



## Tosa National Highway Office

**Shikoku Regional Development Bureau,  
Ministry of Land, Infrastructure, Transport and Tourism, Japan**  
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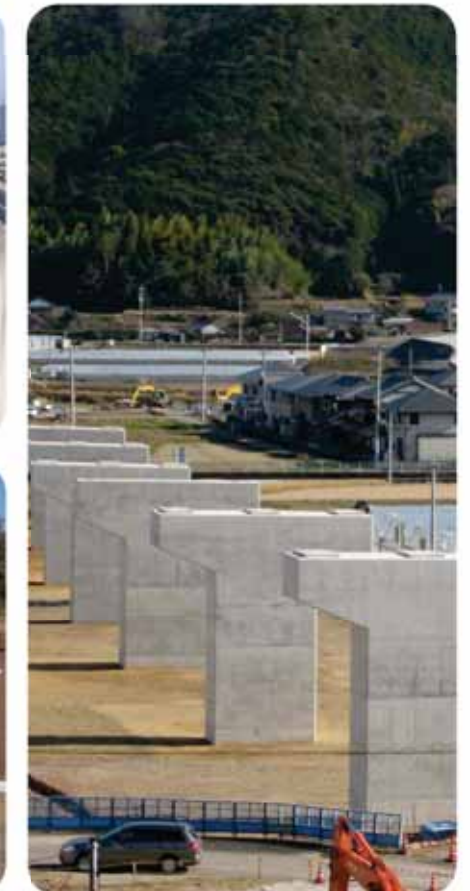
### Branch Office

**Kochi National Highway Maintenance Branch Office**  
1363-1, Minamiharigibo, Aza, Asakura, Kochi City, Kochi Prefecture, 780-8065, Japan

**Nankoku National Highway Maintenance Branch Office**  
792-1, Yahata, Oko-cho, Nankoku City, Kochi Prefecture, 783-0044, Japan

**Sakawa National Highway Maintenance Branch Office**  
3587, Hei, Sakawa Town, Takaoka County, Kochi Prefecture, 789-1203, Japan

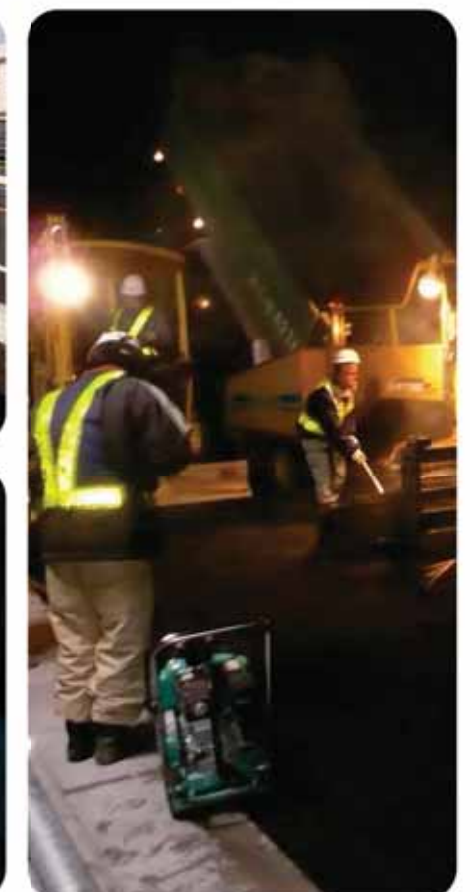
**Nahari National Highway Branch Office**  
1419-9, Otsu, Nahari Town, Aki County, Kochi Prefecture, 781-6402, Japan



# National Highway in Tosa

## Tosa National Highway Office

Shikoku Regional Development Bureau,  
Ministry of Land, Infrastructure, Transport and Tourism, Japan

