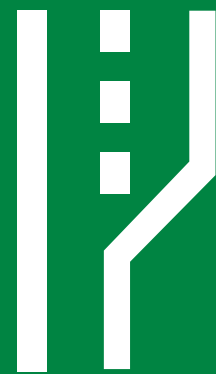


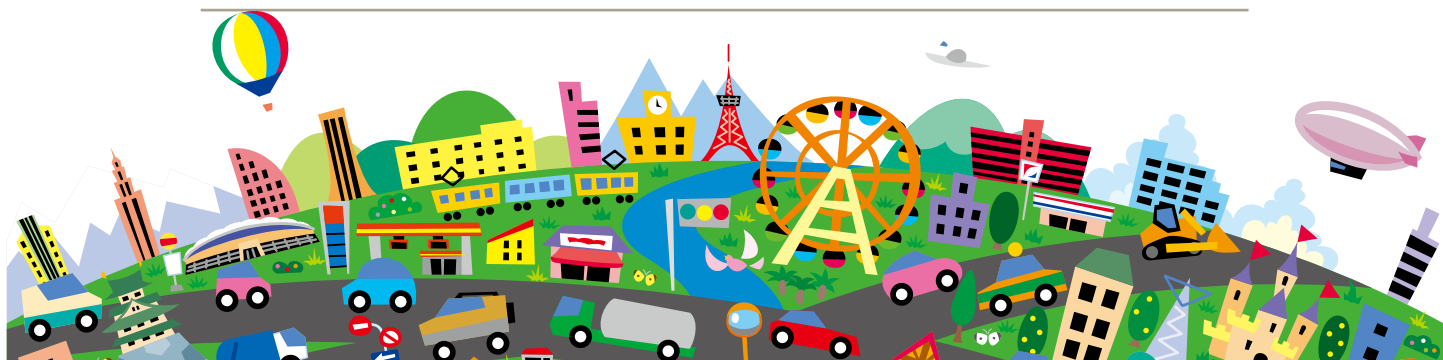
# JAPAN EXPRESSWAY HOLDING AND DEBT REPAYMENT AGENCY 2022



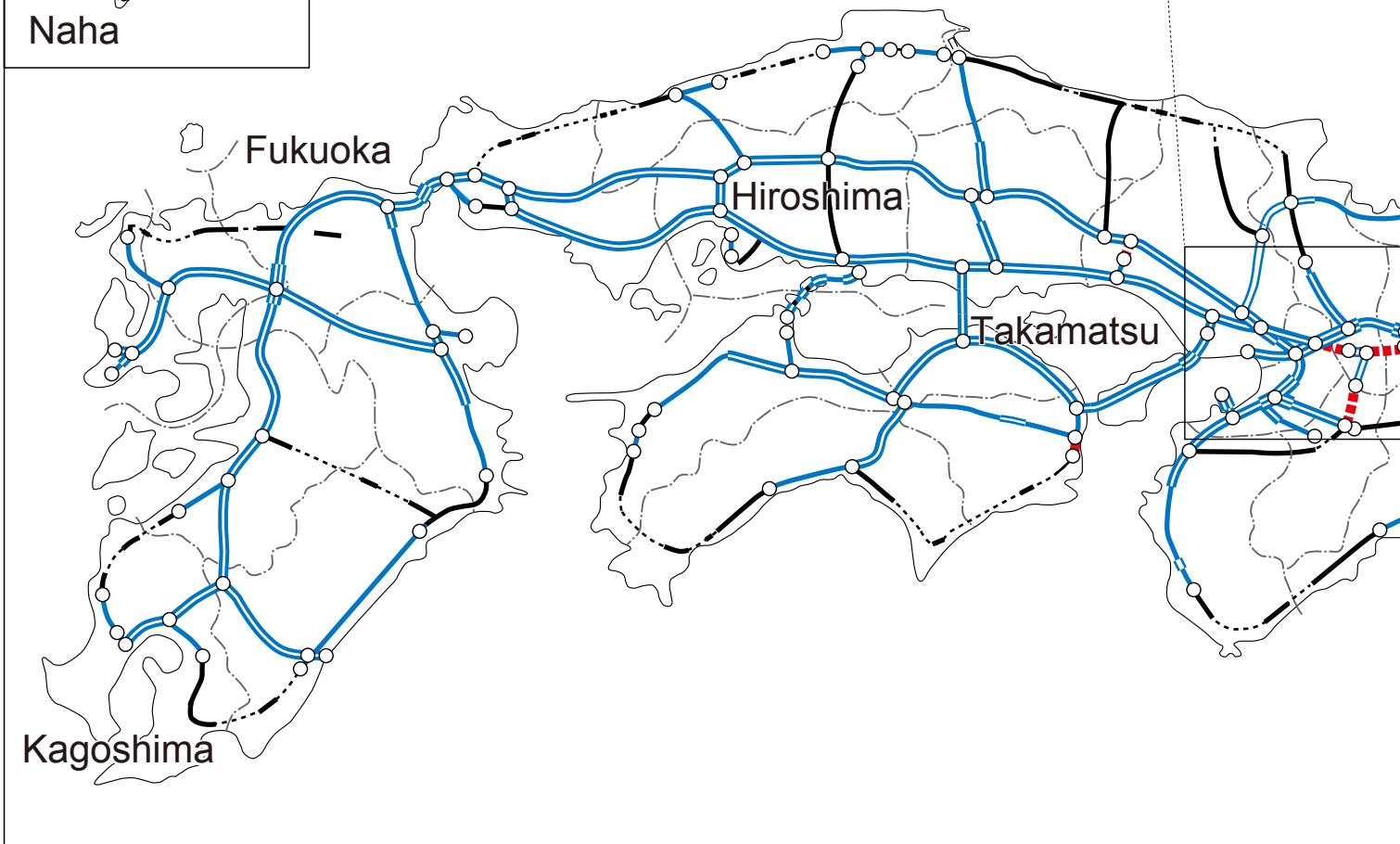
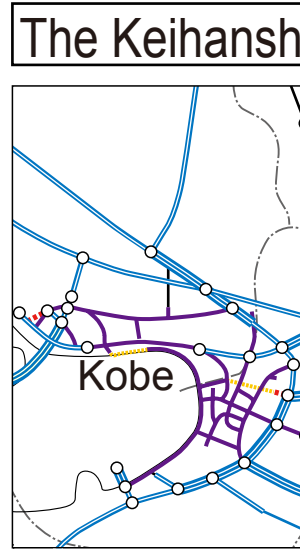
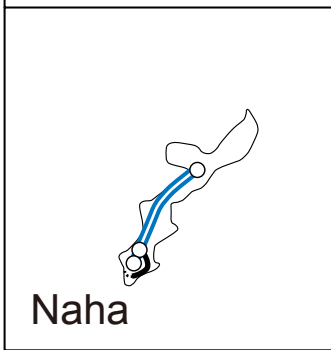
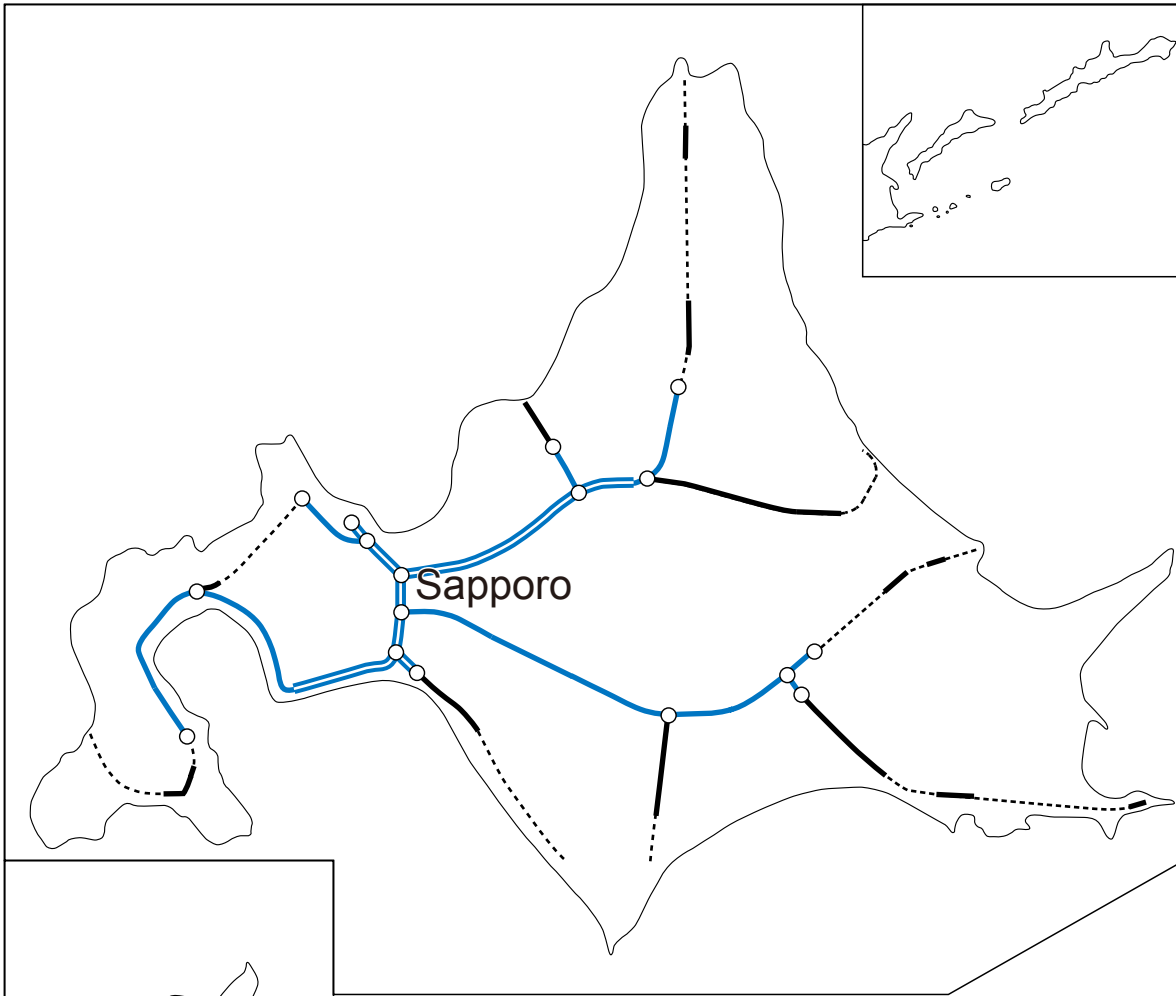
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Japan Expressway Holding and  
Debt Repayment Agency

