI); Motorcycle Industry in Europe (ACEM), etc.; for population data, OECD, UN

## MOTORCYCLES IN USE WORLDWIDE

In vehicle units

Year	Country/Territory	Total
2012	Italy	8,582,796
2012	Spain	5,021,965
2012	France	3,089,125
2012	UK	1,224,849
2012	Netherlands	1,210,729
2012	Switzerland	850,561
2012	Austria	731,051
2012	Poland	2,207,556
2012	Czech Republic	976,911
2012	Germany	3,843,155
2012	Greece	1,776,435
2012	Turkey	2,657,722
2011	U.S.A.	8,330,210
2011	Mexico	1,310,397
2012	China	102,170,901
2012	Indonesia	75,980,927
2012	Japan	11,985,085
2012	Thailand	19,238,311
2012	Taiwan	15,139,628
2012	Malaysia	10,591,668
2011	South Korea	1,828,312
2011	Pakistan	5,469,630
2012	Philippines	4,120,315

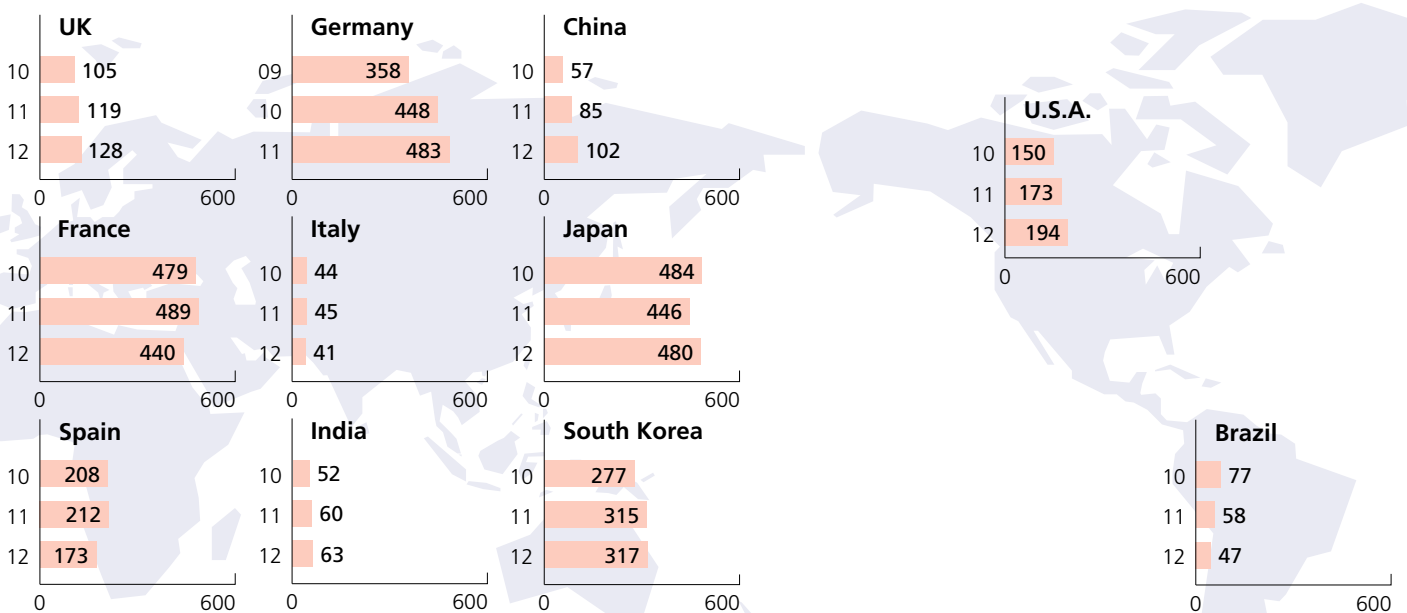
Sources: Ministry of Land, Infrastructure, Transport and Tourism; Ministry of Internal Affairs and Communications; Federation of Asian Motorcycle Industries (FAMI); Motorcycle Industry in Europe (ACEM), etc.