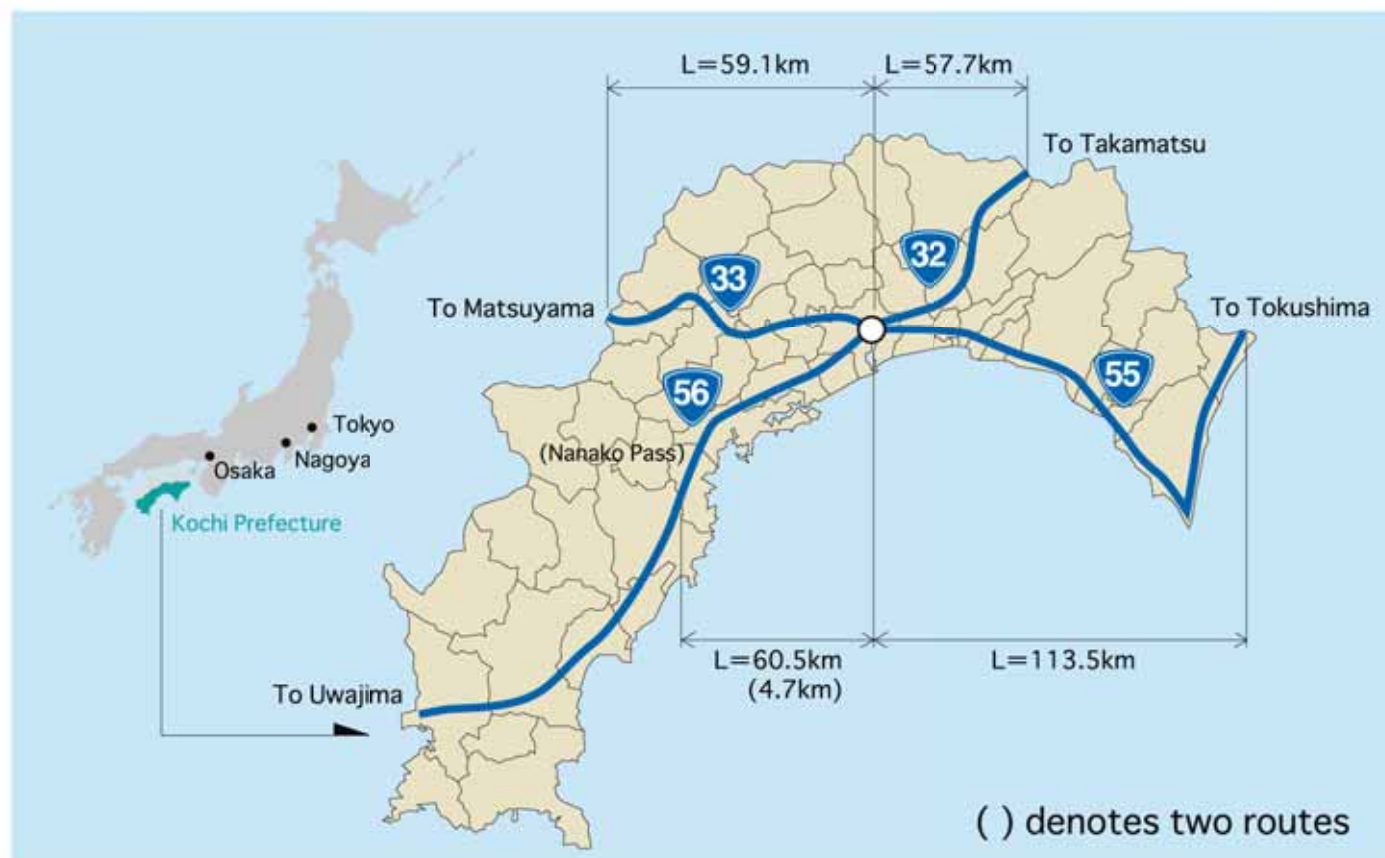




# Outline of our Office

## Summary of our office

Tosa National Highway Office has administrative officials and engineering officials engaged in road construction, improvement and maintenance of 290.8 kilometers national highway, comprising Route 32, 33, 55, 56 in Kochi Prefecture. In this fiscal year, we aim to carry out road constructions, improvements, maintenance, repairs and traffic safety measures.



## Our office's mission

**Our Office's mission is as follows.**

- Road construction for supporting people's life
- Road management and maintenance for supporting people's life
- Creating road environment with resident people and other road managers

## Organization chart

Director		
Assistant Director (General)	Assistant Director (Construction)	Assistant Director (Management)
Construction Quality Control Manager	Land Affairs Manager	Project Manager
General Affairs Division	Land Affairs I Division	Management I Division
Accounting Division	Land Affairs II Division	Management II Division
Planning Division	Project Team for Kochi East Area	Construction Division
Disaster Prevention Information Division	Construction Supervisor (Kochi)	Construction Supervisor (Susaki)
Construction Supervisor (Kochi west)	Kochi National Highway Maintenance Branch Office	Nankoku National Highway Maintenance Branch Office
Sakawa National Highway Maintenance Branch Office	Nahari National Highway Branch Office	

## Project outline

Classification	Project Name
Construction	Kochi nishi bypass Kochi eastern expressway Shikoku trans-expressway (Susaki City~Shimanto Town) etc.
Maintenance and repair	Works for earthquake Works for disaster prevention etc.
Improvement for roadside environment	Asahi-machi project for improving roadside environment etc.
Traffic safety	Road for pedestrian and bicycle users
Communication cable box	Chiyori-district, Kochi City (Route 32) etc.



# Tosa National Highway Office's Work

## 1 Road construction

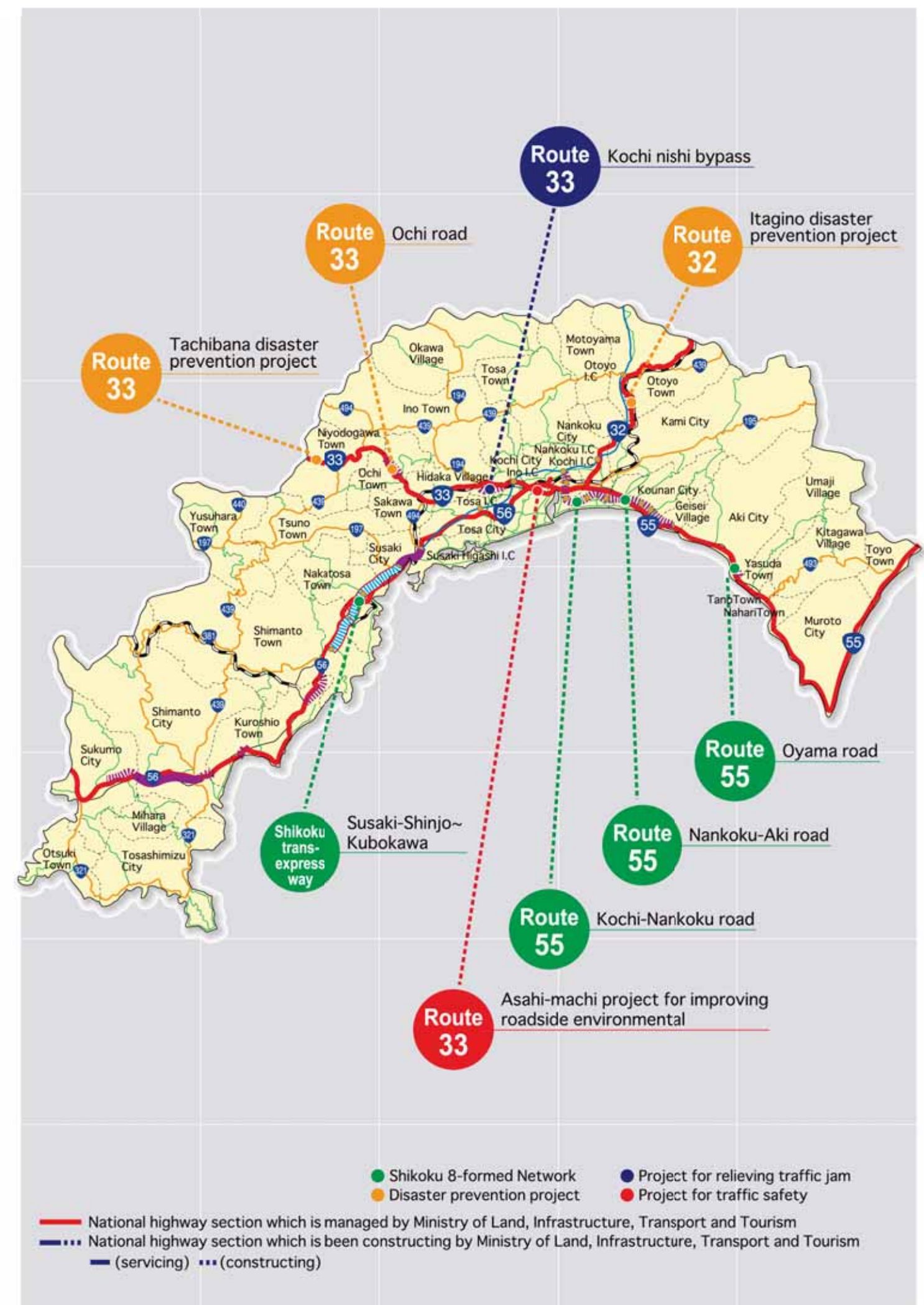
We construct various roads such as Shikoku trans-expressway, Kochi eastern expressway, (which are parts of "Shikoku 8-formed Network"), Ochi road, Itagino disaster prevention project, Tachibana disaster prevention project etc.