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# Expressway

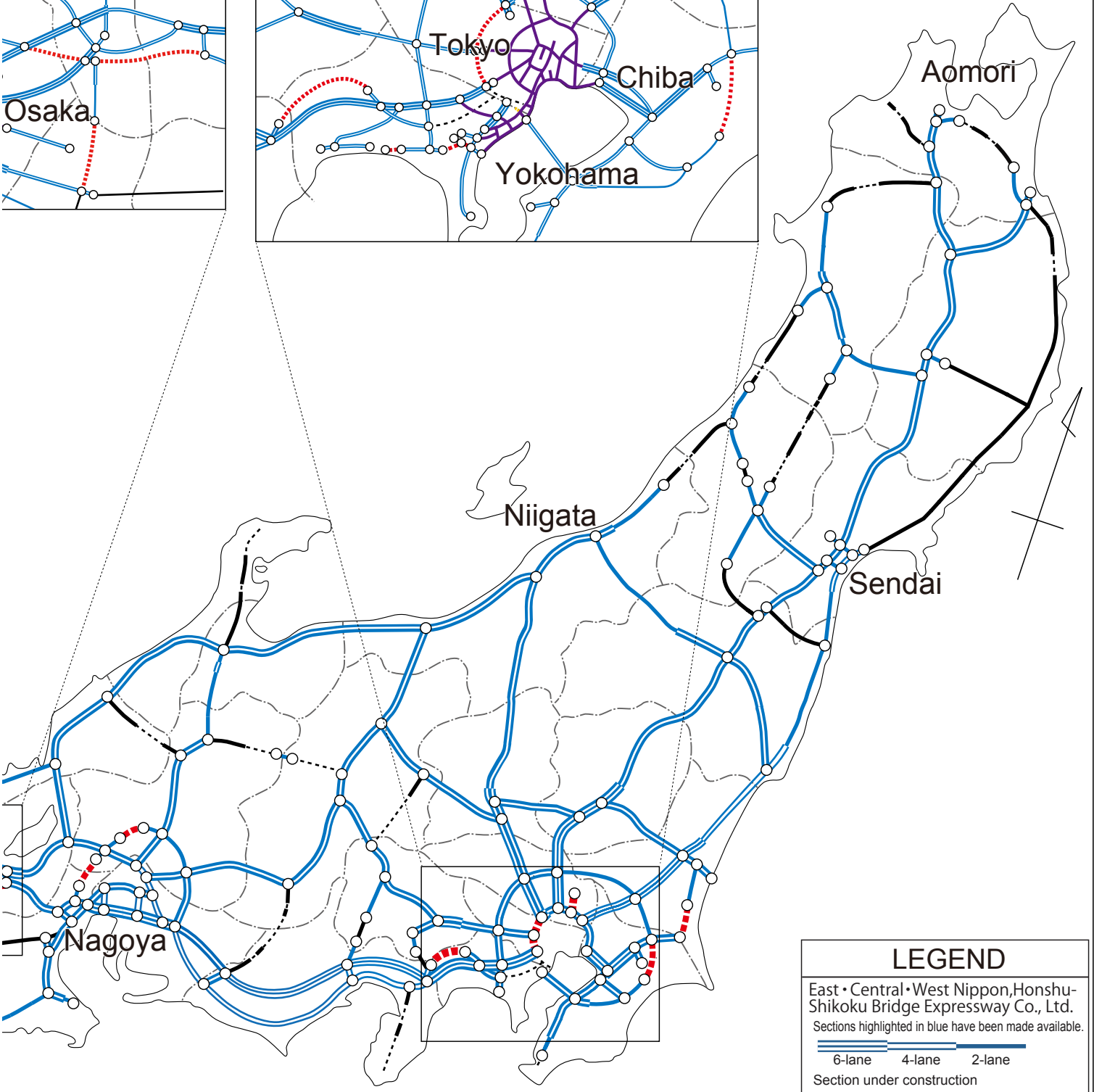
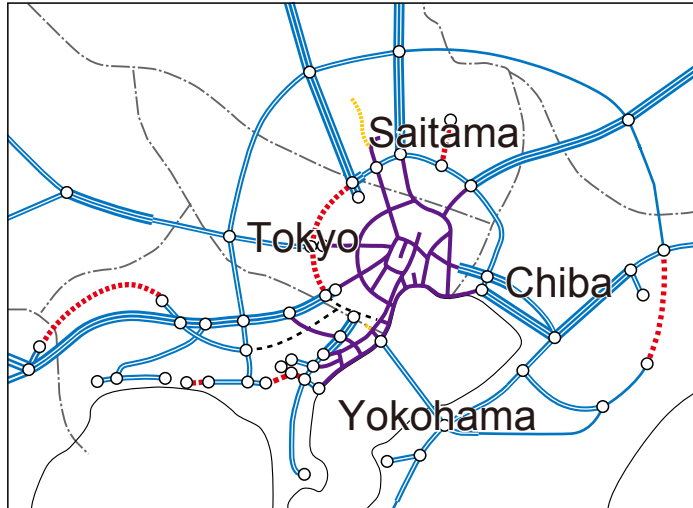


# Network

in district area







The Metropolitan area





**LEGEND**

East • Central • West Nippon, Honshu-Shikoku Bridge Expressway Co., Ltd.  
 Sections highlighted in blue have been made available.



 6-lane  
  4-lane  
  2-lane

Section under construction  


Metropolitan Expressway Co., Ltd.  
 Hanshin Expressway Co., Ltd.

 Section made available  
 Section under construction

Others As of the end of Aug. 2022

 Section made available  
 Section under construction or investigation

IC • names in sections under construction are temporary names.

# Holding and Leasing of Expressway Assets

Due to the introduction of 35.0 km of new sections in FY2021, the total length of held and leased expressways was 10,423 km at the end of FY2021. Of this total, the total length of expressways in service was 10,392 km.

## ■ Status of held and leased expressway assets

As of March 31, 2022  
[Unit: km]

	Total	NEXCO East	NEXCO Central	NEXCO West	Metropolitan Expressway	Hanshin Expressway	Honshu-Shikoku Bridge Expressway
Held and leased length	10,423	3,948	2,146	3,563	330	263	173
Change from the end of the previous fiscal year	35	0	19	16	0	0	0
(Breakdown)							
National expressway network	9,825	3,948	2,141	3,563	—	—	173
Change from the end of the previous fiscal year	35	0	19	16	—	—	0
Regional expressway network	592	—	—	—	330	263	—
Change from the end of the previous fiscal year	0	—	—	—	0	0	—
Independent general toll roads	6	—	6	—	—	—	—
Change from the end of the previous fiscal year	0	—	0	—	—	—	—

Note 1 : The total length figures have been obtained by combining all of the sections that contain assets held by the Agency with the distance between ICs as the minimum unit.

Note 2 : There may be discrepancies in figure totals due to the treatment of fractions.

Note 3 : National expressway network: National expressways and highways that are closely related to national expressways in terms of traffic and are designated by the Agency with permission from the Minister of Land, Infrastructure, Transport and Tourism. (Examples: Tohoku Expressway, Tomei Expressway, Meishin Expressway, Honshu-Shikoku Expressway)

Regional expressway network: Multiple expressways other than those belonging to the national expressway network, which are designated as closely related to each other in terms of traffic by the Agency with permission from the Minister of Land, Infrastructure, Transport and Tourism.

(Examples: Shuto Expressway, Hanshin Expressway)

Independent general toll roads: Roads managed by expressway companies other than those listed above.

(Example: Abo-Pass Road)

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### =Abbreviation=

In this pamphlet, the “Agency” refers to Japan Expressway Holding and Debt Repayment Agency, and the “Companies” refers to 6 companies operating expressways: East Nippon Expressway Co., Ltd. (NEXCO East), Central Nippon Expressway Co., Ltd. (NEXCO Central), West Nippon Expressway Co., Ltd. (NEXCO West), Metropolitan Expressway Co., Ltd., Hanshin Expressway Co., Ltd., and Honshu-Shikoku Bridge Expressway Co., Ltd. (HSBE).

“IC” refers to an interchange, “JCT” refers to a junction, “SA” refers to a service area, and “PA” refers to a parking area.

### =Validity of Information=

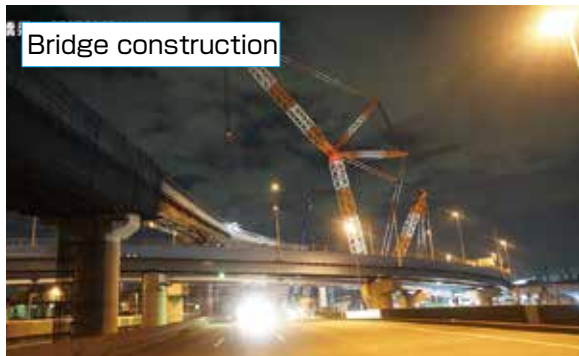
Information provided in this pamphlet is valid as of FY 2020, unless otherwise specified the time.

# Current Conditions of Expressways and Activities Underway

## 1. Expressways and Our Roles

- ➔ Expressways are essential public facilities that enrich people's lives. We are developing belt lines to shorten the travel time for people and goods, and to promote the distribution of food and products.
- ➔ Expressways are supporting safe life. Disasters, such as typhoons and heavy snowfalls, have been frequently occurring in recent years. Reliable maintenance work and the management of expressways has been performed in preparation for disasters, while proceeding with enhancements to make roads disaster resistant.
- ➔ Furthermore, as more than 50 years have passed since the construction of the first expressway, the deterioration of bridges and tunnels due to aging continues. We are continuously engaged in renewal and repairs in order to pass down safe, high-quality roads to future generations.

### Construct



Build a bridge at a stretch while cutting off the traffic.



Dig deep under the city center.