# Motor Vehicle Exports Increase in China, the U.S.A., Japan, the UK, and India

Motor vehicle exports (excluding motorcycles) in 2012 increased over the previous year in China (to 1.02 million units, up 19.5%), the United States (to 1.94 million units, up 12.3%), Japan (to 4.80 million units, up 7.6%), the United Kingdom (to 1.28 million units, up 6.8%), and India (to 634,000 units, up 5.8%), but decreased in Spain (to 1.73 million units, down 18.5%), Brazil (to 473,000 units, down 18.2%), France (to 4.40 million units, down 10.0%), and Italy (to 407,000 units, down 10.0%). Motorcycle exports in 2012 showed a year-on-year rise in Indonesia (to 77,000 units, up 148.8%) and India (to 1.96 million units, up 0.7%), but declined in China (to 8.71 million units, down 17.5%) and Japan (to 479,000 units, down 5.1%).

## MOTOR VEHICLE EXPORTS (MAJOR EXPORTING COUNTRIES)

x 10,000 units



## MOTOR VEHICLE EXPORTS (MAJOR EXPORTING COUNTRIES)

In vehicle units

Country	2010			2011			2012		
	Passenger Cars	Commercial Vehicles	Total	Passenger Cars	Commercial Vehicles	Total	Passenger Cars	Commercial Vehicles	Total
Japan	4,275,366	566,094	4,841,460	3,929,904	534,509	4,464,413	4,198,494	605,097	4,803,591
U.S.A.	1,080,981	420,894	1,501,875	1,300,075	427,562	1,727,637	1,515,337	425,622	1,940,959
Germany	4,238,759	242,147	4,480,906	4,518,973	307,960	4,826,933	4,131,279	—	—
UK	961,420	85,547	1,046,967	1,124,676	69,376	1,194,052	1,211,766	63,733	1,275,499
France	4,306,065	480,430	4,786,495	4,336,759	556,356	4,893,115	3,898,019	506,303	4,404,322
Italy	231,557	209,172	440,729	203,769	249,039	452,808	174,514	232,867	407,381
Spain	1,658,341	421,441	2,079,782	1,642,578	478,490	2,121,068	1,326,777	402,395	1,729,172
Brazil	616,125	151,307	767,432	405,575	173,153	578,728	308,562	164,625	473,187
South Korea	2,610,949	161,158	2,772,107	2,980,659	171,049	3,151,708	3,012,584	158,050	3,170,634
China	282,368	284,285	566,653	470,090	379,718	849,808	587,700	428,029	1,015,729
India	444,326	74,043	518,369	507,318	92,663	599,981	554,686	79,944	634,630

Note: "—" means data is not available at the end of March 2014.

Sources: Ward's, etc.; for Japan, Japan Automobile Manufacturers Association

## MOTORCYCLE EXPORTS (MAJOR EXPORTING COUNTRIES/TERRITORY)

In vehicle units

Country/Territory	2010			2011			2012		
	Mopeds	Motorcycles & Scooters	Total	Mopeds	Motorcycles & Scooters	Total	Mopeds	Motorcycles & Scooters	Total
Japan	0	493,464	493,464	0	504,985	504,985	0	479,163	479,163
China	—	8,291,590	8,291,590	—	10,555,996	10,555,996	—	8,707,120	8,707,120
Taiwan	—	302,350	302,350	—	299,866	299,866	—	297,275	297,275
Indonesia	—	—	29,395	—	—	30,995	—	—	77,129
India	—	—	1,531,619	—	—	1,947,198	—	—	1,960,941

Note: "—" means data is not available at the end of March 2014.

Sources: Automobile/motorcycle manufacturers' associations of individual countries; for Japan, Japan Automobile Manufacturers Association



# Classifications According to the Road Vehicles Act and the Road Traffic Act

Japan classifies motor vehicles according to the provisions of two basic laws: the Road Vehicles Act and the Road Traffic Act. Road Vehicles Act classifications are used for registration statistics, vehicle inspection, and related maintenance and repair. Road Traffic Act classifications determine the different categories of driver's licenses. Vehicle registration number/character combinations are determined by vehicle type and usage in accordance with Road Vehicles Act designations, and a "vanity plate" system has been introduced nationwide.

## CLASSIFICATION UNDER THE ROAD VEHICLES ACT (for registration, inspection, etc.)

**Standard** Over 2,000cc in engine capacity, excluding diesel engines

**Small** Over 660cc to 2,000cc in engine capacity, excluding diesel engines

**Mini** 660cc and under in engine capacity

Note: A vehicle that exceeds any one of the requisites above is classified in the higher category.