**What is "Shikoku 8-formed Network"?**

It's a nickname of a future expressway and regional high standard road network in Shikoku region. Because a shape of the road network is similar to 8, the name has been called.

## 2 Road management and maintenance

We manage and maintain national highway route 32, route 33, route 55 and route 56 (from Kochi City to Nakatosato Town) with a total of 290.8 kilometers for resident people to use these roads at all times comfortably.





# Shikoku trans-expressway

## Summary of Shikoku trans-expressway

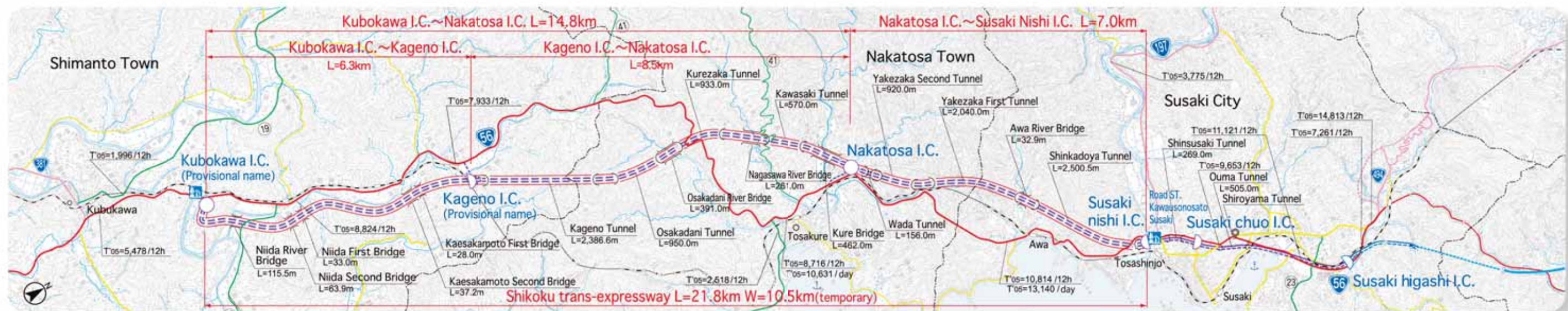
Shikoku trans-expressway runs or will run from Anan City, Tokushima Prefecture to Ozu City, Ehime Prefecture via Takamatsu City, Kagawa Prefecture and Kochi City, Kochi Prefecture. We oversee the construction of the 21.8 kilometers with Nakamura River and National Highway Office from a total of 441.0 kilometers of roadway.

## Shikoku trans-expressway (Susaki-Shinjo~Kubokawa)

Shikoku trans-expressway (Susaki-Shinjo~Kubokawa) will be constructed as an expressway, form an expressway and regional high standard road network in Kochi prefecture, and play a role as an alternative route in case of natural disasters.

### Method on constructing an expressway in Japan

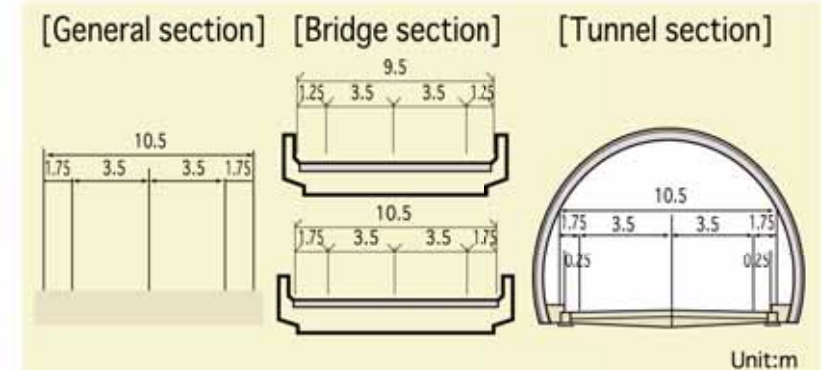
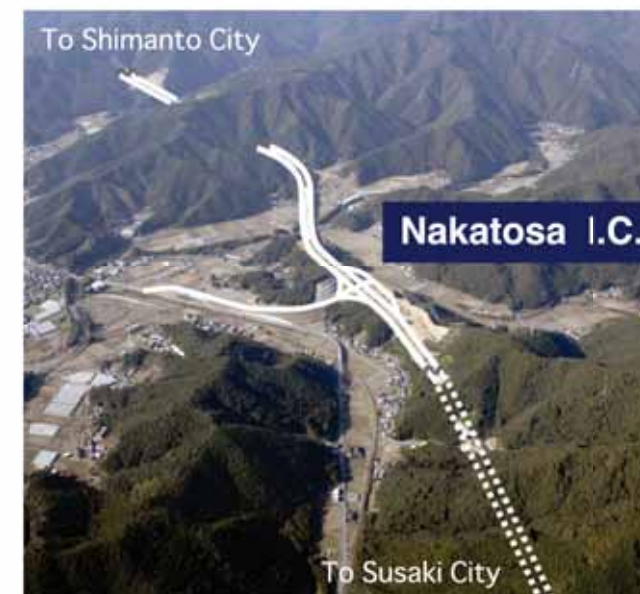
In Japan there are two kinds of methods on constructing an expressway. Firstly expressway-related companies (East Nippon Expressway Company Limited, West Nippon Expressway Company Limited, Central Nippon Expressway Company Limited) construct new expressway by bonds and return at toll income ("Toll expressway method"). Secondly Ministry of Land, Infrastructure and Transport and Prefecture government contribute funds and the former construct an expressway ("Free expressway method"). Shikoku trans-expressway (Susaki-Shinjo~Kubokawa) is now constructed on "Free expressway method".



### Road condition from Kochi City to western area in Kochi Prefecture

It takes about 2-3 hours from western area in Kochi Prefecture to Kochi City. As a result it have a bad influence on industrial activities and emergency medical cares. A chief road from western area in Kochi Prefecture to Kochi City is only route 56 and pedestrians walk in dangerous condition at insufficient-width sidewalk.

