
TRANSPORT, ROADS AND TRAFFIC

1 Introduction

This article provides main trends of the road, transport and traffic observed in Japan based on the latest data acquired in 2018.

2 Roads

2.1. Status of Development by Road Type

Table 1⁽¹⁾ shows the status of development by road type in Japan.

National highways cover a length of 56,000 kilometers, of which 24,000 kilometers are sections managed by the national government, and 32,000 kilometers are sections managed by prefectural governments or other authorities. Among prefectural roads, main regional roads (arterial roads that integrate with expressways or national highways and share traffic over a wide area) cover 58,000 kilometers, while the remaining ordinary prefectural roads span 72,000 kilometers. Municipal roads cover 1.03 million kilometers, which represents 85% of the total length of 1.215 million kilometers covered by all roads (general roads).

A look at the status of road development in terms of the improvement rate (the proportion of length developed in compliance with the Road Structure Ordinance) reveals that although national highways exhibit a rate exceeding 90%, prefectural and municipal roads only have rates of approximately 70% and 60%, respectively. Furthermore, in terms of the completion rate (the proportion of length with completed development and a congestion score (traffic volume divided by traffic capacity) below 1.0), the respective rates of just below 70% and 60% for national highways and prefectural roads shows that the scope of insufficiently developed roads is still considerable.

2.2. Budget

Table 2 presents a summary of the road-related budget for the 2018 fiscal year⁽²⁾. The budget aims for the

early realization of measures established under a basic policy that emphasizes the four areas of “accelerating the recovery and reconstruction” of regions struck by the Great East Japan Earthquake, the Kumamoto earthquake, and the northern Kyushu torrential rains, “ensuring the safety and security of citizens”, “enhancing growth potential through improved productivity” and “the creation of new demand, and building vibrant and prosperous communities.”

Similarly, in light of the frequent disasters that wreaked havoc throughout the nation in 2018, including the July torrential rains, Typhoon Jebi (typhoon number 21), the Osaka earthquake, the Hokkaido Eastern Iburi earthquake, and heavy snows, “a three-year emergency response plan for disaster prevention, disaster mitigation, and building national resilience” based on the results of emergency inspections was prepared. Measures for the first fiscal year that must be initiated immediately were entered in the fiscal 2018 road-related (second) supplementary budget (Table 3⁽³⁾) to implement emergency measures for arterial roads serving large areas, and to deal with aging roads.

3 Traffic

The National Road and Street Traffic Situation Survey (commonly known as the Road Traffic Census) is conducted to prepare the basic documents needed to understand actual road and traffic conditions in Japan and formulate a future-oriented road development program. First conducted as the National Road Traffic Survey in 1928, it has generally been carried out every five years since 1980. The most recent survey took place in 2015.

It is broadly divided into the categories of the general traffic volume survey, which measures actual traffic volume and travel speed, and the vehicle origin-destination (OD) survey, which is intended to ascertain the movement of vehicles between regions. The results for the general traffic volume survey are used below to provide

Table 1 Status of Development by Road Type (as of April 1, 2017)

Category	Actual length (km)	Completion		Improvement		Paving				Roads with 4 or more lanes		Roads with sidewalks		Average road width (m)	Average lane width (m)
		ratio [%]	length (km)	ratio [%]	length (km)	ratio [%]	length (km)	Paving including low-cost pavement		ratio [%]	Length (km)	Ratio [%]	Length (km)		
								ratio [%]	length (km)						
National highways (designated sections)	23,680.9	65.9	15,601.9	99.9	23,655.7	99.9	23,663.5	100.0	23,680.6	25.3	6,001.0	65.6	15,534.8	16.2	9.7
National highways (non-designated sections)	31,956.6	69.6	22,255.7	87.4	27,940.0	87.9	28,098.2	99.0	31,639.4	6.5	2,067.1	56.1	17,932.1	11.5	7.0
National highways	55,637.4	68.0	37,857.6	92.7	51,595.7	93.0	51,761.7	99.4	55,320.0	14.5	8,068.1	60.2	33,466.9	13.5	8.2
Main regional roads	57,904.5	64.0	37,039.4	79.3	45,915.1	75.4	43,652.3	98.3	56,905.9	6.6	3,815.6	47.8	27,662.7	10.9	6.8
Ordinary prefectural roads	71,762.1	53.3	38,280.2	63.2	45,380.7	57.5	41,271.8	95.7	68,652.8	3.2	2,295.2	33.8	24,244.2	9.0	5.8
Prefectural roads	129,666.6	58.1	75,319.6	70.4	91,295.7	65.5	84,924.1	96.8	125,558.7	4.7	6,110.9	40.0	51,906.9	9.9	6.2
National and prefectural roads	185,304.1	61.1	113,177.2	77.1	142,891.4	73.8	136,685.8	97.6	180,878.8	7.7	14,179.0	46.1	85,373.9	11.0	6.8
Municipal roads	1,029,787.3	59.1	608,358.4	59.1	608,358.4	19.4	200,286.0	79.2	816,036.9	0.5	5,392.5	9.1	93,739.0	5.3	3.9
Total	1,215,091.4	59.4	721,535.5	61.8	751,249.8	27.7	336,971.8	82.0	996,915.7	1.6	19,571.5	14.7	179,112.9	6.2	4.3