### Use



# Protect



Road cleaning



Snow removal



Bridge inspection

Inspection using drones



Tunnel inspection

Inspection using a mobile tunnel inspection vehicle



Before pavement repair



After pavement repair



Traffic control



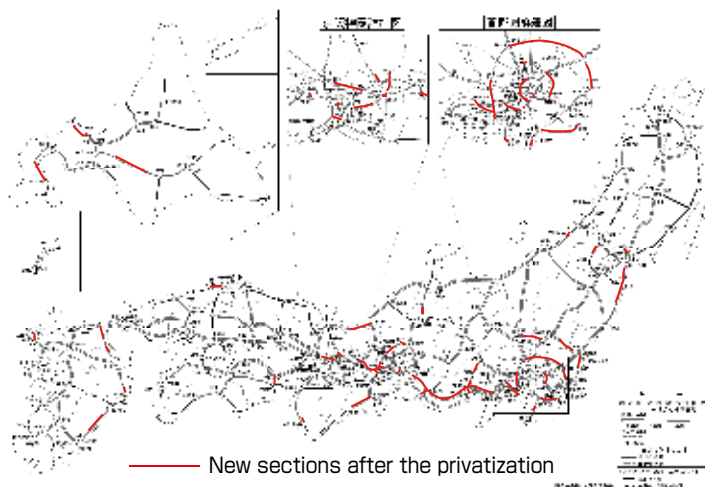
Control of violating vehicles

Current Conditions of Expressways and Activities Underway

## 2. Length of Expressways and Transition of Number of Vehicles

### Use

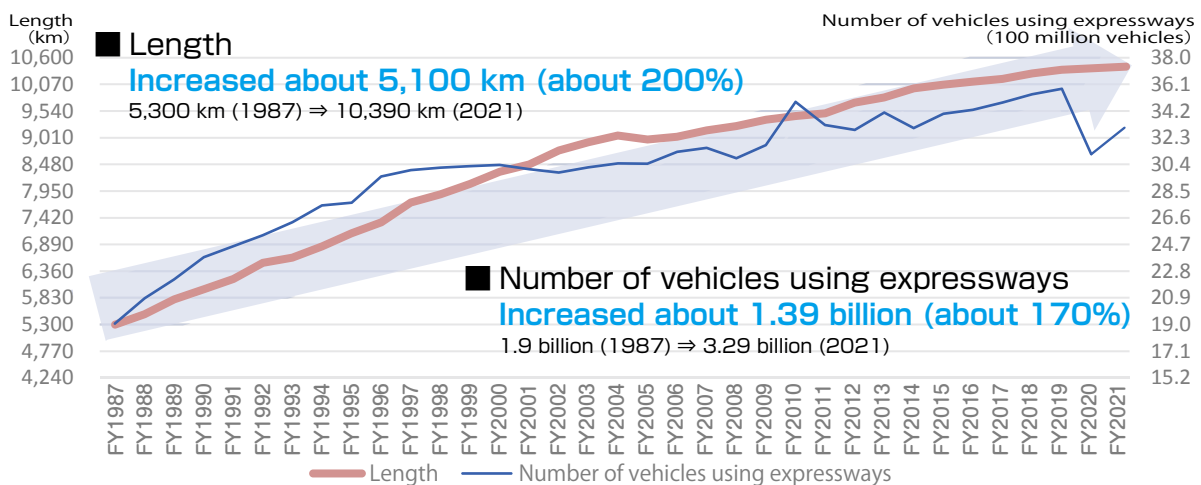
- ➔ The current expressway plan for a length of 14,000 km was established in 1987.\*
- ➔ The total length of expressways has increased by about 5,100 km since FY 1987, to about 10,400 km as of the end of FY 2021.
- ➔ The total number of vehicles using the expressways annually has increased by about 1.4 billion as of FY2021, with about 9.0 million vehicles using our expressways daily, even though temporary increases and decreases occur from time to time.



The total length under our management has increased by about 1,440 km since the privatization in October 2005.

#### [Main lines that newly opened]

- Whole length of Kita-Kanto Expressway (March 2011)
- Whole length of Joban Expressway (March 2015)
- Whole length of Central Circular Route (March 2015)
- Miyazaki City is directly connected to Kitakyushu City on the Higashi-Kyushu Expressway (April 2016)
- Ken-O Expressway is connected to 6 radial roads between Tomei Expressway and Higashi-Kanto Expressway (February 2017)
- Tokyo Gaikan Expressway and 4 radial roads (Higashi-Kanto Expressway, Joban Expressway, Tohoku Expressway, Kan-etsu Expressway) are connected (June 2018)
- Whole length of Yamatogawa Route (March 2020)
- Whole length of Mei-Nikan Expressway (May 2021)



\*In the "Fourth Comprehensive National Development Plan" (Cabinet decision on June 30, 1987), high-standard highways (referred to as expressways in this pamphlet) are determined to be about 14,000 km so that they are available in about an hour from regional center/core cities, regional cities as a center of local development, and their surrounding areas in about one hour.

### Topics

Comfortable road surface ratio  
(Average by companies, Unit: %)  
**96 ⇒ 95 or more**  
(Results of FY2021) (Target for FY2022)

#### (Provision of comfortable service)

The traffic volume on expressways is increasing year after year and the deterioration of pavement associated with this situation is also becoming more severe, however we have been able to maintain a comfortable road surface ratio (ratio of the road surface that facilitates comfortable driving with no unevenness or cracks) at 95% or more since FY2014.



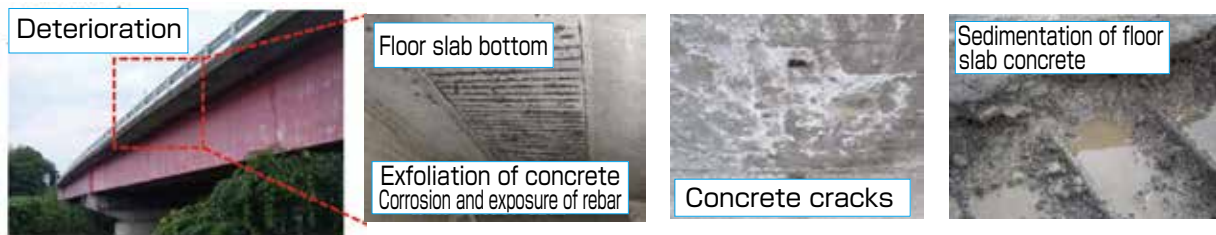
### 3. Renewal of Expressways

#### Protect

- ➔ Aging has been progressing on expressways, such as the Tomei Expressway, which has been in service for more than 50 years. **If the current situation continues until 2030, roads that have had more than 30 years of service will comprise about 80% of all the expressways.**
- ➔ There are a lot of deteriorations as well as aging observed on the bridges on expressways due to the severe conditions of use such as increase in the traffic of large vehicles and increase in the vehicle weight.
- ➔ In order to maintain expressways in long-lasting good conditions, we use the latest technology to promote large-scale renewals and repairs of structures that may develop into serious deteriorations.

#### ■ Example of large-scale renewal (replacement of floor slab)

##### ○ Deterioration of bridge deck concrete due to aging

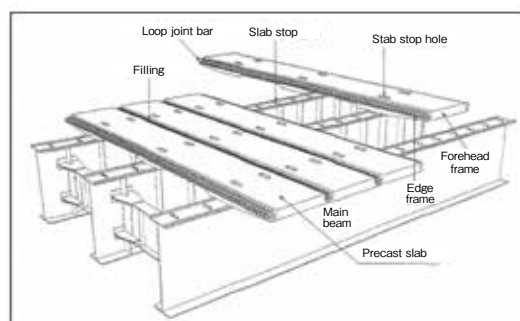


➔ Replace reinforced concrete slabs with durable prestressed concrete slabs while considering about the traffic.

Replacement image of a floor panel



Structure of prestressed concrete slab



#### Topics

Initiated bridge repair ratio  
(Average by companies, Unit: %)

**85 ⇒ 89**  
(Results of FY2021) (Target for FY2022)

#### (Ensure safety and reliability)

We inspect bridges and tunnels once every 5 years and repair broken parts to ensure the safe use of expressways. The initiated repair ratio shows the percentage of bridges that we have started the repair work among the bridges that require repairs. Plans are proceeding for repairing about 3,300 bridges (including spans of urban expressways), which were found to be necessary as a result of inspections conducted over a five year period between FY2014 and FY2018.

## 4. Disaster Recovery of Expressways

### Protect

- ➔ In July 2021, a rainy season front that stagnated in the vicinity of Japan brought record-breaking rainfall to many areas of the country. Heavy rainfall during this period caused a slope collapse at Zushi IC on the Yokohama-Yokosuka Road.
- ➔ Furthermore, in August of the same year, record-breaking rainfall in the Kyushu and Chugoku regions caused a sediment inflow in the area between Takada IC and Chiyoda IC on the Chugoku Expressway.
- ➔ These emergency recovery works have been completed and there are no ongoing closures. We are engaged in continuing recovery work at present.

#### ■ Ramp section of Zushi IC of the Yokohama-Yokosuka Road



(Disaster status)



(Emergency recovery work status)  
Reopened on September 30, 2021.

#### ■ Chugoku Expressway (between Takada IC and Chiyoda IC)



(Disaster status)



(Emergency recovery work status)  
Road closures lifted three days after the disaster.

### Topics

**Period of closure**  
(Total of companies, Unit: hour)  
**243**  
(Results of FY2021)

#### (Ensure safety and reliability)

Even though the road closure periods, due to rain, snow, accidents and road works, vary depending on the weather each year, we are conducting construction to prevent disasters, while implementing measures to prevent traffic accidents in order to ensure that the period of closure is as short as possible.