## CLASSIFICATION UNDER THE ROAD TRAFFIC ACT (for driver's license issuance)

<b>Large Motor Vehicles</b> Gross vehicle weight: ≥11 tons Payload: ≥6.5 tons or Occupancy: ≥30 persons	<b>Middle-Category Motor Vehicles (1)</b> Gross vehicle weight: 5≤tons<11 Payload: 3≤tons<6.5 or Occupancy: 11≤persons<30
<b>Ordinary Motor Vehicles</b> Gross vehicle weight: <5 tons Payload: <3 tons or Occupancy: <11 persons	<b>Special-Purpose Motor Vehicles</b> Motor vehicles with caterpillar treads such as bulldozers, steamrollers, graders, snowplows, tractors, etc. are classified into two categories: large and small. Small special-purpose motor vehicles are those of up to 15km per hour in maximum speed, up to 4.7m in length, up to 2m in height (2), and up to 1.7m in width.

(1) As per a revision to the Road Traffic Act, the middle-category motor vehicle classification went into application in June 2007.  
 (2) Projections on small special-purpose vehicles should not exceed 2.8m.  
 Note: The Road Traffic Act stipulates that the driver of any one-rider, three- or four-wheeled vehicle of up to 50cc in engine capacity, with a legal maximum speed of 50km/h and a maximum load of 30kg, is required to hold an "ordinary motor vehicle" driver's license.

## CLASSIFICATION OF MOTORCYCLES

Road Vehicles Act						Road Traffic Act	
Category	Engine Capacity	Rated Output	Width	Height	Length	Category	Engine Capacity
<b>Small-sized</b>	Over 250cc	Over 1.0kW	Over 1.3m	Over 2.0m	Over 2.5m	<b>Large</b>	Over 400cc
<b>Mini-sized</b>	126cc to 250cc	Over 1.0kW	1.3m and under	2.0m and under	2.5m and under	<b>Ordinary</b>	51cc to 400cc
<b>Motor-driven cycles Class 2</b>	51cc to 125cc	Over 0.6kW to 1.0kW	1.3m and under	2.0m and under	2.5m and under	<b>Motorized bicycles</b>	50cc and under
<b>Motor-driven cycles Class 1</b>	50cc and under	0.6kW and under	1.3m and under	2.0m and under	2.5m and under		

Note: A motorcycle that exceeds any one of the requisites above is classified in the higher category.

## SIGNIFICANCE OF VEHICLE REGISTRATION DATA & NUMBER PLATE TYPES

<b>Large-Sized Number Plates</b>	Larger-than-standard-size plates are issued to vehicles weighing 8 tons or more, with payload of 5 tons or more, or 30-person or more occupancy.	22cm × 44cm
<b>Mid-Sized Number Plates</b>	Standard-size plates are issued to standard and small vehicles and mini-vehicles with engine capacity of more than 360cc, whether for private or commercial business use.	16.5cm × 33cm
<b>Small-Sized Number Plates</b>	Small-size plates are issued to small- and mini-sized motorcycles and mini-vehicles with engine capacity of 360cc or less, excluding those designated with any one of the 40-to-49, 50-to-59 or 80-to-89 number categories.	12.5cm × 23cm

Motor Vehicle Registry Designation:  
Kanji indicate geographical area of vehicle registration.

品川 500  
 さ 23-45

Designated Number Categories Indicating Vehicle Type	
<b>Ordinary trucks</b>	1, 10-19, 100-199
<b>Ordinary buses</b>	2, 20-29, 200-299
<b>Ordinary passenger cars</b>	3, 30-39, 300-399
<b>Three- or four-wheeled small trucks</b>	4, 40-49, 400-499
<b>Three- or four-wheeled small passenger cars and buses</b>	6, 60-69, 600-699
<b>Three- or four-wheeled small passenger cars and buses</b>	5, 50-59, 500-599
<b>Special-purpose vehicles</b>	8, 80-89, 800-899
<b>Large special-purpose vehicles</b>	9, 90-99, 900-999
<b>Large special-purpose vehicles used as construction machinery</b>	0, 00-09, 000-099

Usage Designations	
<b>Ordinary and large motor vehicles</b>	
Private use	さすせそたちつととなにぬねのはひふほまみむめもやゆらりるろ
Commercial business use	あいうえかきくけこ
Rental vehicle	われ
Foreign military vehicle	EHKMTYよ
<b>Mini-vehicles</b>	
Private use	あいうえかきくけこさすせそたちつととなにぬねのはひふほまみむめもやゆららるろ
Commercial business use	りれ
Rental vehicle	わ
Foreign military vehicle	AB
<i>Hiragana</i> character indicates vehicle usage category: private, commercial business, rental or foreign military vehicle (private or official).	