Notes: 1. Excludes national expressways.

- The completion ratio and length were calculated from the 2015 National Road and Street Traffic Situation Survey and the volume of traffic in the basic sections designated in traffic surveys conducted in 2016. Calculation for municipal road use the completed improvement length.
- The completion ratio and length for municipal roads correspond to the improvement ratio and completed improvement length.
- For prefectural or higher ranked roads, the improvement ratio and length apply to lane widths of at least 5.5 m.
- For paving, both values excluding low-cost pavement (column on the left) and including it (column on the right) are listed.
- Roads with four or more lanes refers to improved roads with a minimum lane width of 13.0 meters.
- Due to the impact of the Great East Japan Earthquake, some data for municipal roads is not the latest data from April 1, 2017.

Table 2 Summary of Road-Related Budgets for Fiscal 2018

(Unit: hundred million yen)

Item	Operating expenses	Compared to previous year	National expenses	Compared to previous year
Projects under direct jurisdiction	15,562	1.00	15,562	1.00
Development and others	10,719	0.98	10,719	0.98
Maintenance and repair	3,683	1.07	3,683	1.07
Miscellaneous expenses	1,160	1.00	1,160	1.00
Subsidized projects	1,634	1.13	974	1.13
High-standard regional roads and others	925	1.03	516	1.03
Roads accessing an interchange	435	1.45	240	1.45
Large-scale repairs and upgrades	118	1.32	65	1.45
Snow removal	156	1.00	104	1.00
Difference from subsidy rate	—	—	49	1.04
Toll roads and other projects	24,393	1.03	141	0.68
Subtotal	41,588	1.02	16,677	1.00
General grant allocations for infrastructure development (assistance centered on connecting traffic hubs)	1,063	Increase	590	Increase
Total	42,651	1.04	17,267	1.04
(Repeated)				
Subsidized projects + general grant allocations for infrastructure development (assistance centered on connecting traffic hubs)	2,697	1.87	1,564	1.81

*In addition to the above, there are grant allocations for disaster prevention (1.1117 trillion yen in national expenses (101% of the previous year)) and general grant allocations for infrastructure development (888.6 billion yen in national expenses (99% of the previous year)) that can be applied to road development at the request of the region. The table includes the general grant allocations for infrastructure development (assistance centered on connecting traffic hubs).

*The general grant allocations for infrastructure development (assistance centered on connecting traffic hubs) rely on deferred national treasury obligations to grant location-specific planned and focus assistance for roads or linked overpasses providing access to airports, seaports, and other sites that connect traffic hubs and contribute to improvements in productivity such as more efficient logistics.

*In addition to the above, there are funds provided as part of the Great East Japan Earthquake recovery and reconstruction measures (209 billion yen in national expenses (87 % of the previous year)). The same measures also include general grant allocations for infrastructure development (96.1 billion yen in national expenses (88 % of the previous year)) that can be applied to road development at the request of the region.

Note 1: In addition to the above, there are also costs for administration (900 million yen in national expenses).

Note 2: The national expenses for projects under direct jurisdiction include the charges for such operations (295.8 billion yen) to be borne by local authorities.