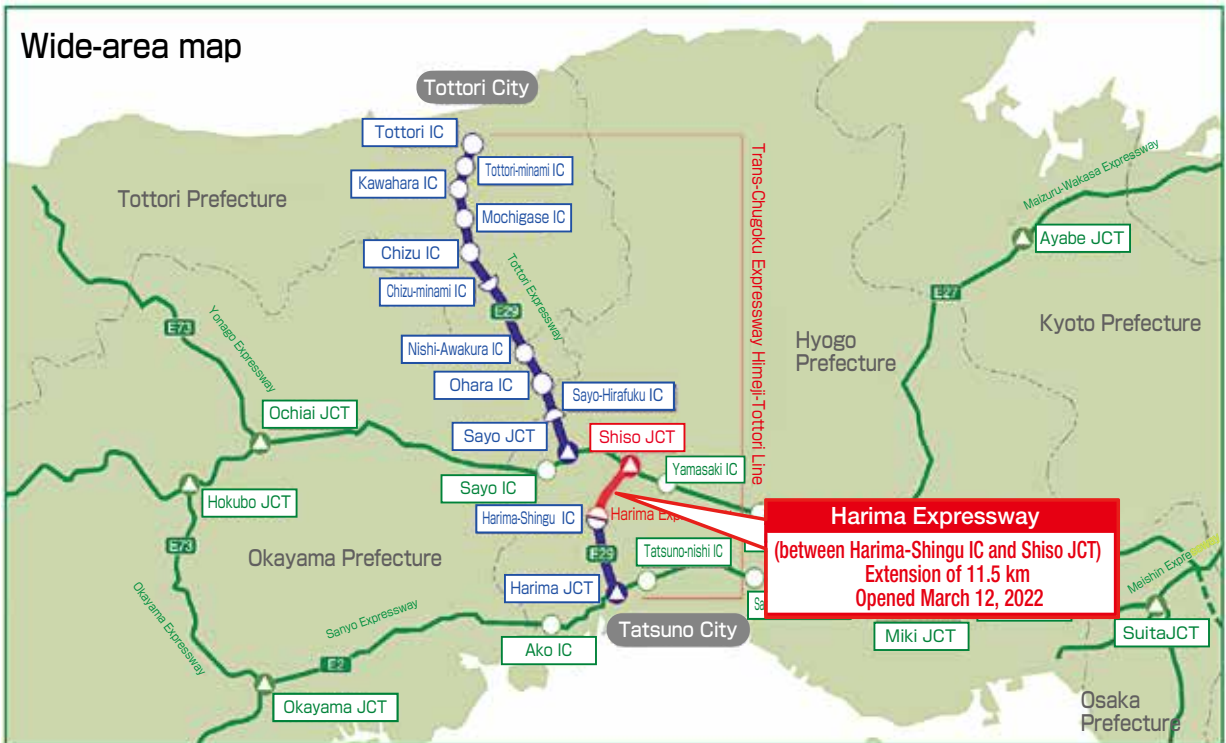
# 5. Connecting Expressways

## Construct

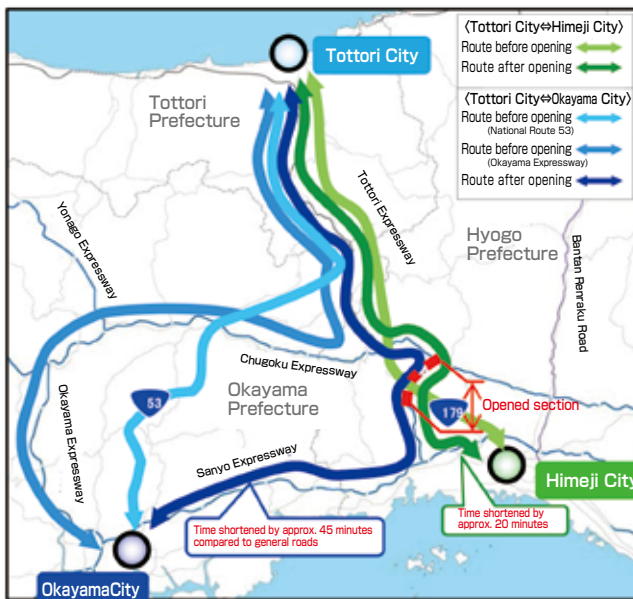
### Harima Expressway (between Harima-Shingu IC and Shiso JCT)

#### [Effect of development after opening]

- An 11.5 km extension of the Harima Expressway, between Harima-Shingu IC and Shiso JCT, was opened on March 12, 2022. With this opening, the entire Himeji-Tottori Line of the Trans-Chugoku Expressway is now open to traffic.
- This opening is expected to strengthen ties between the San' in and Sanyo regions and secure transportation capacity in the event of an earthquake or other disaster.



#### Comparison of travel time before and after opening



San' in Region	Sanyo Region
Tottori City	Himeji City
	Okayama City

Route	Before opening	After opening	Time Shortened
Tottori City ↔ Himeji City	Route before opening: via Tottori Expwy. & Rt. 179 (driving distance: approx. 113km)	Route after opening: via Tottori Expwy. & Harima Expwy. (driving distance: approx. 128km)	Approx. 2 hr. 15 min. → Approx. 1 hr. 55 min. (Time shortened by approx. 20 minutes)
Tottori City ↔ Okayama City	Route before opening: via National Route 53 only (driving distance: approx. 136km)	Route after opening: via Tottori Expwy., Harima Expwy. & Sanyo Expwy. (driving distance: approx. 173km)	Approx. 3 hr. 25 min. → Approx. 2 hr. 40 min. (Time shortened by approx. 45 minutes)
Tottori City ↔ Okayama City	Route before opening: via Tottori Expwy., Chugoku Expwy. & Okayama Expwy. (driving distance: approx. 199km)	Route after opening: via Tottori Expwy., Harima Expwy. & Sanyo Expwy. (driving distance: approx. 173km)	Approx. 2 hr. 55 min. → Approx. 2 hr. 40 min. (Time shortened by approx. 45 minutes)

Source: FY2015 National Road/Street Traffic Situation and General Traffic Volume Survey  
 \* Calculated using FY2015 National Road/Street Traffic Situation and General Traffic Volume Survey (12-hour daytime average travel speed) and speed limits. Tottori-Himeji Line calculated with a speed limit of 70km/h.  
 Source: NEXCO-West survey

## 5. Connecting Expressways

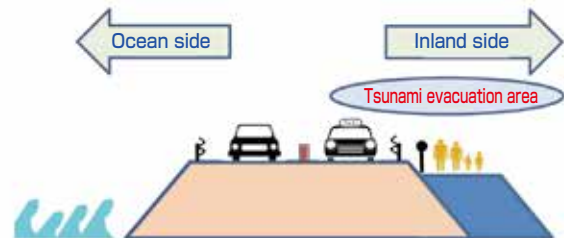
### Construct

#### ■ Tokushima-Nanbu Expressway (between Tokushima JCT and Tokushima-Okinosu IC)

- ➔ A 4.7 km extension of the Tokushima-Nanbu Expressway, between Tokushima JCT and Tokushima-Okinosu IC, was opened on March 21, 2022. With this opening, the Tokushima Expressway and Tokushima-Nanbu Expressway are now connected.
- ➔ This opening is expected to strengthen inter-regional exchanges in southern Tokushima Prefecture, ease traffic congestion along the road, and strengthen alternative transport capacity in the event of a disaster.



Example of tsunami evacuation site (earth mound type)



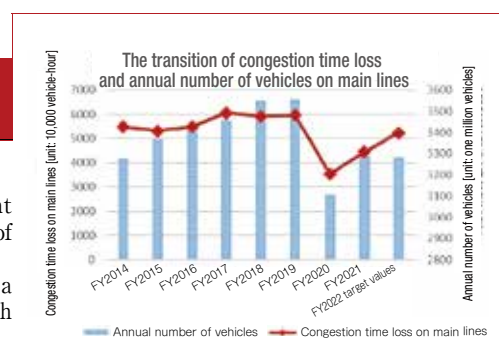
**Tokushima-Nanbu Expressway**  
(between Tokushima JCT and Tokushima-Okinosu IC)  
**Extension of 4.7 km**  
**Opened March 21, 2022**

### Topics

Loss time on congestion **4,447** ⇒ **5,233**  
(Total of companies, Unit: 10,000 vehicles/hr) (Results of FY2021) (Target for FY2022)

#### (Provision of comfortable service)

We are constructing new expressways and implementing pinpoint measures to counter congestion (construction to eliminate the cause of congestion), in order to reduce congestion as much as possible. Congestion time losses decreased significantly in FY2021, due to a reduction in the annual number of vehicles using our expressways, which were impacted by the spread of infection from the novel coronavirus.



## 6. Safety Improvements of Expressways

### Protect

➡ The ratio of accidents on expressways resulting in injury or death\*<sup>1</sup> has decreased by about 70% since FY2006, following the establishment of the Agency.

➡ Implementations with the “Five-year Accelerated Strategies for Disaster Prevention and Reduction, as well as Enhancement of National Land”\*<sup>2</sup> in a systematic manner, through the conversion of provisional 2-lane roads to 4-lane roads, are made in order to prevent slowdowns and accidents, as well as to secure passage in the event of a disaster, enabling recovery works, while the traffic continues to flow. The installation of wire ropes etc., is also promoted as a temporary emergency measure to prevent vehicles from diverting into oncoming traffic.

➡ Efforts will continue to be made on traffic safety measures, especially at accident black spots, to improve the safety of expressways.

