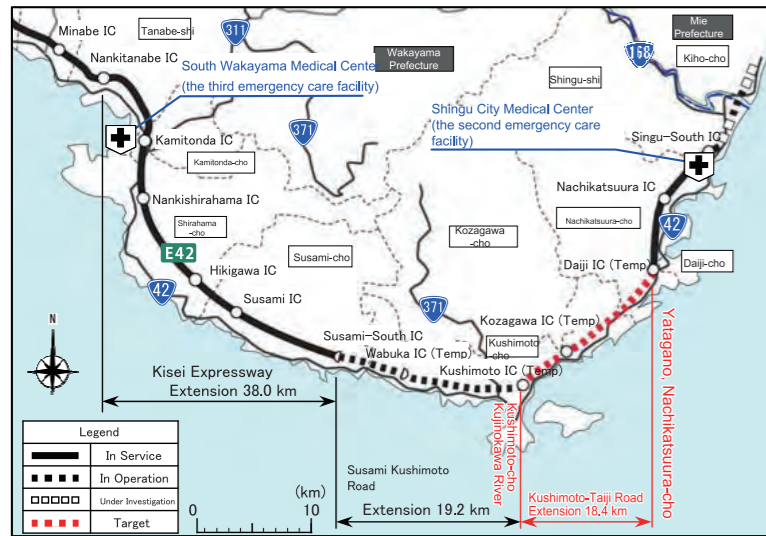


# Roads

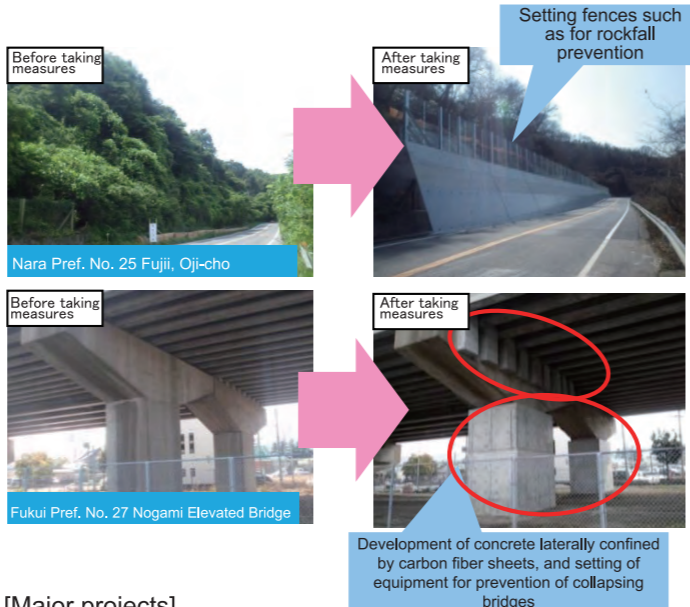
## Ensure Safety and Security

### Countermeasures against a possible Nankai Trough Earthquake and other disasters and earthquakes

The general National Highway No. 42, Taiji Kushimoto Road, was constructed with an extension of 18.4 km to secure the substitutability at the time of a disaster from Nankai trough giant earthquakes, and improvement of punctuality, quick-deliverability of emergency medical facilities and achieving the promotion of inter-regional exchanges. It was newly commercialized in 2018.



Disaster prevention measures and earthquake disaster countermeasures continue to be implemented to reduce damage at the time of disaster occurrence and to support smooth and prompt emergency activities.

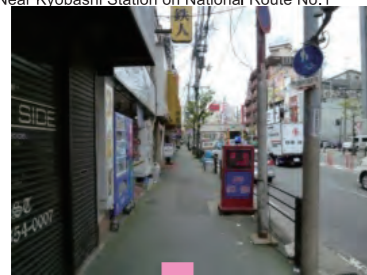


- [Major projects]
- National Route No. 29 Shimada district prevention measures (sight frontage, Ichinomiya City, Shiso City, Hyogo Prefecture)
  - National Route No. 165, Anti-earthquake measures for Shinjo elevated bridge (sight frontage, Bennosho, Katsuragi City to sight frontage, Soone, Yamatotakada City, Nara Prefecture)

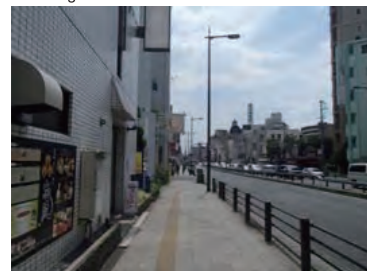
## Promotion of undergrounding

From the viewpoints of improving disaster prevention of roads, ensuring a safe and comfortable passage space, forming a good landscape, and promoting tourism, etc., undergrounding is promoted. Based on the amendments to the Road Law etc., undergrounding is promoted regarding roads that are important for disaster prevention such as emergency transportation roads. Thus road blockage caused by collapse of utility poles etc. will be prevented.