Number Assignment	
From "1" to "99-99"	

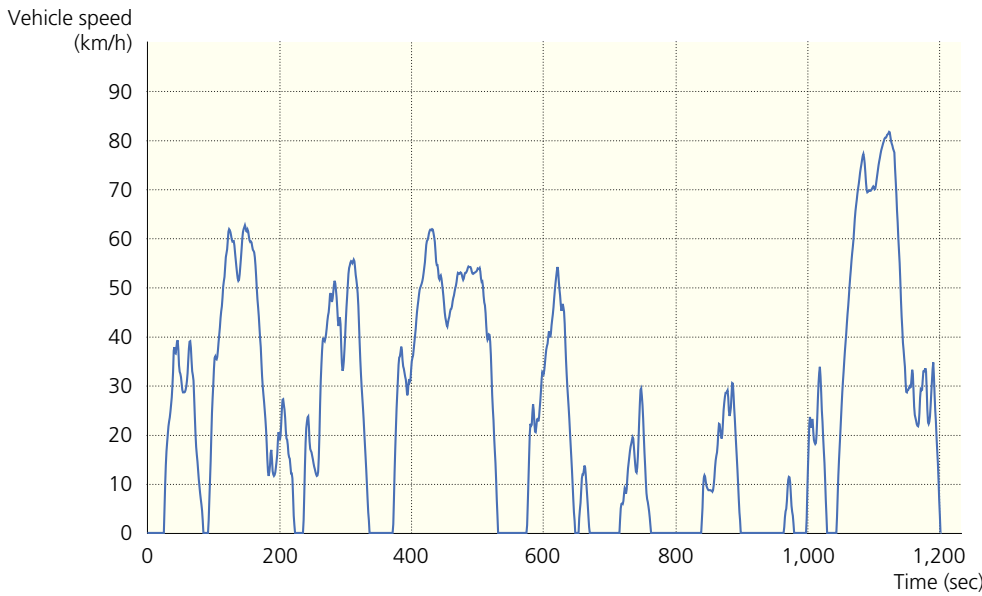
Number Plate Colors	
<b>Ordinary and large motor vehicles</b>	
Private use or rental vehicle	Green characters on white background
Commercial business use	White characters on green background
<b>Mini-vehicles</b>	
Private use or rental vehicle	Black characters on yellow background
Commercial business use	Yellow characters on black background