\*1 The number of accidents when 10,000 vehicles travel 10,000 km

\*2 Cabinet decision on December 11, 2020



Expansion of lanes

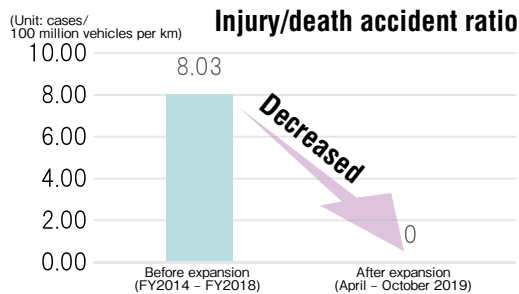
Installation of wire ropes

Effect of 4-lane expansion of Tateyama Expressway

■ 2-lane way (Kimitsu IC - Futtsu Takeoka IC)  
Photo of accident



■ Injury/death accident ratio between Kimitsu IC and Futtsu Chuo IC



Ratio : Total number of cases/100 million vehicles per km

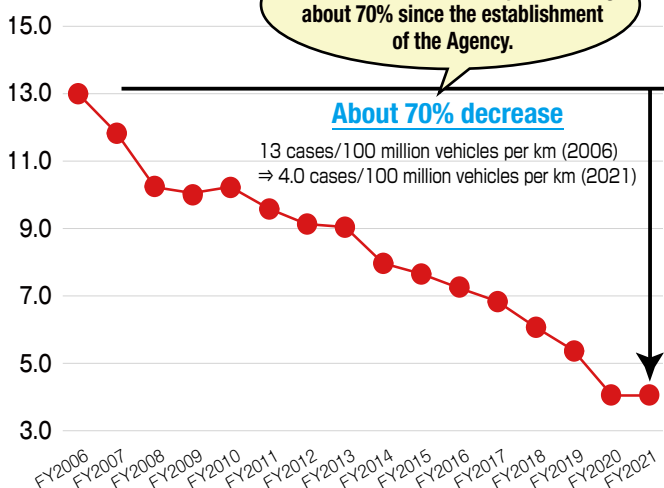
Source : Survey by NEXCO East

(Before expansion 2014 - 2018)

After expansion April - October 2019)

Changes in the total fatal accident rate of the 6 companies

**Injury/death accident ratio**  
(cases/100 million vehicles per km)



### Topics

**Injury/death accident ratio**  
(Average by companies in FY 2021)  
About **4.0** cases/100 million vehicles per km

## 6. Safety Improvements of Expressways

### Protect

- ➡ The installation of large arrow road markings, rubber poles, high-intensity arrow boards, etc., has been completed at all diverging and merging points of every IC, SA, PA and the like. The result has shown a decrease in the number of accidents caused by wrong-way driving.
- ➡ In addition, we are implementing measures acquired from public appeals, as well as promotional activities.
- ➡ The aim is to **eliminate accidents due to wrong-way driving and promote further measures to ensure the safe use of expressways.**

#### Wrong-way driving countermeasure technology on expressways (technologies gained through public appeal)



Three-dimensional arrow road surface signs using optical illusion



Pressure wall



Dissemination of awareness with website contents

### Topics

Incidents of wrong-way driving accidents  
(Total of companies, Unit: cases)

**37 ⇒ 17**  
(Results of FY2021) (Target for FY2022)

#### (Ensure safety and reliability)

In FY2021, the number of wrong-way driving accidents increased, coinciding with the upward trend in annual usage compared to FY2020. We will continue to promote measures such as the use of road surface markings and signage in order to reduce the number of wrong-way driving accidents in an effort to reduce it to zero.



## 7. Towards Enhanced Safety and Comfortability of Expressways

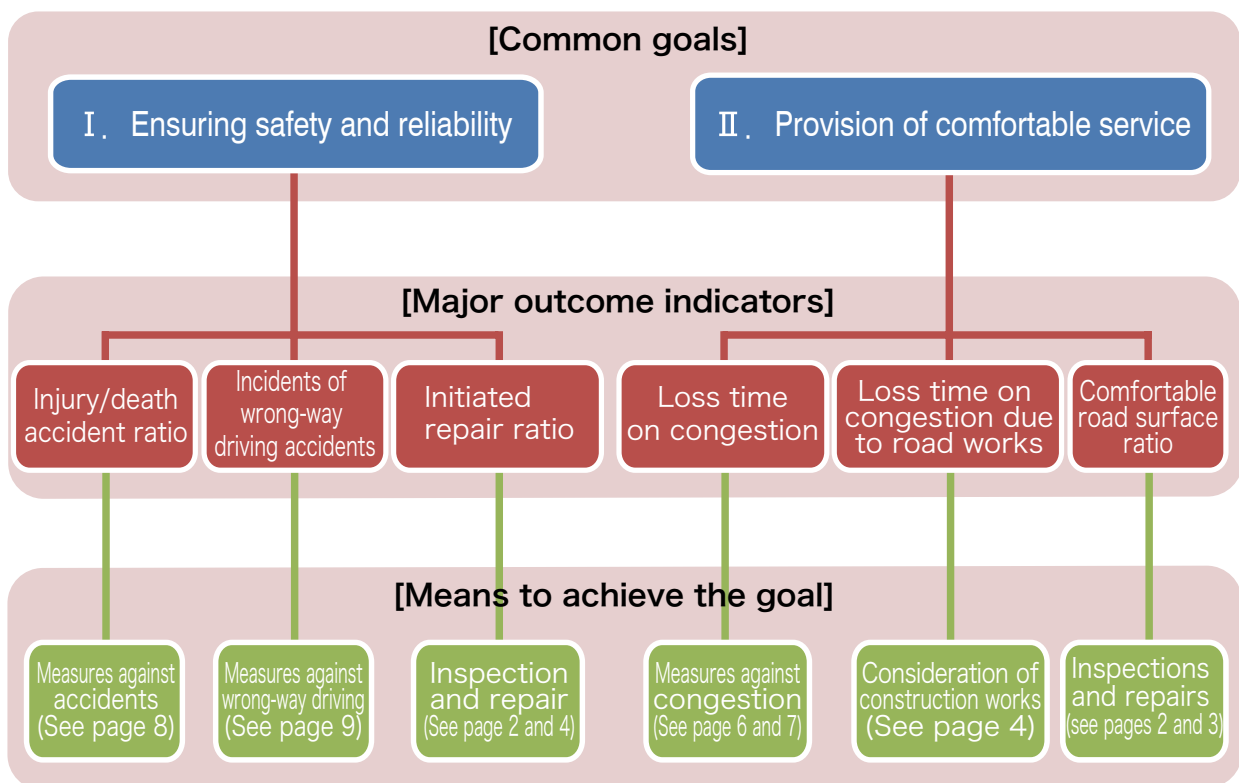
### [Outcome indicators]

→ The Agency has established a common objective indicators (outcome indicators) for all companies, in cooperation with them to **improve the safety and convenience of each company's expressway**, while showing the situations of expressways to users.

→ There are currently 37 items. Here are the major outcome indicators relating to **I. Ensuring safety and reliability** and **II. Provision of comfortable service**.

→ We are making efforts to **improve expressway services** by setting the targets in addition to actual results and systematically working on the business.

### Common goals and outcome indicators of the Agency and the Companies



### Topics

Activities for  
FY2022

- ① With the start of the Agency's Fifth Mid-Term Plan, new mid-term targets (FY2025) were established for encouraging the Companies to systematically work on their own management indicators, further improving the standards of expressway management, and enhancing the services available for expressway users.
- ② In order to clearly understand the current state and effects of the Companies' efforts to achieve targets such as "reduce accidents that result in death and injury" and "reduce traffic congestion", related indicators were reorganized into indicators that manage target values (main indicators) and indicators that complement the main indicators by grasping the actual performance values (subordinate indicators).
- ③ Indicators whose targets have been achieved have been eliminated.
  - Elimination of "sections with no gas stations (>150km)" was achieved.
  - The "number of pedestrian entrances and exits from general roads to service areas, etc." is estimated to have been met in FY2020.

## 8. Plans and Results of Main Outcome Indicators

(FY2021 performance values)

The decrease in the annual number of vehicles using our expressways due to the impact of COVID-19 was less apparent compared to FY2020 values, but usage rates are still less than in the years before the start of the pandemic. On the other hand, time loss due to congestion is trending upward alongside the recovering numbers of the annual number of vehicles using our expressways. The comfortable road surface ratio remained high, as in the previous fiscal year, thanks to our timely and appropriate repair work to ruts and cracks in road surfaces.

(FY2022 target values)

Target values for the respective indices are set based on certain assumptions (gradual recovery of the number of vehicles using our expressways, etc.) with regard to the effects of COVID-19. Therefore, they may be subject to significant impact from the effects on traffic conditions associated with changes in the state of infection.

I. Ensuring safety and reliability							
Indicator		NEXCO East	NEXCO Central	NEXCO West	Honshu-Shikoku Bridge Expressway	Metropolitan Expressway	Hanshin Expressway
<b>Injury/death accident ratio</b> [Unit: cases/100 million vehicles per km] The ratio of accidents resulted in injury or death (cases/100million vehicles per km)	FY 2020 result	2.9	4.1	3.2	2.3	8.4	10.6
	FY 2021 result	3.3	3.8	3.2	2.8	8.1	10.4
	FY 2022 target	3.3	5.0	4.2	3.8	9.2	10.3
<b>Incidents of wrong-way driving accidents</b> [Unit: cases] Number of accidents due to wrong-way driving	FY 2020 result	6	4	9	0	1	0
	FY 2021 result	7	3	21	2	3	1
	FY 2022 target	6	6	5	0	0	0
<b>Initiated bridge repair ratio</b> [Unit: bridges or spans* <sup>1</sup> (Metropolitan Expressway, Hanshin Expressway)] (Upper row) ⇒ Initiated bridge repair ratio: (Middle row)/(Lower row) (Middle row) ⇒ The number of bridges that we have started the repair work (including design) by the year of survey, among the bridges that is determined as the category III and IV* <sup>2</sup> in 2014 - 2018. (Lower row) ⇒ The number of bridges that require repairs (those determined as the category III and IV as a result of our inspection in 2014 - 2018)	FY 2020 result	70	74	54	100	100	79
		498	564	507	10	590	240
		707	767	945	10	590	305
	FY 2021 result	80	87	76	100	100	87
		568	664	714	10	590	264
		707	767	945	10	590	305
	FY 2022 target	83	93	84	100	100	90
		587	712	795	10	590	273
	707	767	945	10	590	305	
II. Provision of comfortable service							
Indicator		NEXCO East	NEXCO Central	NEXCO West	Honshu-Shikoku Bridge Expressway	Metropolitan Expressway	Hanshin Expressway
<b>Loss time on congestion</b> [Unit: 10,000 vehicles/hr] Annual loss time of expressway users due to congestion	FY 2020 result	477	739	262	3	1,510	554
	FY 2021 result	590	895	287	3	1,860	812
	FY 2022 target	779	1,185	594	3	2,270	880
<b>Loss time on congestion due to road works</b> [Unit: 10,000 vehicles/hr] Annual loss time of expressway users due to congestion caused by road works	FY 2020 result	11	171	27	1	38	12
	FY 2021 result	9	315	51	1	57	15
	FY 2022 target	48	431	81	1	110	123
<b>Comfortable road surface ratio</b> [Unit:%] The ratio of lane length of paved road surface for comfortable driving	FY 2020 result	96	97	97	95	97	97
	FY 2021 result	95	96	98	96	97	97
	FY 2022 target	95	95	98	95	97	97

\*1 Span refers to the distance between fulcrums (piers or abutments) of a viaduct or a bridge.