Awa Tunnel without sidewalk (Route 56)



Structural standards: Class 1, Grade 3 (Expressway)  
Design speed: 80km/h  
Total Length: 21.8km  
Width: 10.5m (1.75~3.5~3.5~1.75)  
Commenced year: 1997 fiscal year



# Route 32

## Summary of National Highway Route 32

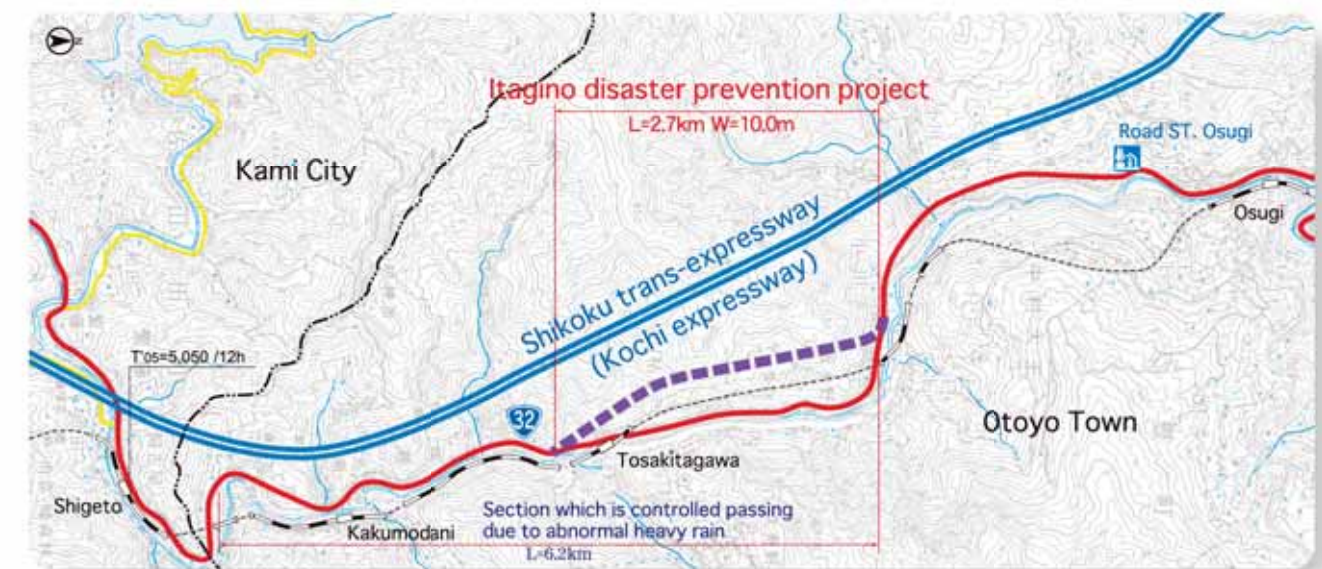
This road serves as an important function as a gate to Kochi Prefecture and runs from Takamatsu City, Kagawa Prefecture to Kochi City, Kochi Prefecture. We oversee the management and maintenance of the Kochi prefectural stretch, 57.7km of the total roadway of 137.4km.

The primary improvement to national highway route 32 has been completed in 1967. A lot of efforts are focussed on the prevention of disaster because this route transverses the steep Shikoku Mountains. From 2001 we have been going on Itagino disaster prevention project which will form a part of National Highway Route 32.



## Itagino disaster prevention project

Itagino disaster prevention project will be improved in the district of fragile rocks for solving a section, where a passing control is carried out due to abnormal heavy rain.



### Route 32 in Itagino disaster prevention project's section

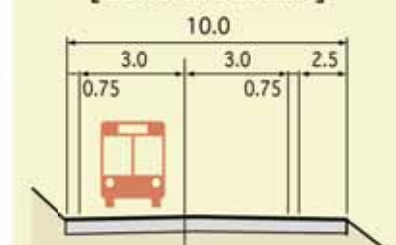
A hillside at a cave gate in Itagino district is a steep. There are many broken rocks by cracking. Therefore this section is designated to a section which is controlled passing due to abnormal heavy rain.



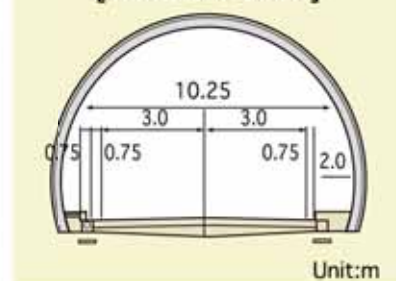
Broken rock by cracking  
(Hill along Route 32)



### [General section]



### [Tunnel section]



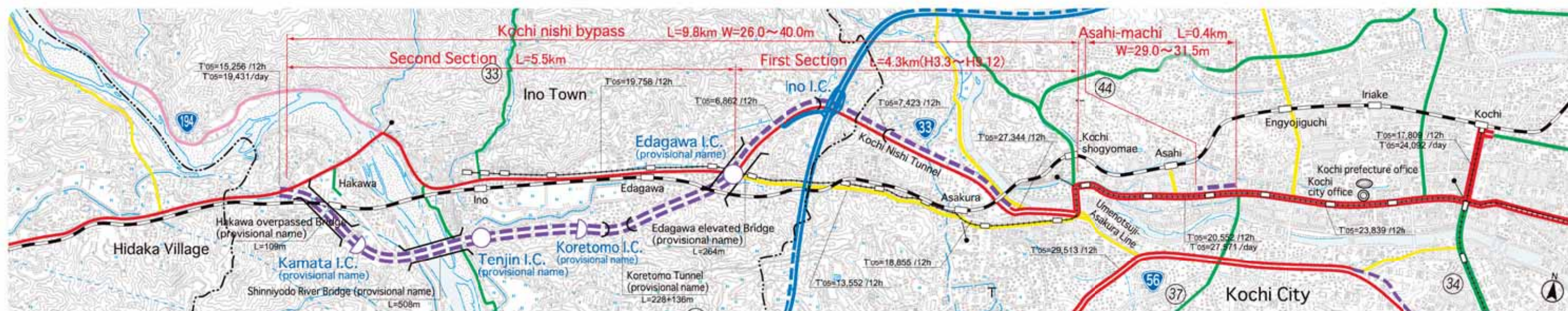
Structural standards:  
Class 3, Grade 3  
Design speed: 50 km/h  
Total Length: 2.7km  
Width: 10.0m  
(0.75~3.0~3.0~0.75~2.5)  
Commenced year:  
2001 fiscal year



# Route 33

## Summary of National Highway Route 33

This road is an arterial road with a total length of 118.5 kilometers. It runs from Kochi City, Kochi Prefecture to Matsuyama City, Ehime Prefecture. We oversee the management and maintenance of the Kochi prefectural stretch, measuring 59.1km. The primary improvement to national highway route 33 has been completed in 1967. We are going on Kochi nishi bypass, Asahi-machi project for improving roadside environment, Ochi road and Tachibana disaster prevention project.