Note 3: Due to rounding, some totals do not match the sum of the individual figures.

Reference: Public Works Expenses for Fiscal 2018 (National Expenses)

Entire government: 5.9789 trillion yen (100% of previous year), MLIT-related: 5.1828 trillion yen (100% of previous year)

Table 3 Summary of Road-Related Budget Allocations for Fiscal 2018 (Second) Supplementary Budget

Overall operating expenses (Unit: million yen)

Category	Emergency response plan for disaster prevention, disaster mitigation, and building national resilience			Response to other urgent issues			Subtotal			Deferred national treasury obligations (deferred national debt)			Total		
	Ministry allocation	Collective allocation	Total	Ministry allocation	Collective allocation	Total	Ministry allocation	Collective allocation	Total	Ministry allocation	Collective allocation	Total	Ministry allocation	Collective allocation	Total
Projects under direct jurisdiction	10,935	95,014	105,949	3,717	12,220	15,937	14,652	107,234	121,886	27,648	3,043	30,691	42,300	110,277	152,577
Subsidized projects	—	—	—	—	—	—	—	—	—	1,940	—	1,940	1,940	—	1,940
Total	10,935	95,014	105,949	3,717	12,220	15,937	14,652	107,234	121,886	29,588	3,043	32,631	44,240	110,277	154,517

Note: Based on operating expenses

*The table includes expenses to promote the hiring of people with disabilities.

*Survey expenses are also included.

*In addition to the above, there are grant allocations for disaster prevention (297.5 billion yen in national expenses) and general grant allocations for infrastructure development (27.4 billion yen in national expenses) that can be applied to road development at the request of the region.

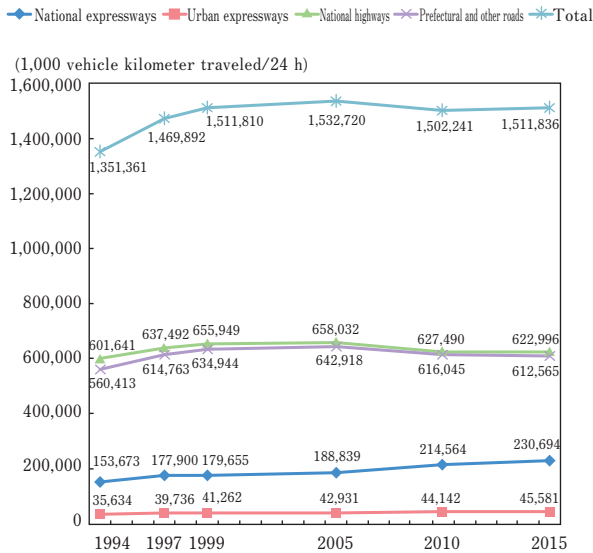
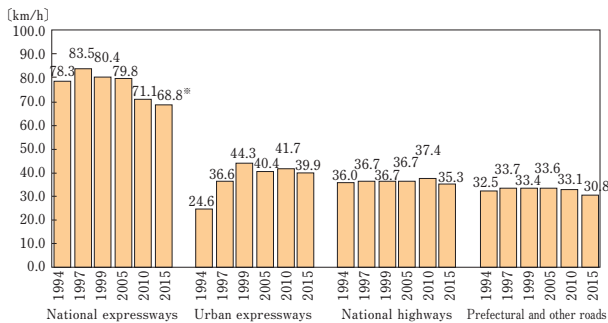


Fig. 1 Vehicle Kilometers Traveled by Road Type



* The 2015 figure for national expressways is a reference value calculated using the method from the 2010 survey. The method of conducting the survey changed between 2010 and 2015, and calculations using the 2015 method result in a value of 83.9 km/h.

Fig. 2 Congested Travel Speeds (Weekdays)

an overview of road traffic conditions.