# Japan’s Test Cycles for Measuring Fuel Consumption and Exhaust Emissions

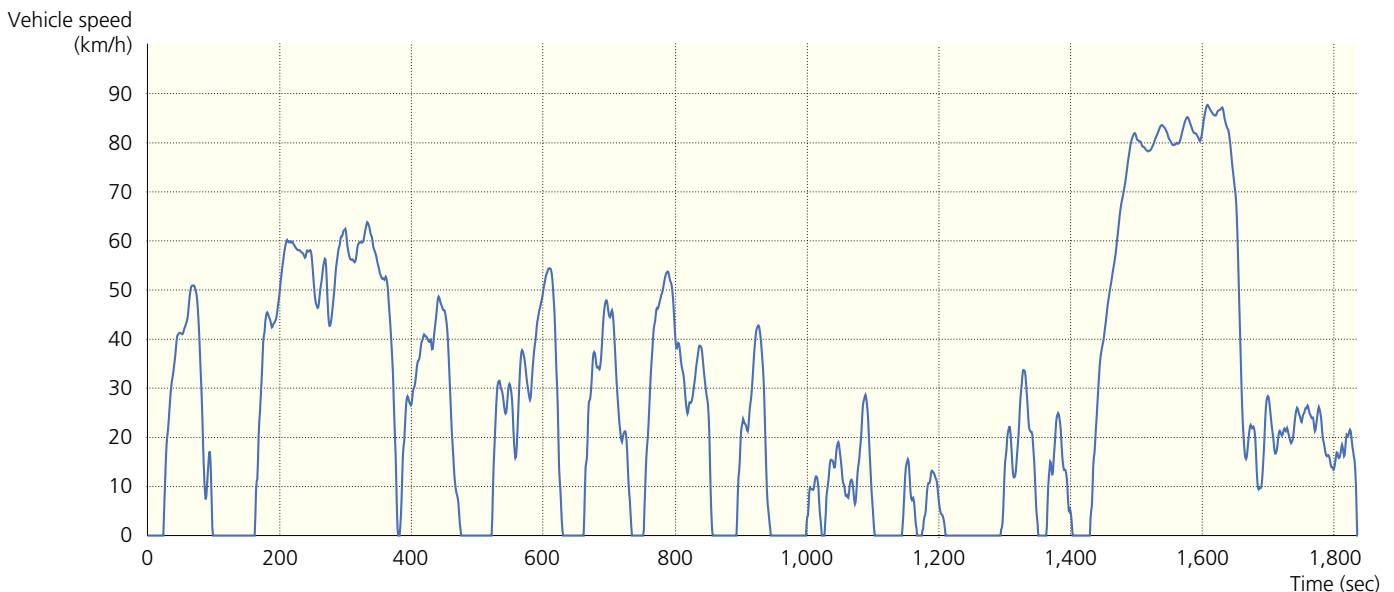
The JC08 test cycle is now the only test cycle applied in Japan to measure fuel consumption rates as well as exhaust emissions in non-heavy-duty vehicles, having replaced the 10•15-mode and (less commonly used) 11-mode test cycles. The objective in using the JC08 test cycle is to obtain test results that are as close as possible to actual on-road fuel consumption rates. Certified fuel efficiency values are therefore indicated on the basis of JC08 test cycle results and, for heavy-duty vehicles, on the basis primarily of JE05 test cycle results.

## ● THE JC08 TEST CYCLE



The JC08 cycle reflects typical vehicle running patterns in congested urban and urban expressway traffic (including idling and frequently-alternating acceleration and deceleration), but, compared to its predecessors, it increases the duration of the test cycle and the variation in running patterns. Measurement is made with both a cold start and a warm start, at a maximum speed of 82km/h.

## ● THE JE05 TEST CYCLE FOR HEAVY-DUTY VEHICLES (GVW>3.5t)



The JE05 cycle for heavy-duty vehicles includes idling and frequently-alternating acceleration and deceleration, also reflecting a typical vehicle running pattern in today’s congested urban areas, as well as an expressway running mode. Engine revolution and torque are predetermined to reach target speed based on test vehicle specifications. Measurement is made on the engine alone, while following the transient driving pattern.

## Alternative Systems Expedite Certification

Motor vehicle certification in Japan is based primarily on the Type Approval System, which is applied both to domestic and imported automobiles and covers most mass-produced models. The Preferential Handling Procedure for imported motor vehicles is an alternative procedure which was instituted to expedite the certification of foreign-made vehicles that are imported in limited quantities. The third procedure, the Type Notification System, is mainly applied to large commercial vehicles.

### THE TYPE APPROVAL SYSTEM

This certification procedure is applied to domestic and imported mass-produced models. The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) inspects a sample vehicle and the quality-control system of the automobile manufacturer concerned, then completes the type approval process within two months in principle. All finished vehicles that have been granted type approval are then inspected by the manufacturer, eliminating the need to present them for new vehicle inspection. For imported vehicles, the MLIT not only dispatches officials overseas to conduct certification inspections but also accepts the test results of designated foreign testing institutes.