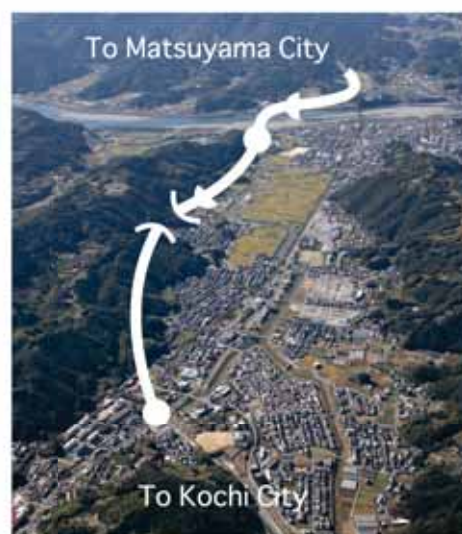


### Route 33 in Kochi nishi bypass's section

This section is located at inflow point to Kochi City. Therefore a traffic flow concentrates from suburbs of Kochi City and traffic jams occur frequently.



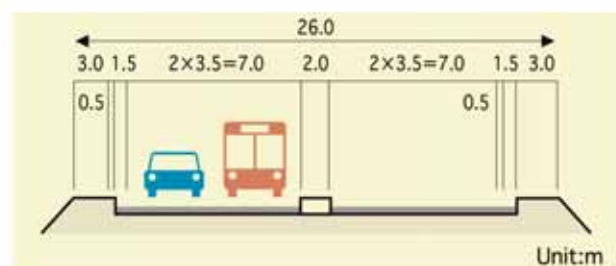
Traffic jam in Hakawa district, Ino Town (Route 33)



Structural standards: Class 4, Grade 1  
Design speed: 60km/h  
Total Length: 9.8km  
Width: 26.0m  
(3.0~0.5~1.5~7.0~2.0~7.0~1.5~0.5~3.0)  
Commenced year: 1974 fiscal year

### Kochi nishi bypass

Kochi nishi bypass will be constructed in order to act as a main arterial route in Ino Town and a western area of Kochi City, and will serve to facilitate traffic flow, relieve traffic congestion and solve a flooding problem. At 1997 the section between Kamoe, Kochi City and Edagawa, Ino Town has been already completed.



### Route 33 in Asahi-machi

At commutation time a lot of cars concentrate at narrow-width road and traffic jams occur frequently.



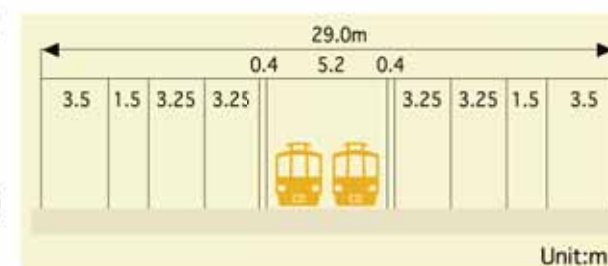
Traffic jam at commutation time (Route 33)



Structural standards: Class 4, Grade 1  
Design speed: 50km/h  
Total Length: 0.4km  
Width: 29m  
(3.5~1.5~6.5~6.0~6.5~1.5~3.5)  
Commenced year: 1999 fiscal year

### Asahi-machi project for improving roadside environment

Asahi-machi project for improving roadside environment will be carried out in order to relieve traffic congestion, secure traffic safety and improve the roadside environment by decreasing traffic noise.

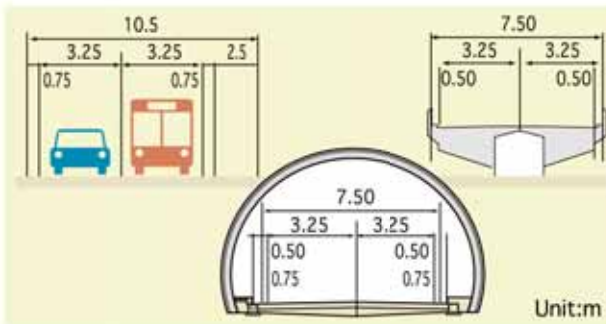




# Route 33

## Ochi road

Ochi road will be constructed to solve a section, where a passing control is carried out due to abnormal heavy rain, and to enhance circulating in this area.

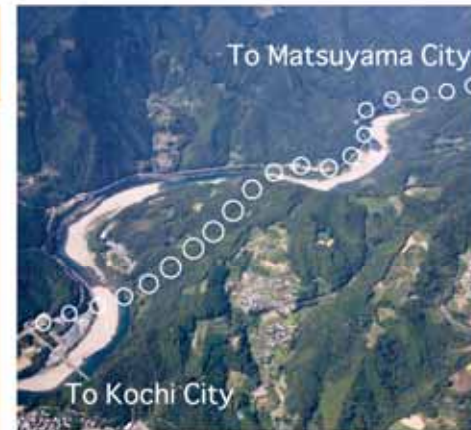


## Route 33 in Ochi road's section

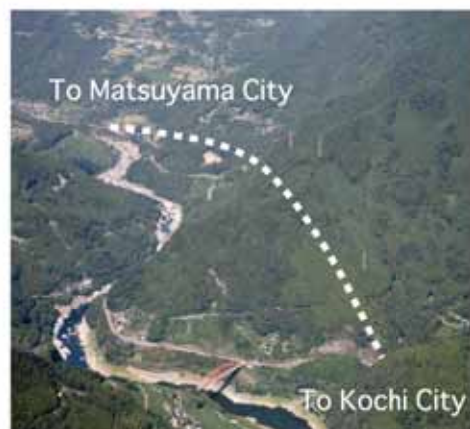
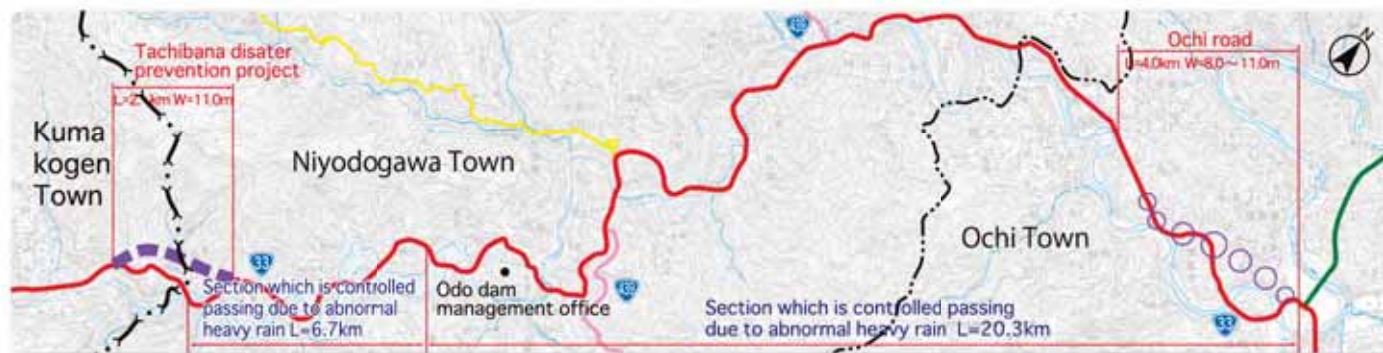
There is a dangerous district to road users (district with landslide-possibility, unsettled rocks etc.) and it has been controlled passing due to abnormal heavy rain.