3.1. Vehicle Kilometers Traveled

Vehicle kilometers traveled is the length of the surveyed road section multiplied by the volume of traffic, the total of which (total vehicle kilometers traveled) provides an index of road traffic demand. Figure 1⁽⁴⁾ shows

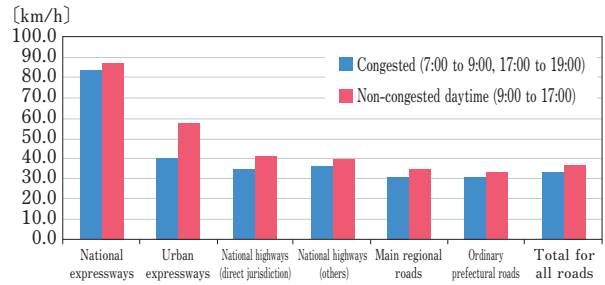


Fig. 3 Travel Speed in Congested and Non-Congested Periods (All Roadside Condition Categories)

the vehicle kilometers traveled by road type. In terms of total distance, the number of vehicle kilometers traveled has remained virtually unchanged, increasing by 0.6% compared to 2010. In contrast, a rising trend can be seen for national expressways, which exhibit an increase of 7.5%. Although not shown on the graph, the breakdown by type of vehicle shows a similar tendency for heavy-duty vehicles.

3.2. Travel Speed

Figure 2⁽⁴⁾ shows the congested travel speed on weekdays, a value calculated by measuring travel speed for two hours in the morning (from 7:00 to 9:00) and two hours in the evening (from 17:00 to 19:00). There has been a slight drop in congested travel speed compared to 2010.

In addition, Figure 3⁽⁵⁾ presents the travel speeds by road type in during congested and non-congested periods. These travel speeds are normally compiled by densely inhabited districts (DIDs) or other roadside conditions, but this graph presents collated travel speeds for all roadside conditions. It goes without saying that travel speeds are higher in non-congested periods than during congestion. General roads (ranging from (direct jurisdiction) national highways to ordinary prefectural roads) do not exhibit large differences in travel speed between road types.

Table 5 Freight Shipments by Use and Vehicle Type

		Total		Commercial		Private use	
		Volume	Share	Volume	Share	Volume	Share
Transported tons (million tons)	Total	4,381	100.0	3,032	69.2	1,349	30.8
	Ordinary vehicles	3,418	78.0	2,495	56.9	923	21.1
	Light-duty vehicles	189	4.3	21	0.5	168	3.8
	Special-purpose vehicles	754	17.2	496	11.3	258	5.9
	Mini-vehicles	20	0.5	20	0.5	—	—
Transported ton kilometers (million ton kilometers)	Total	210,829	100.0	182,526	86.6	28,303	13.4
	Ordinary vehicles	169,358	80.3	148,858	70.6	20,500	9.7
	Light-duty vehicles	3,680	1.7	543	0.3	3,137	1.5
	Special-purpose vehicles	37,378	17.7	32,712	15.5	4,666	2.2
	Mini-vehicles	412	0.2	412	0.2	—	—

Table 4 Vehicle Freight Shipments and Passenger Volume

		2017 (A)	2016 (B)	A/B (%)
Freight shipments	Tons (million tons)	4,381	4,378	100.1
	Ton kilometers (million ton kilometers)	210,829	210,314	100.2
Passenger volume	Passengers (million people)	6,085	6,035	100.8
	Passenger kilometers (million people kilometers)	69,815	70,119	99.6

4 Transportation

The Survey on Motor Vehicle Transport is conducted to understand road transport conditions by measuring factors such as the shipping and travel volumes of vehicles used in transport activities in Japan and apply that information to preparing basic guidelines for the formulation of economic and transportation policies. The Annual Report of Motor Vehicle Transportation Statistics (for 2017)⁽⁶⁾, dated August 31, 2018, has been released.

Table 4⁽⁶⁾ lists the automotive freight shipment and passenger volumes for the 2017 fiscal year. Compared to the previous year, the volume of freight shipments, at 4.381 billion tons, rose 0.1% while the 210.829 billion figure for transported ton kilometers represents a 0.2% increase. For passenger volume, the number of passengers reached 6.085 billion, with 69.815 billion traveled passenger kilometers, representing, respectively, a 0.8% increase and a 0.4% decrease over the previous year.

4.1. Freight Shipments

Table 5⁽⁶⁾ collates the fiscal 2017 freight shipment volume by type of use and vehicle.