\*2 The category refers to the following categories relating to soundness diagnosis.

Category I : Sound operation (The function of the structure is not affected.)

Category II : Prevention (The function of the structure is not affected, but it is advisable to take some measures from the viewpoint of prevention.)

Category III : Early action (The function of the structure may be affected, and it is necessary to take measures immediately.)

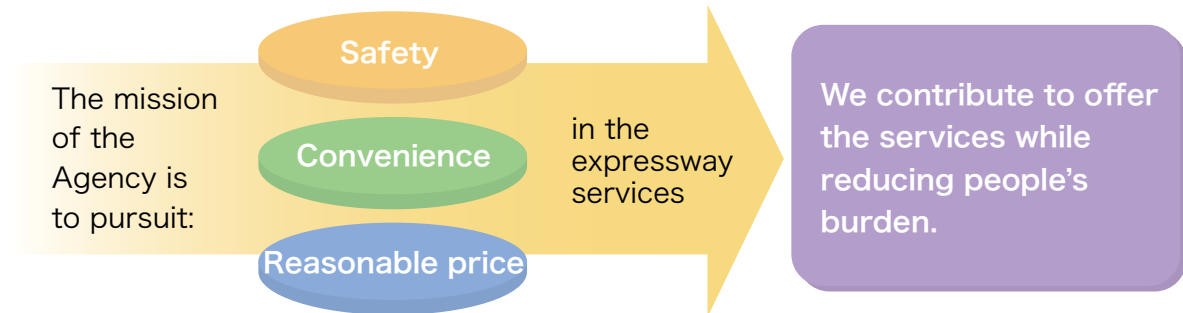
Category IV : Emergency (The function of the structure has been affected or is very likely to be affected, and it is necessary to take measures urgently.)



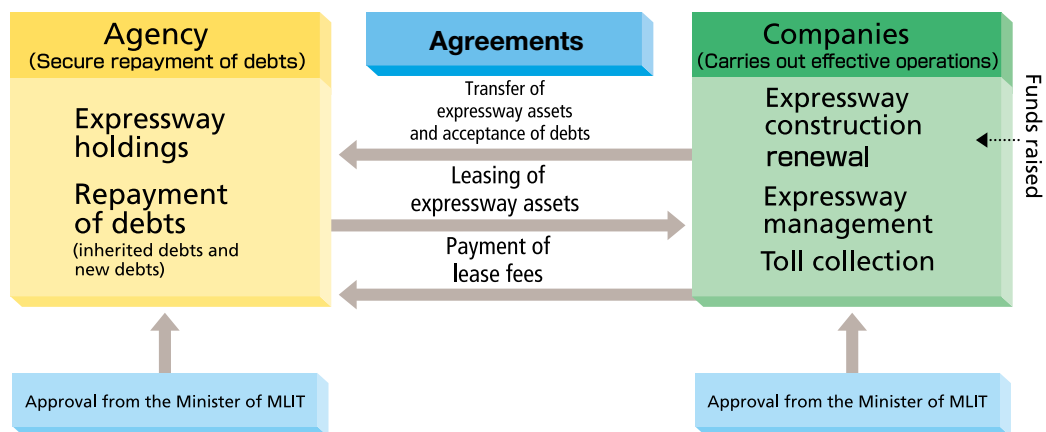
# Overview of the Agency

## 1. The Agency's Purpose and Role

The Agency aims to reduce people's burden relating to expressways and support successful implementations of the expressway business of the Companies, by holding and leasing expressway assets and repaying debts rapidly and reliably.



## 2. Expressway Project Scheme



The Agency maintains expressway assets, leases them to the Companies, and receives payment of leasing fees from the Companies to repay the debts, including those due to the past construction of expressways. The Companies properly manage the expressway assets leased from the Agency, collect fees from the users to appropriate the fees to the payment of leases, while promoting construction and renovation of expressways and delivering them to the Agency together with the debts.

## 3. Mid-term Goals and Plans

The Agency is prescribed to be a corporation managed under the mid-term objectives as stipulated in the Act on General Rules for Incorporated Administrative Agencies. The Agency, therefore, formulated the "Fifth Mid-term Plan" to achieve "the fifth mid-term targets", objectives set forth by the government for FY2022 through FY2025, and is working on vital missions, including "holding and leasing of expressway assets", "ensuring early debt repayment", and "support for the smooth operation of expressways".

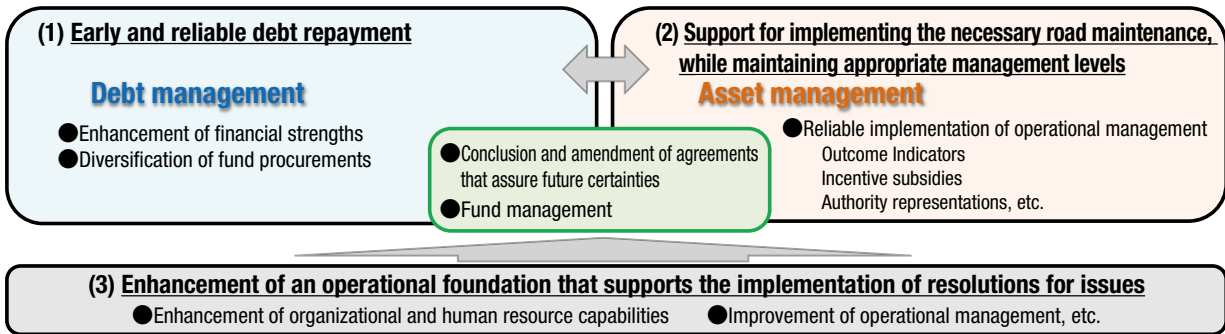
# The Agency's Works

## 1. Principal Agency activities

The Agency aims to reduce the burden associated with expressways on the citizens, while supporting the smooth implementation of expressway operations by companies. It is generally proceeding with activities with three pillars in the environment that surrounds the Agency.

Specifically, these activities largely encompass (1) early and reliable debt repayment (debt management) and (2) support for implementing the necessary road maintenance and maintaining appropriate management levels (asset management).

Furthermore, (3) capability enhancements of organizations and human resources, as well as promoting and improving the efficiency of operational management and the like.



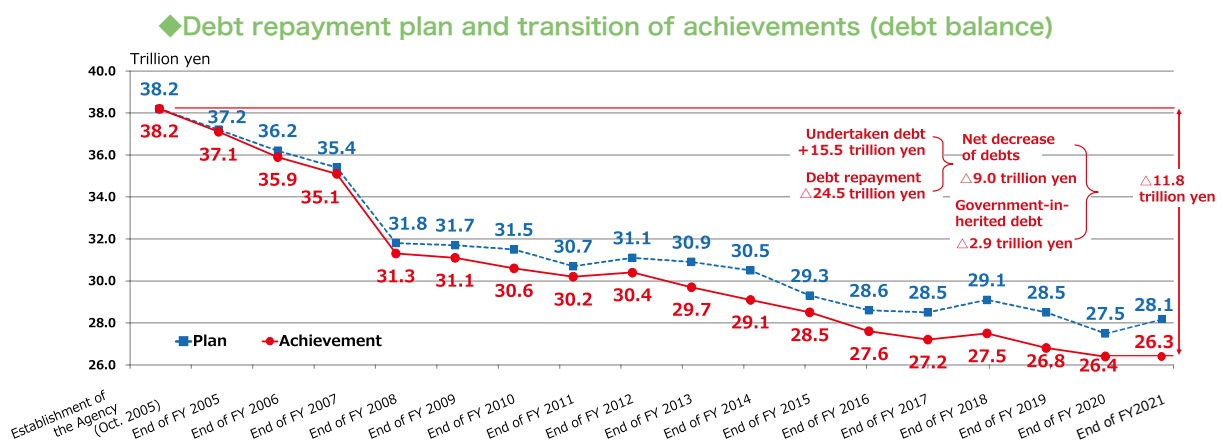
## – Early and reliable debt repayments (debt management) –

## 2. Debt Repayment Plans and Transition of Achievements

The below figure shows the debt repayment plan and the transition of achievements since the establishment of the Agency.

The total outstanding obligations based on the debt repayment plan were 26.3 trillion yen as of the end of FY 2021.

The debt reduction (based on the debt repayment plan) counted from the establishment of the Agency amounted to 11.8 trillion yen, as a result of taking into account the debt repayment of 24.5 trillion yen due to the balance of accounts from the establishment of the Agency, the undertaken debt of 15.5 trillion yen from the Companies, and the government-inherited debt of 2.9 trillion yen through the Project to Promote the Effective Utilization of Expressways (\*).



\*1: Plan values on the graph are based on the latest agreements, in which values are given for the relevant fiscal years.

\*2: There may be discrepancies in figure totals due to rounding of fractions.

\*3: The debt repayment plan and financial statements are in portions. The remaining balance of debt is calculated according to the concept of the debt repayment plan when comparing values of the plan against the actual performance. Specifically, the balance of debt in the debt repayment plan is calculated from that in the financial statements, with deductions for cash equivalents. The same deductions are also applied on the cash deposit of 0.8 trillion yen from the fund procurement of financial borrowings received in FY2021. Furthermore, the accounts receivable and accounts payable are considered receipts and payments in the relevant fiscal year on the debt repayment plan.

(\*) Note: The Project to Promote the Effective Utilization of Expressways is based on the "Act on Special Financial Measures for Expressway Convenience Improvement Project (revised in May 2008)". This project implements measures to enhance the convenience of expressway users, such as the additional construction of SICs and the reduction of expressway tolls to alleviate users' expense.

## 3. Funding Status

### ■ Funding status for FY2021

In FY2021, funds of 1.12 trillion yen were procured using government-guaranteed bonds, FILP agency bonds, and fiscal loan fund borrowing in the amount of 120 billion yen, 200 billion yen, and 800 billion yen respectively.