Dotted unsettled rocks (Hill along Route 33)



Structural standards: Class 3, Grade 2  
Design speed: 60km/h  
Total Length: 4.0km  
Width: 10.5m  
(0.75~3.25~3.25~0.75~2.5)  
Commenced year: 1996 fiscal year



Structural standards: Class 3, Grade 3  
Design speed: 50km/h  
Total Length: 2.0km  
Width: 11.0m  
(1.25~3.25~3.25~0.75~2.5)  
Commenced year: 1998 fiscal year

## Route 33 in Tachibana disaster prevention project's section

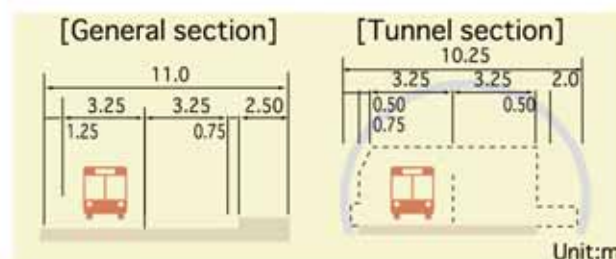
There is a large landslide spot around a boundary between Kochi Prefecture and Ehime Prefecture. Therefore it has been controlled passing due to abnormal heavy rain.



Measures for prevention of dropping large rocks (Route 33)

## Tachibana disaster prevention project

Tachibana disaster prevention project will be improved in the district of fragile rocks for solving a section, where a passing control is carried out due to abnormal heavy rain.



# Route 55

## Summary of National Highway Route 55

National highway route 55 runs from Tokushima City, Tokushima Prefecture to Kochi City, Kochi Prefecture through Muroto-Anan Coastal National Park. The road runs a total length of 216.0 kilometers and we oversee the improvement, management and maintenance of the Kochi Prefecture stretch of 113.5km.

The primary improvement to national highway route 55 has been completed in 1972 and we are going on Kochi eastern expressway (Kochi-Nankoku expressway and Nankoku-Aki expressway) and Oyama road.

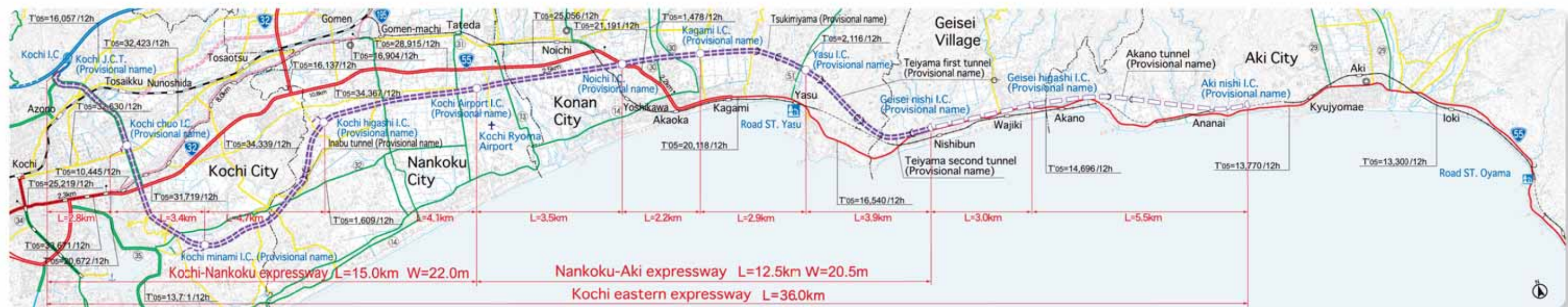




# Route 55

## Kochi eastern expressway

Kochi eastern expressway will be constructed as an expressway, fulfill the functions with Shikoku trans-expressway, and form an expressway and regional high standard road network in Kochi prefecture or other areas. By this road high speed and traffic security on wide area traffic between Kochi City and Kochi eastern area will be secured and contribute to improving roadside environment and vitalizing the regional economy.



### Road condition from Kochi City to eastern area in Kochi Prefecture

At commutation time traffic jams occur frequently. As a result it have a bad influence on regional industry, economy and emergency medical care.



Ambulance involved in traffic jam (Route 55)



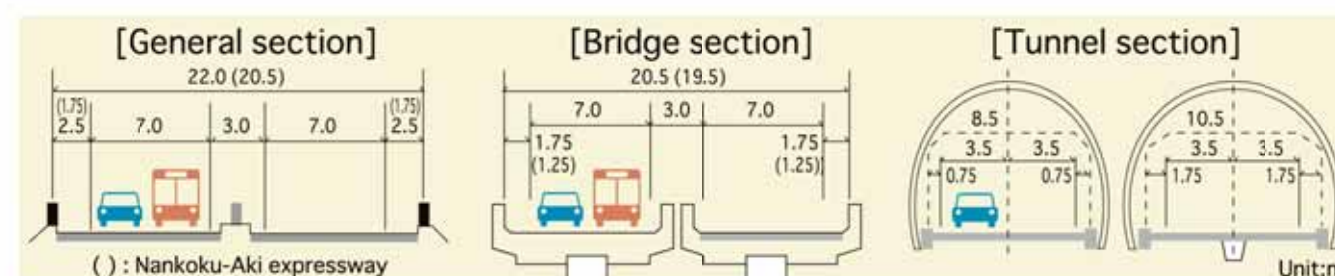
### Kochi-Nankoku expressway

Structural standards: Class 1, Grade 3 (Expressway)  
Design speed: 80km/h  
Total Length: 15.0km  
Width: 22.0m  
(2.5~7.0~3.0~7.0~2.5)  
Commenced year: 1990 fiscal year



### Nankoku-Aki expressway

Structural standards: Class 1, Grade 3 (Expressway)  
Design speed: 80km/h  
Total Length: 12.5km  
Width: 20.5m  
(1.75~7.0~3.0~7.0~1.75)  
Commenced year: 1999 fiscal year