Osaka National Route No.1 Electric Wire Utility Tunnel (Mivakojima Electric Wire Utility Tunnel)

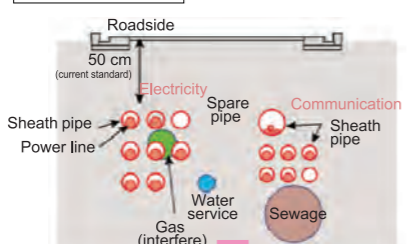


After implementation Near Moriguchi Station on National Route No.1

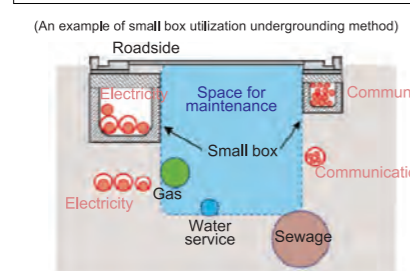


Introduction of a low-cost technique Such as the shallow undergrounding method and small box utilization undergrounding method

Past method (conventional duct line method)



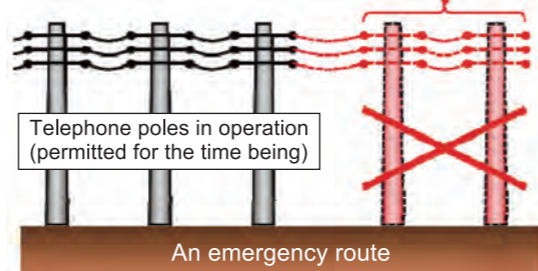
Method that adopts a low-cost technique



Summary of private use restrictions

- About the emergency transportation road of a direct control national highway, prohibited the private use of new telephone poles (since April 2016) Approximately 1,800 km in the Kinki jurisdiction (as of 2016)
  - About existing telephone poles, private use is permitted for the time being
  - When it is unavoidable\*, allows the setting of temporary telephone poles (In principle two years)
- \* When it is very difficult to secure private land promptly in cases where services such as electricity were newly necessary for housing development

New telephone poles (prohibiting the use)



Ensuring safe and comfortable passage ways by eliminating utility poles

## Strategic maintenance and updates for infrastructure aging measures, etc.

Inspection of road facilities (bridges, tunnels, pavements, slope surfaces, earthwork constructions, road accessories, etc.) to grasp safety continues steadily. Measures against aging by maintenance cycles such as inspections, diagnoses etc. are also promoted.

○Promotion of the repair of the Yodogawa-Ohashi Bridge

○Update the upper part mechanics for remarkable damage

Summary of the Yodogawa-Ohashi Bridge

- Construction 1926
- 6-span steel Warren truss simple road elevation type bridge
- 12-span steel simple plate girder bridge
- Bridge length 724.516 m
- Width 20.828 m