By use type, 3.032 billion tons, or 69.2% of total shipments, were for commercial use, while 1.349 billion tons, or 30.8%, were for private use. Similarly, commercial use accounted for 182.526 billion ton kilometers, 86.6% of the

Table 6 Passenger Volume by Type of Vehicle

		Commercial		
		Volume	Share	
Passenger numbers (million people)	Total	6,085	100.0	
	Registered vehicle	Buses	4,640	76.2
		Transit (Regular schedules)	4,342	93.6
		(Other schedules)	1,222	28.1
		Charter	3,121	71.9
		Passenger vehicles	297	6.4
Passenger kilometers (million people kilometers)	Total	69,815	100.0	
	Registered vehicle	Buses	63,524	91.0
		Transit	34,260	53.9
		Charter	29,264	46.1
		Passenger vehicles	6,290	9.0

Note: The ratio was calculated against the total for buses and passenger cars, against buses for transit and charter buses, and against transit buses for buses with regular and irregular schedules.

total, while private use accounted for 28.33 billion ton kilometers, 13.4% of the total.

By vehicle type, 3.418 billion tons, representing 78.0% of the total, were transported by ordinary vehicles, 754 million tons, or 17.2%, by special-purpose vehicles, 189 million tons, or 4.3%, by light-duty vehicles, 20 million tons, or 0.5%, by mini-vehicles. Ordinary vehicles accounted for 169.358 billion ton kilometers, representing 80.3% of the total, special-purpose vehicles for 37.378 billion ton kilometers, or 17.7%, light-duty vehicles for 3.680 billion ton kilometers, or 1.7%, and mini-vehicles for 412 million ton kilometers, or 0.2%.

4.2. Passenger Transportation

Table 6⁽⁶⁾ collates the fiscal 2017 passenger volume by type of vehicle.

The number of passengers carried by buses was 4.640 billion people, representing 76.2% of the total, with passenger cars carrying 1.445 billion people, or 23.8% of the total. By bus type, transit buses carried 4.349 billion pas-

sengers, or 93.6% of the total for buses, and charter buses carried 297 million passengers, or 6.4% of that total. Among transit buses, those on a regular schedule transported 1.222 billion passengers, or 28.1% of the transit bus total, while those operating on an irregular schedule transported 3.121 billion passengers, or 71.9% of that total.

Buses accounted for 63.524 billion passenger kilometers, representing 91.0% of the total, and passenger cars accounted for 6.290 billion passenger kilometers, or 9.0% of the total. By bus type, 3.426 billion passenger kilometers, or 53.9% of the total, were covered by transit buses, while 2.9264 billion passenger kilometers, or 46.1%, were covered by charter buses.

References

- (1) Ministry of Land, Infrastructure, Transport and Tourism, Annual Report on Road Statistics 2018, <http://www.mlit.go.jp/road/ir/ir-data/tokei-nen/index.html> (accessed April 22, 2019) (in Japanese)
- (2) Ministry of Land, Infrastructure Transport and Tourism, City Bureau, Overview of 2018 Road-Related Budget, <http://www.mlit.go.jp/common/>

001218546.pdf (accessed April 22, 2019) (in Japanese)

- (3) Ministry of Land, Infrastructure Transport and Tourism, City Bureau, Overview of 2018 Road-Related (Second) Supplementary Budget, <http://www.mlit.go.jp/road/ir/ir-yosan/h30hosei/pdf/gaiyou.pdf> (accessed April 22)
- (4) Ministry of Land, Infrastructure Transport and Tourism, Road Bureau, Planning Section, Overview of Results of 2015 National Road and Street Traffic Situation Survey, June 6, 2017 (in Japanese)
- (5) Ministry of Land, Infrastructure Transport and Tourism, Road Bureau, Planning Section, 2015 National Road and Street Traffic Situation Survey Collated Charts, <http://www.mlit.go.jp/road/census/h27/index.html> (accessed April 18, 2019) (in Japanese)
- (6) Ministry of Land, Infrastructure Transport and Tourism, Policy Bureau, Economic Statistical Survey Department, Annual Report \ on Motor Vehicle Transport, Vol. 55, No. 13, 2017 Statistics, <http://www.mlit.go.jp/k-toukei/saishintoukeihyou.html> (accessed April 22, 2019) (in Japanese)