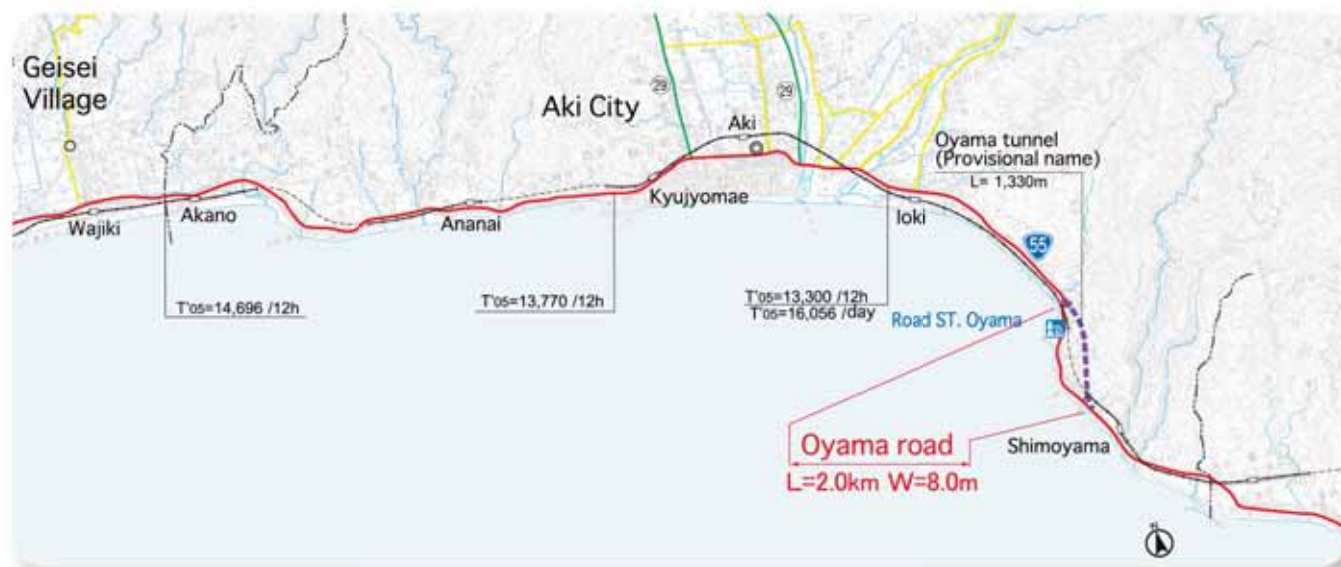




# Route 55

## Oyama road

Oyama road will be constructed to avoid a traffic stop in case of disaster and to form a wide area network in Kochi eastern area.

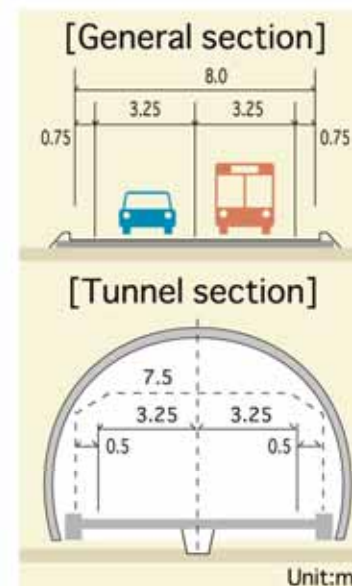


### Route 55 in Oyama road's section

Route 55 in Kochi eastern area is along a coastline. It has been damaged by wave going over an embankment. Therefore it is demanded to secure an alternative road in order to pass safely.



Damage by wave going over an embankment (Route 55)



Structural standards:  
Class 3, Grade 2  
Design speed: 60km/h  
Total Length: 2.0km  
Width: 8.0m  
(0.75~2×3.25~0.75)  
Commenced year: 2004 fiscal year

# Route 56

## Summary of National Highway Route 56

National highway route 55 runs from Kochi City, Kochi Prefecture to Matsuyama City, Ehime Prefecture via Shimanto City and Sukumo City. We oversee the management and maintenance of the 60.5 kilometers comprising the border of Nakatosa Town and Shimanto Town (Nanako Pass), from a total of 319.6 kilometers of roadway.





# Smart-IC

## Tosa parking area Smart-IC

Tosa parking area Smart-IC has been constructed on Tosa parking area, Kochi expressway with West Nippon Expressway Company Limited and Tosa City, Kochi Prefecture to enhance an accessibility to the expressway, a convenience of people's life, and to vitalize a regional economy.

### What is "Smart-IC"?

Smart-IC is an interchange where a car equipped with electronic toll collection system (ETC) can get on and off from main lane, service area, parking area and bus stop of expressway. Because a car on ETC can only use the IC, it is possible that a toll gate is simple and that a person for collecting toll is unnecessary. As a result a construction cost of Smart-IC is lower than that of ordinary IC.



Tosa parking area Smart-IC (Kochi expressway)

# Road investigation

## Summary of road investigation

Our office carries out various road investigations in order to plan, design, construct and control the roads efficiently.

Road investigation implemented at our office is as follows.

Classification	Investigation type	Investigation section or road name
Investigation of expressway	Investigation and design	Kochi eastern expressway
Investigation of regional high standard road	Planning and investigation	Kochi-Matsuyama regional high standard road
Continual observation and investigation of traffic volume	Basis observation and auxiliary observation	National highway route 32, route 33, route 55, route 56



Continual observation by traffic counter (Yakezaka, Route 56)





# Intelligent Transport System

## Summary of ITS investigation

Our office carries out various investigation on intelligent transport system in order to solve and relieve rural traffic issues. For example the following investigations have been already implemented.

### Multi-purpose usage of closed-circuit television (CCTV)

Our office investigates various usage of CCTV, based on regional needs (measurement of traffic flow, detection of wave going over an embankment, detection of snowfall etc.).

#### Detection of wave going over an embankment



At the time of wave occurrence



Result of detection (after one minute)