Corrosion of the truss

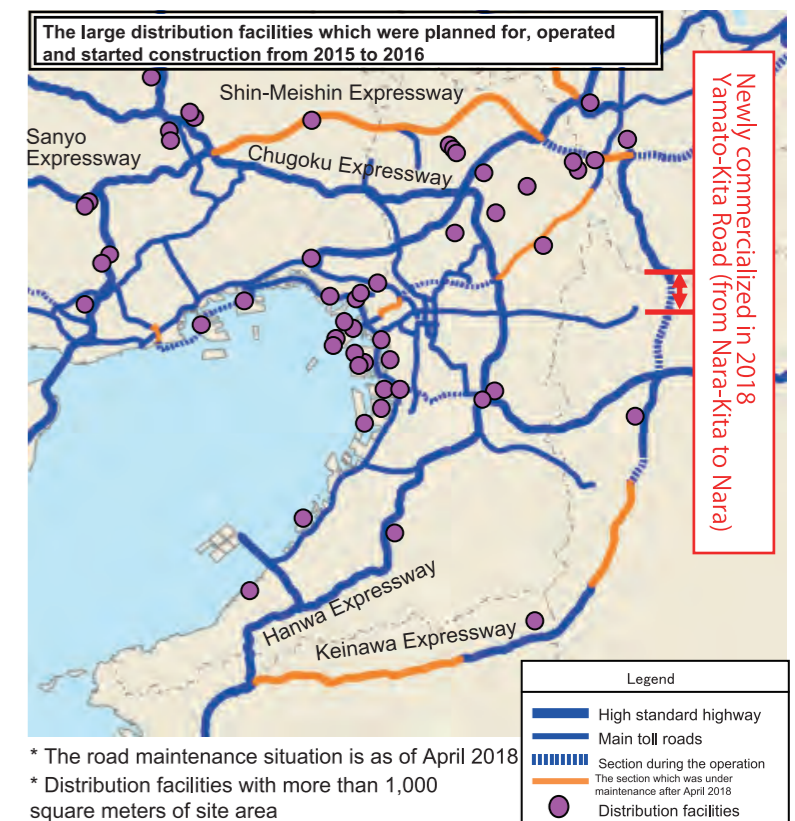
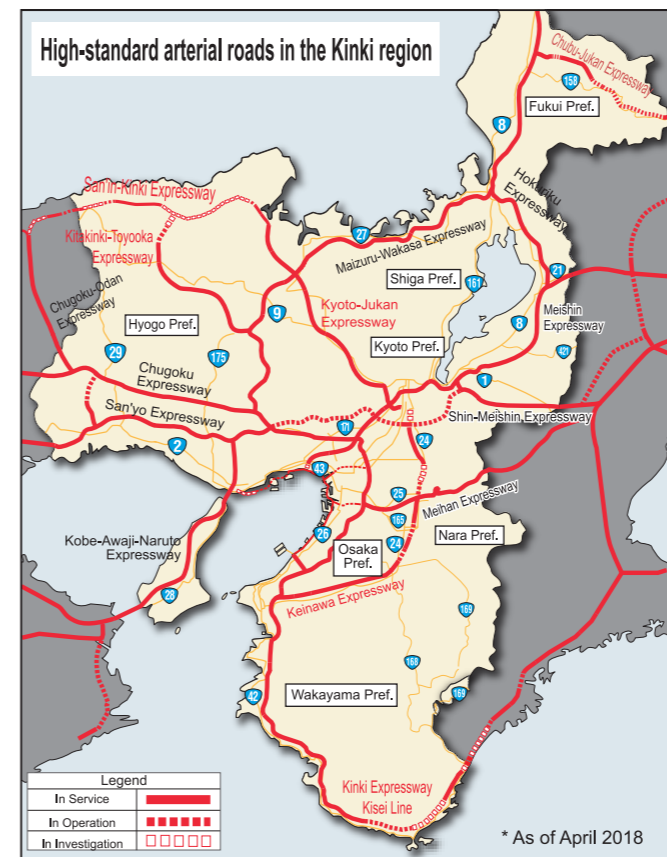
- [Major Projects]
- National Route No.2 Hamate BP Elevated Bridge Inspection (Sight frontage, Chuo-ku, Kobe City, Hyogo Prefecture)
  - National Route No.2 Yodogawa Ohashi repair (Sight frontage, Fukushima-ku to Nishiyogodogawa-ku, Osaka City, Osaka Prefecture)
  - National Route No.42 Repair of the Kinokawa Tunnel (Sight frontage, Shingu City, Wakayama Prefecture)

## Reinforcement of Growth by Productivity Improvement

### Promotion of wide area network

To realize prompt and smooth logistics, strengthen international competitiveness, and alleviate traffic jams, etc., the development of ring roads will be promoted.

- [Main Project]
- Kinki Expressway Kisei line Kushimoto-Daiji road
  - Chubu Jukan Expressway: Ono-Aburazaka road (from Onohigashi to Izumi), etc.



\* The road maintenance situation is as of April 2018  
\* Distribution facilities with more than 1,000 square meters of site area

(Source: Japan Location Overview)