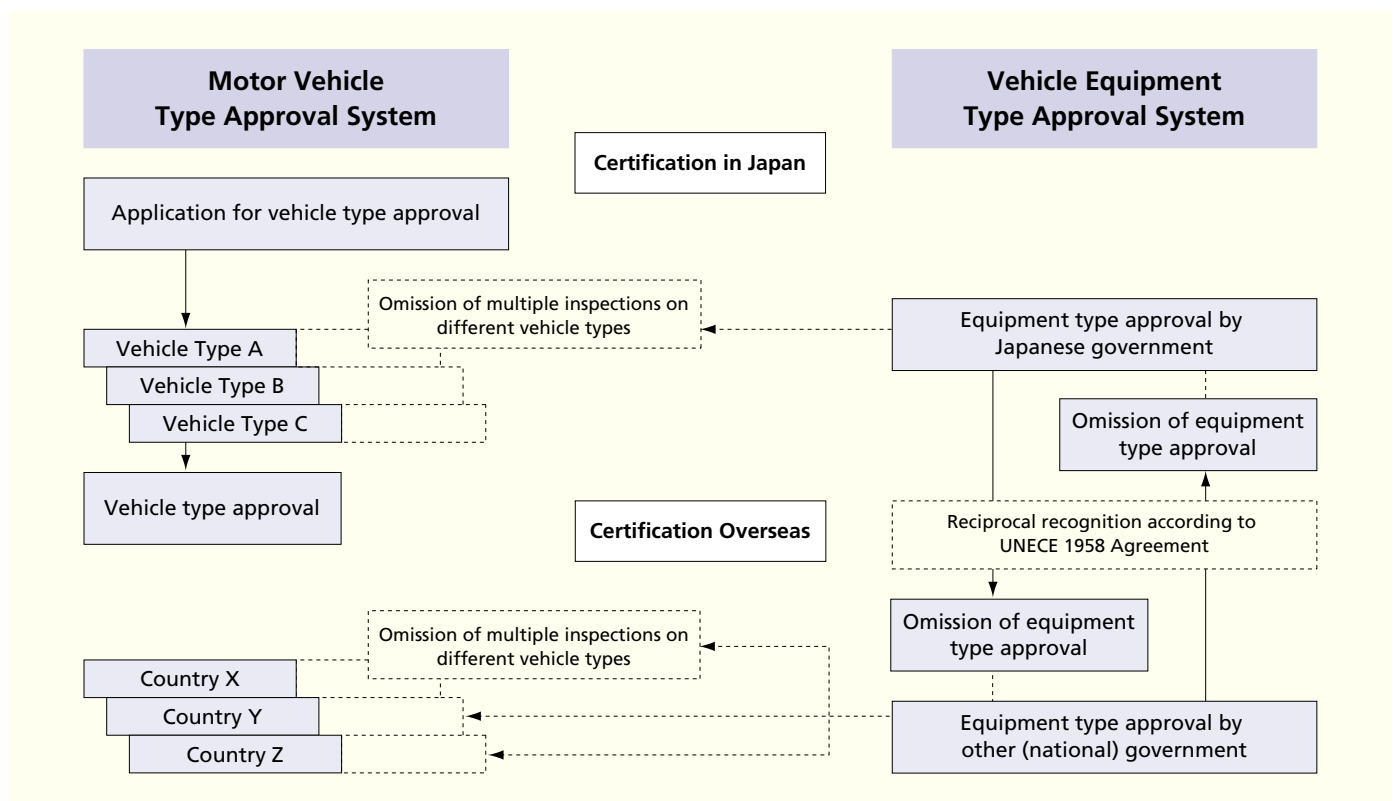
### THE PREFERENTIAL HANDLING PROCEDURE FOR IMPORTED VEHICLES

This procedure is applied to models that are imported into Japan in quantities of 5,000 units or less per year. Designed to make the importation of vehicles simpler and faster, it exempts the applicant from undergoing the sample vehicle inspection that is mandatory under the Type Approval System. The MLIT inspects only the application documentation and issues a form indicating completion of the procedure within one month.