#### Measurement of traffic flow



Running car's image



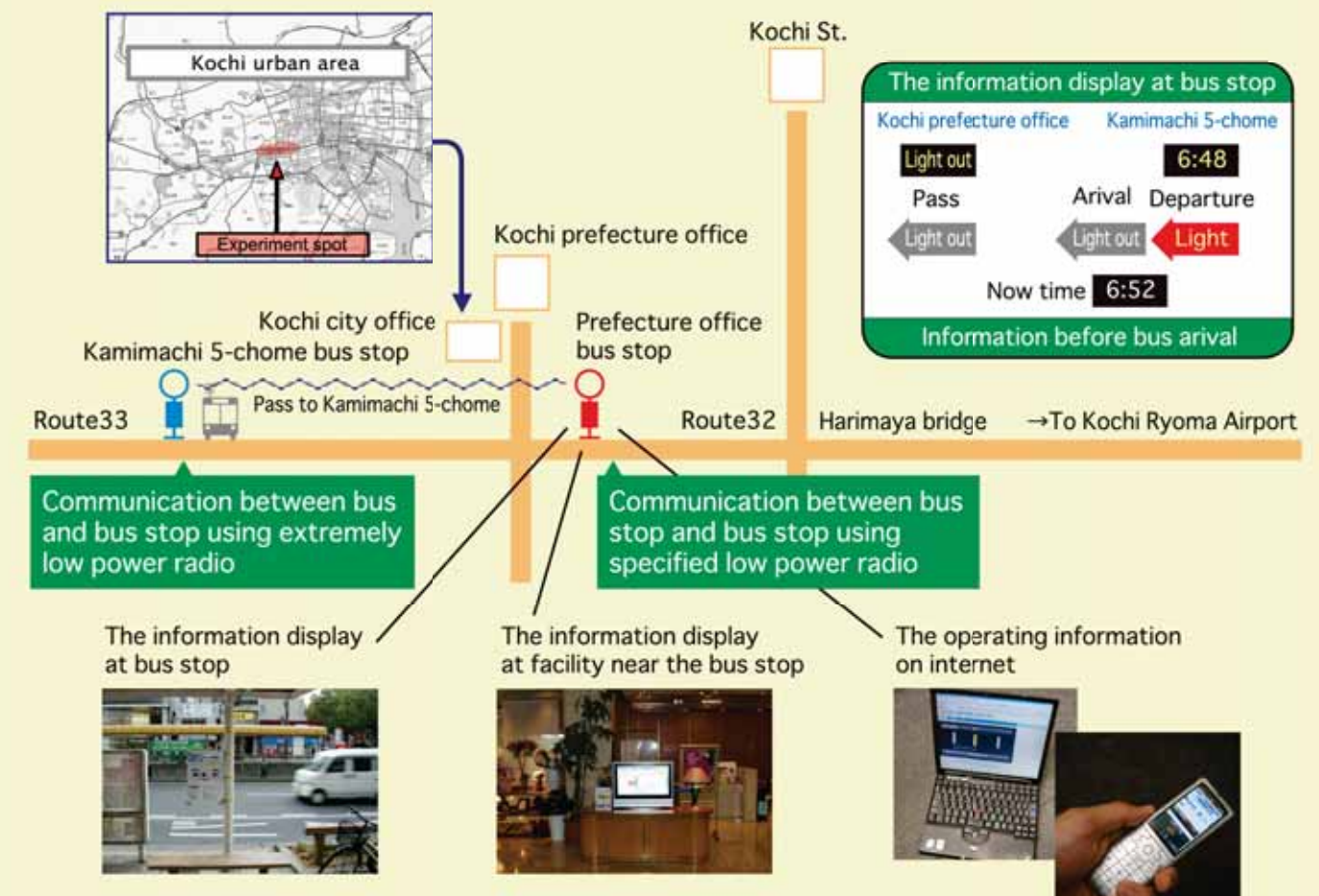
Background image



Difference image

### Bus location system in rural area

Our office has examined low cost bus location system which can be used sustainably in rural area, carried out a pilot program, verified the system, and investigated more practical system.





# Road Management and Maintenance

## Road management and maintenance servicing

### 1 Road management

Our office oversee the management of four roads (total 290.8km), comprising the Kochi Prefectural sections of national highway route 32, route 33, route 55 and the road to the boundary of Nakatoso Town and Shimanto Town of route 56.

We assesses the state of road conditions and their use to keep the road in good condition at all times by collecting necessary information and taking the required measures against various abnormal or illegal occurrences.

In addition our office regulates passing of special vehicle traffic and preserves the structure of the road in accordance with Article 46, the Road Law.



### 2 Road maintenance and repair

Various works are carried out to maintain and repair the national highway at the required conditions.

- (1) Road maintenance and repair works
- (2) Works for disaster prevention
- (3) Repair works in case of disaster
- (4) Works for earthquake
- (5) Traffic safety works
- (6) Model project to create comfortable environment for bicycle users
- (7) Project for constructing communication cable box

	Name of branch office	Management length
①	Kochi National Highway Maintenance Branch Office	76.6km (4.7km)
②	Nankoku National Highway Maintenance Branch Office	64.3km
③	Sakawa National Highway Maintenance Branch Office	52.6km
④	Nahari National Highway Branch Office	97.3km
	Total	290.8km (4.7km)

( ) denotes two routes



# Various works related to road maintenance and repair

## Road maintenance and repair works

Road maintenance and repair works are carried out to maintain road function and to provide comfortable road space. They are taken development of regional industry and coordination with roadside landscape into consideration.



Repair of road pavement

## Works for disaster prevention

Works for disaster prevention have been gone on to solve dangerous spots by falling rocks and landslide in Kochi Prefecture, where there are a lot of roads passing mountainous region.



Hakawa, Ino Town (Route 33)

## Repair works in case of disaster

We are all set to take quick action in case of disaster. Also we bear in mind promoting repair works urgently in order to reopen roads early.



Okubo, Ootoyo Town (Route 32)



Construction of temporary bridge

## Works for earthquake

We have been making effort to construct earthquake-resistant roads in case of earthquake. Especially earthquake-resistant enforcement works are carried out to old bridges one after another.



Pier enforcement, Kannoura-bridge (Route 55)

### Promotion of an improvement to an earthquake-resistant road

A measure for preventing a fatal damage to a bridge which is located on a road among cities with prefecture offices has started in order to reduce damage and secure urgent emergency activity in case of "Tonankai and Nankai Earthquakes".

## Traffic safety works

We promote to improve roads for pedestrian and bicycle users and to create barrier-free spaces for road users to run and walk safely.



Ioki road for pedestrian and bicycle users

## Project for constructing communication cable box

We are going on constructing communication cable box in order to secure traffic safety, improve urban landscape, prevent urban disaster and rise reliance of information network.



Honmachi district, Kochi City



# Other measures for region

**Our office has been creating better roadside environment with resident people and road users.**

## "Shikoku Road for cultural exchanges" (Volunteer support program)

Regional people and road managers (Ministry of Land, Infrastructure, Transport and Tourism and local governments in Shikoku region) take measures for cleaning road and management of roadside trees etc. in order to create beautiful road.



Volunteer activity for planting flowers

## "Shikoku scenery road"

"Scenery road" is a policy to create beautiful road and city by exchanging between resident people and visitors on road. In Shikoku region three "Scenery road" has been registered; "Doi-kachu (Aki City, Kochi Prefecture)", "Shimanto Road (southwest area in Kochi Prefecture)" and "Mahoroba Scenery Road in Tosa (Nankoku City, Kochi Prefecture)".



The vacant lot of Tsurayuki Kino's residence (Nankoku City, Kochi Prefecture)

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