We have issued mid-term bonds in order to reduce interest expenses and smooth out debt repayment and fund procurement with the prospect of long-term cash flow. In addition, years to maturity of super long-term bonds was optimized (reducing interest expenses, avoiding the risk of interest rate increases in the event of future refinancing) by setting them as far as possible before the fiscal year in which the demand for refinancing of funds is not expected to continue.

Furthermore, in FY2021, from the perspectives of stable procurement, expansion of investor base, and reduction of procurement costs in the mid- to long-term, we formulated a Social Finance Framework and obtained a second opinion from a third-party evaluation organization. As a result, any bonds (government-guaranteed bonds and FILP agency bonds) and private-sector borrowing acquired after April 2022 are now treated as Social Finance.

### ■ FY 2021 external financing results (overview)

Procurement method	Term	Number of issuances	Raised amount (Unit: 100 million yen)	Interest rate (average)
Government-guaranteed bonds	20 years	6 times	600	0.47%
	30 years	4 times	600	0.71%
	Total	10 times	1,200	0.59%
FILP agency bonds	4 years	4 times	1,000	0.02%
	20 years	2 times	300	0.62%
	28 years	1 time	50	0.75%
	29 years	1 time	50	0.84%
	30 years	1 time	100	0.84%
	31 years	1 time	50	0.84%
	32 years	1 time	150	0.87%
	33 years	1 time	100	0.87%
	34 years	2 times	200	0.89%
	Total	14 times	2,000	0.40%
Fiscal loan fund Borrowing	35 years	1 time	8,000	0.90%
	Total	1 time	8,000	0.90%
Total		25 times	11,200	0.78%
Average financing term		24.1 years		
Average remaining period of outstanding debts		13.0 years (5.1 years at the time of establishment)		

Note 1: Each average interest rate is presented as a simple weighted average of funds raised, or the average subscriber's yield at the time of bond issuance.

Note 2: There may be discrepancies in figure totals due to rounding of fractions.

### ■ Average interest rate of interest-bearing debt at the end of FY2021

		Total amount (Unit: 100 million yen)	Average interest rate
Balance of interest-bearing debt at the time of establishment (as of October 1, 2005)		373,976	1.80%
Balance of interest-bearing debt at the start of FY 2021		290,542	0.94%
Mid-term changes	Undertaken debts	16,156	0.12%
	Paid debts	△35,718	0.60%
	Raised funds	11,200	0.78%
	Increase in book value due to amortization of bonds payable discount	37	—
Balance of interest-bearing debt at the end of FY 2021		282,216	0.93%

Note 1: The above figures do not include inherited accounts payable relating to roads.

Note 2: The average interest rate of borrowings is shown by the weighted average using the loan amount and interest rate thereof, and the average interest rate of debts is shown by the weighted average using the raised amount and subscriber's yield at the time of bond issuance (However, debts included in "Undertaken debts" are shown by the weighted average using the book value at the time of undertaking and nominal interest rate).

Note 3: There may be discrepancies in figure totals due to rounding of fractions.

## 4. Conclusions and amendments of agreements

The Agency is required to conclude agreements with companies in advance, when conducting any operation. Agreements are also concluded as required and in an appropriate manner, according to the significant changes in socio-economic situations and with changes to road policies.

We aim to achieve reliable debt repayments and the necessary maintenance of expressways, as well as appropriate management, when concluding or amending agreements. More specifically, the Agency predicts the legal time limit of debt repayments in order to establish an appropriate ceiling on the amounts of new debts, the amounts and collection periods for fees collected by companies, the expenses required by companies to maintain and manage roads, all in an appropriate manner with the lease fee payments to be made by the companies.

### ◆ Summary of recent agreement amendments

- Addition of SICs using government subsidies
- Further consolidation and unification of toll levels and implementation of toll discounts based on the revision of the “Specific Policy on New Expressway Tolls in the Tokyo Metropolitan Area (Draft)” (March 12, 2021, Ministry of Land, Infrastructure, Transport and Tourism)
- Addition of 4-lane conversions for provisional 2-lane road sectors
- Extension of toll collection period on National Route 158 (Abo-Pass Road)

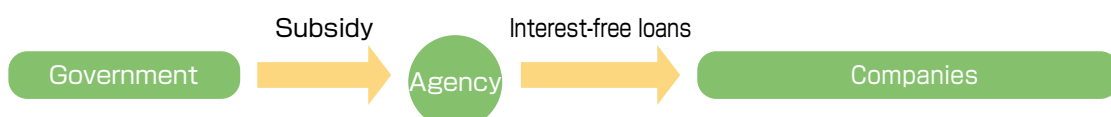
## 5. Interest-free Loans to the Companies

The Agency received 8.9 billion yen, invested by the government and local public entities to build new or reconstruct Metropolitan Expressway and Hanshin Expressway, and offered both of them interest-free loans. The Agency also received 5.59 billion yen of government subsidy to manage connections between the said expressways and general roads (excluding expressways), and offered interest-free loans to NEXCO East, NEXCO Central, NEXCO West, and Honshu-Shikoku Bridge Expressway Co., Ltd.

(1) Interest-free loans funded by the government and local public entities



(2) Interest-free loans funded by government subsidies



– Support for implementing the necessary road maintenance (asset management), while maintaining appropriate management levels –

## 6. Agent Service of Road Management Rights and Other Duties

The Agency exercises public rights, including road closures and occupation permits for expressways, on behalf of the Minister of Land, Infrastructure, Transport and Tourism, as well as the heads of local public entities, who are original road managers, as stipulated in the Act on Special Measures Concerning Road Construction and Improvement Act.

### (1) Road closures and traffic restrictions (Road Act No.46)

The standard for closure has been set for expressways, according to regional characteristics and road structures. In the event of an accident or a disaster, the Agency orders closure after receiving a closure request based on the standards from the Company of expressways.

The method of closure and request procedures are predetermined for earthquakes and inclement weather. This allows proper action to be taken when it reached a certain point. Furthermore, a stricter standards are set for areas with particular risks of secondary disaster to prevent spread of the damage.

#### ■ Execution of road management rights (As of the end of FY2021)

Measure	Number of executions
Closure/Restriction	3,915 /year
Permission for special vehicles	8,068 /year
Control measures to violating vehicles	1,285 /year
Permission of occupation	3,642 /year (Total 18,367)

### (2) Permission for special vehicles (Road Act No.47-2, No.47-10)

The Road Act (restriction order of vehicles) regulates limitations (standard limits) on weight, length, width, and height of vehicles. Special vehicles exceeding the conventional limits must still meet the requirements (specified time for passage) and obtain permission for their passage from the administrator to prevent any potential hazards to traffic and the road structure.

The Companies are in charge of receiving applications, and the Agency issues relevant permissions.

### (3) Control of violating vehicles (Road Act No.47-4)

The Agency is working with the Companies to place controls on vehicles violating the regulations and restrictions. The Agency also issues administrative orders to violating vehicles (e.g. order of leave from expressways) and various instructions as necessary.

#### ① Issuance of administrative orders

The Agency issues administrative orders such as leave from designated places, reducing loads, and closure.

#### ② Strict instructions to frequent violations

The Agency issues warnings and correction instructions to vehicles violating seriously after calculating the number and contents of violations of the 6 Companies. The Agency publicizes on its website those who do not follow the instructions.

#### ③ Filing complaints against malicious violators

The Agency reports challenging cases over double the regulated maximum payload to the police immediately after the Agency confirms the same.

#### Control of violating vehicles



As an unprecedented effort based on the above information on violation, the Companies cancels ETC discounts for overweighting large-scale, frequent transporters as a penalty.

#### (4) Permission of occupation (Road Act No.32)

The permission of an administrator is necessary to establish a physical facility within expressway areas and use the roads continuously. This is called permission of occupation. The Companies accept applications for permission on behalf of the Agency.

##### Examples of physical facilities



Parking lots (under elevated structures)



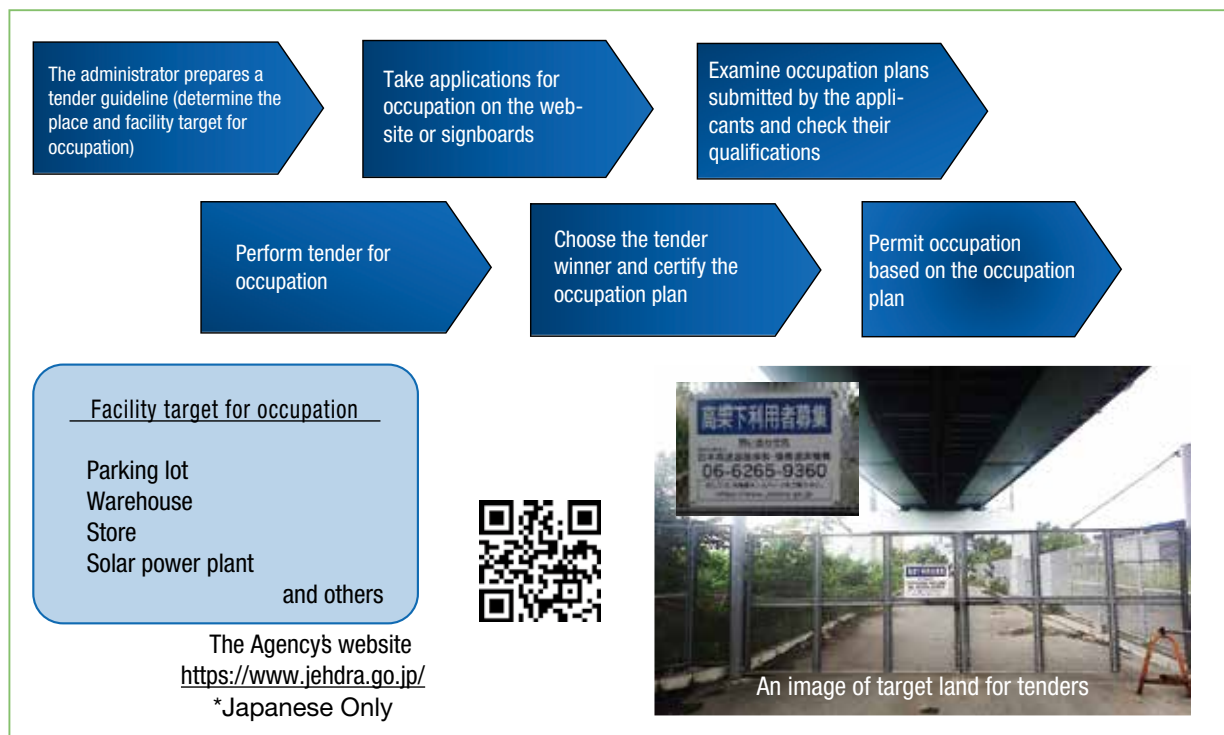
Stores (under elevated structures)

#### (5) Tender for occupation (Road Act No.39-4)

Facilities, such as parking lots, stores and such, for which fierce competition is expected among people desiring to occupy such premises, may see these individuals paying even higher amounts than the amounts stipulated by the Road Act. A bidding system for selecting occupiers, based on occupier fees, has been utilized for such instances, in order to improve fairness and transparency for procedures. Six instances of bidding were conducted during FY2021.