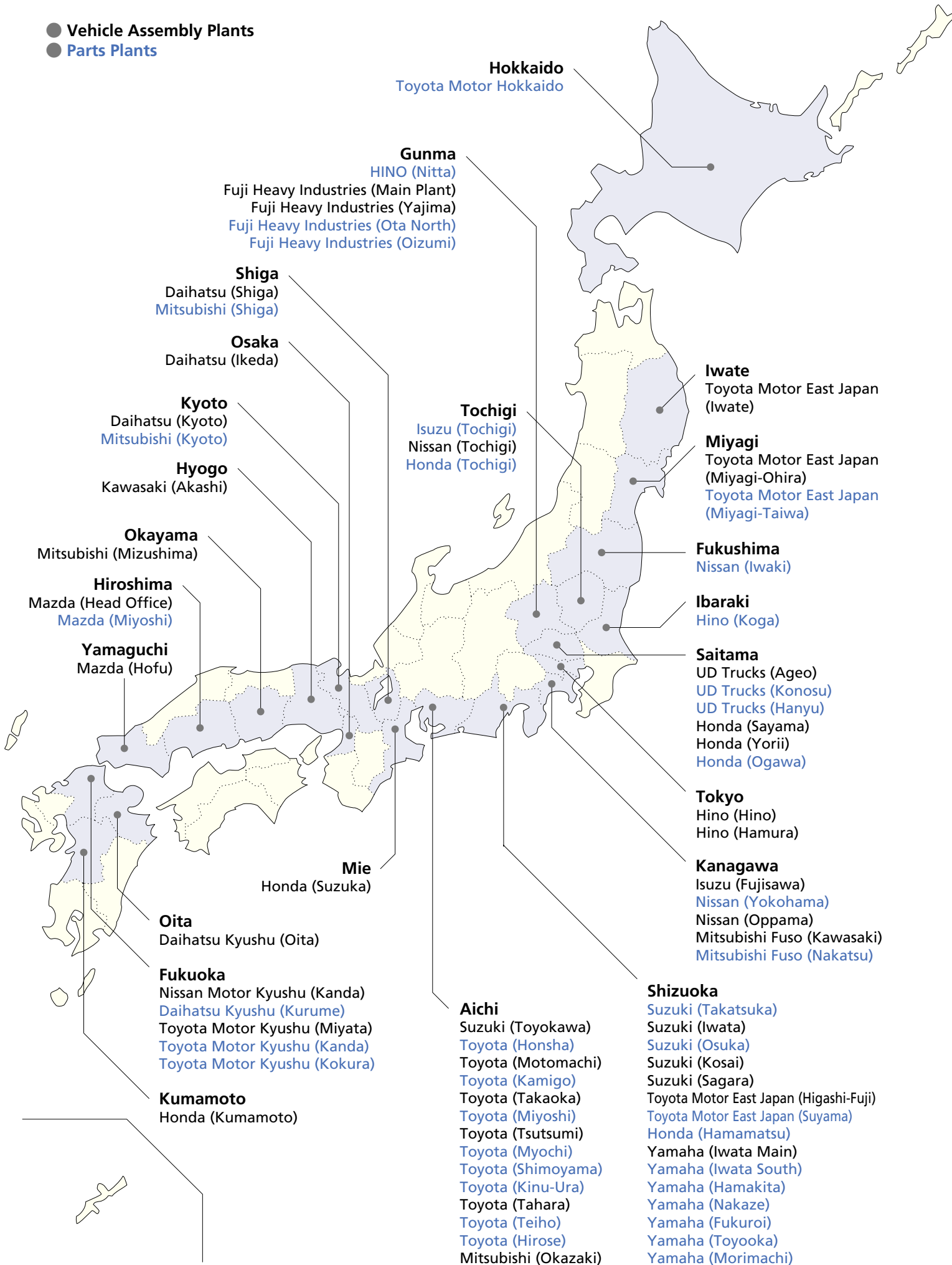
### RATIONALIZATION OF MOTOR VEHICLE/RECIPROCAL EQUIPMENT TYPE APPROVAL SYSTEMS

Increased globalization in the automobile industry worldwide is underscoring the need for the more widespread adoption of reciprocal recognition systems, under which certification is mutually recognized between importing and exporting countries or regions. Meanwhile, the UNECE World Forum for Harmonization of Vehicle Regulations (also known as WP.29) is making steady progress towards the establishment of global technical regulations (GTRs) focusing on vehicle safety and environmental standards. In 1998 the Japanese government officially acceded to the UNECE 1958 Agreement, under which each signatory government reciprocally recognizes certifications of vehicle structure and equipment issued by all the other signatory countries. It also introduced the Vehicle Equipment Type Approval System, which specifically addresses the expanding common use of equipment in vehicle manufacturing. This system not only allows equipment and parts that have been certified by 1958 Agreement co-signatory countries to be exempted from undergoing certification procedures in Japan, but furthermore does not require them to be inspected again if they are used in other models.

### JAPAN'S RATIONALIZATION OF MOTOR VEHICLE/RECIPROCAL EQUIPMENT TYPE APPROVAL SYSTEMS



- Vehicle Assembly Plants
- Parts Plants





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# JAMA

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