The implementation of this system has also contributed to an increase in the amount of revenue from occupier fees, which offers reliable sources of income for the proper management of roads.

##### ◆Procedures of a tender for occupation



## 7. Subsidy Program

A subsidy program was established to encourage the Companies to reduce their expenses. Those making enough effort for cost-cutting will benefit from subsidies. The subsidies were granted to 269 projects that have been completed, and the amount of cost-cutting is about 17 billion yen.

The Agency also posts management efforts including the latest certified technologies on its website in order to encourage the Companies to make efforts for cost-cutting. Some of the latest technologies have been standardized by the Companies and used at construction sites for further cost-cutting.

### ◆ Example of cost-cutting

#### Reducing regulatory costs through the use of mobile protective fences

In two-way traffic regulation for construction, a temporary median strip is installed. When traffic volume on the inbound and outbound lanes changes significantly, the form of regulation (number of inbound and outbound lanes) is changed depending on the time of day according to traffic conditions in order to control traffic congestion.

In doing so, the use of mobile protective fences to improve work efficiency when changing the form improves the safety of both drivers and construction workers, and also reduces the overall regulatory cost of projects by allowing the fences to be used on multiple construction projects.



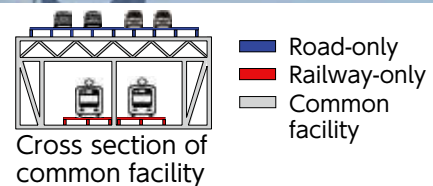
## 8. Management of Railway Facilities Connecting Honshu and Shikoku

The Agency owns the railway facilities of the Honshi-Bisan Line (Chayamachi Station - Utazu Station), which connects Honshu and Shikoku. The facilities consist of railway-only sections and common sections of roads and railways, a long bridge integrated with the Honshu-Shikoku Highway (Hayashima - Sakaide). The common section consists of road-only facilities, railway-only facilities, and their common facilities.

Under an agreement with the Agency, the management of the railway-only sections is commissioned to West Japan Railway Company (JR West) and Shikoku Railway Company (JR Shikoku).

Honshu-Shikoku Bridge Expressway Company has been subcontracted to manage the shared facilities.

Seismic strengthening construction work has been conducted to secure resistance against large-scale earthquakes, such as a Nankai megathrust earthquake or the like.



# Organization

## 1. Background of Establishment

### • Purpose and background of privatization

The “Reorganization and Rationalization Plan for Special Public Institutions” , a Cabinet decision on December 19, 2001, indicated the privatization of 4 road-related public corporations. The Agency was established on October 1, 2005, based on the 4 road-related laws on the privatization of the 4 public corporations, together with a total of 6 Companies.

#### Purpose of privatization

- To ensure the repayment of interest-bearing debts amounting to about 40 trillion yen.
- To promptly construct truly-needed expressways while minimizing the financial burden imposed on the general public and paying due respect to the autonomy of the expressway operating Companies.
- To offer diverse and flexible pricing and services to expressway users by utilizing know-how of a private-sector.

#### The 4 laws on the privatization of the 4 road-related public corporations

- Act on Expressway Companies.
- Act on the Japan Expressway Holding and Debt Repayment Agency, Independent Administrative Agency.
- Act on the Establishment of Road-Related Laws in Connection with the Privatization of the Japan Highway Public Corporation, etc.
- Act for Enforcement of Acts Related to Privatization of the Japan Highway Public Corporation, etc.

Japan Highway  
Public Corporation

Metropolitan  
Expressway Public  
Corporation

Hanshin Expressway  
Public Corporation

Honshu-Shikoku  
Bridge Public  
Corporation



[Companies] Construction, renewal, and management of expressways and collection of tolls

NEXCO East

NEXCO Central

NEXCO West

Metropolitan  
Expressway

Hanshin  
Expressway

Honshu-Shikoku  
Bridge  
Expressway

\* Merge with  
NEXCO West  
when the  
business is  
stabilized.

[Agency] Holding of expressways and repayment of debts

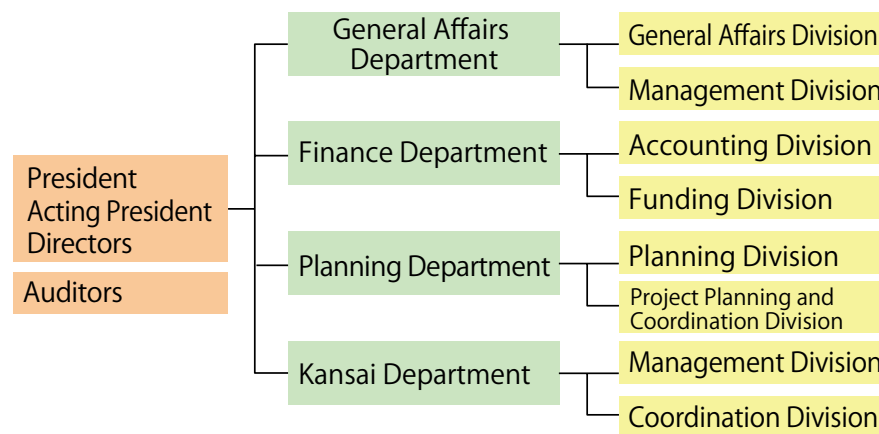
Japan Expressway Holding and Debt Repayment Agency



## 2. Organization Chart

We will continue making the best efforts to enhance the transparency of our business, reduce people's burden, and surely pass a safe and quality expressway network down to the next generation.

- Name: Japan Expressway Holding and Debt Repayment Agency
- Corporate status: An independent administrative corporation based on the Act on the Japan Expressway Holding and Debt Repayment Agency, Independent Administrative Agency
- Date of establishment: October 1, 2005
- Representative: Masaru Takamatsu , President
- Number of board members: 6
- Number of employees: 84
- Organization chart:



- Website address: <https://www.jehdra.go.jp/english/president.html>



## 3. Access

Yokohama Mitsui Bldg. 5F, 1-1-2, Takashima, Nishi-ku, Yokohama City, Kanagawa, Japan 220-0011

Tel: +81-45-228-5977

(Kansai Department)

Midosuji Hommachi Bldg. 4F, 3-5-7, Hommachi, Chuo-ku, Osaka City, Osaka, Japan 541-0053

Tel: +81-6-6265-9360

- Access map: <https://www.jehdra.go.jp/english/org.html>



## 4. Conclusion



**Masaru Takamatsu**  
President

Since its founding in 2005, the Japan Expressway Holding and Debt Repayment Agency (hereinafter “Agency”) has been providing support for the expansion and maintenance of expressway services, one of the infrastructures essential to the industry and lifestyle of Japan, while also holding responsibility for debt and asset management through the procurement of funds and repayment on debts that support these activities.

In October of this year, the Agency entered the 17th year since its founding, with steady progress being made in the construction of expressways, as well as the extension of roads, that have grown from a total span of 8,948 km at the time the Agency’s was founded to 10,392 km, as of FY2021. During this period, the scale of debt repayments remained at about 4 trillion yen until the early 2010s and transitioned to the lower 3 trillion yen range in the latter half of the decade. The scale of fund procurement, on

the other hand, decreased from a 3 trillion yen range in the latter part of the 2000s, to a level of about 2 trillion yen in the 2010s. The burden of interest payments declined from about 600 billion yen at the start to about 300 billion yen during this period as well, effectively halving due to a decrease in the balance of outstanding debt.

A total of approximately 700 bonds were issued during this period and have worked to broaden our investor base through continued communication with the market, as work progressed to diversify fund procurement periods and the issuing of lump-sum bonds for smoother fund procurements. Taking advantage of the continuing low-interest rate environment, as well as reducing the risk of interest payments in the future and devising creative means through continued communication with the market, we have been issuing bonds with diverse procurement periods and lump-sum payments for the long- and super-long-term periods.

On the other hand, while possessing expressway assets and leasing them to six expressway companies, the Agency has been making considerations for sufficient maintenance and improvements to the service levels of our expressways, which includes safety, while at the same time taking action to ensure reliable debt repayments in the future through revenue from the leases of such assets.

This enabled the Agency to generally reduce the debt balance by a little under 10 trillion yen since the founding of the Agency, though this trend varied from year to year.

In the future, we can expect to see increasing uncertainty in the business environment in ways that differ from the progress of globalization and information technology, such as the occurrence of pandemics like COVID-19 and large-scale natural disasters. Accordingly, we predict greater volatility in the trends of financial markets, unlike the consistently low-interest rate environment of the past. We also anticipate a change from the phase of a relaxed monetary policy, which lasted a long time, to one of an exit strategy. Amidst such circumstances, we recognize that the largest management issue we face is how to continue skillfully exercising debt management, with cash flow management at the core.

The importance of the role expressways play in the economy and society of Japan will continue to grow even more in the future, as globalization and the implementation of IT progress, natural disasters and pandemics occur, and other such social risks increase in scale. The Agency will promote the formulation and execution of action plans that focus on activities intended to resolve operational issues and proceed with personnel development that leads to Agency personnel forming an organization of professionals in road and financial work, thereby providing safe and highly convenient expressway services to the public and reducing the burden of expenses on citizens, while continuing to do so at appropriate prices.

# People who work at the Agency

