

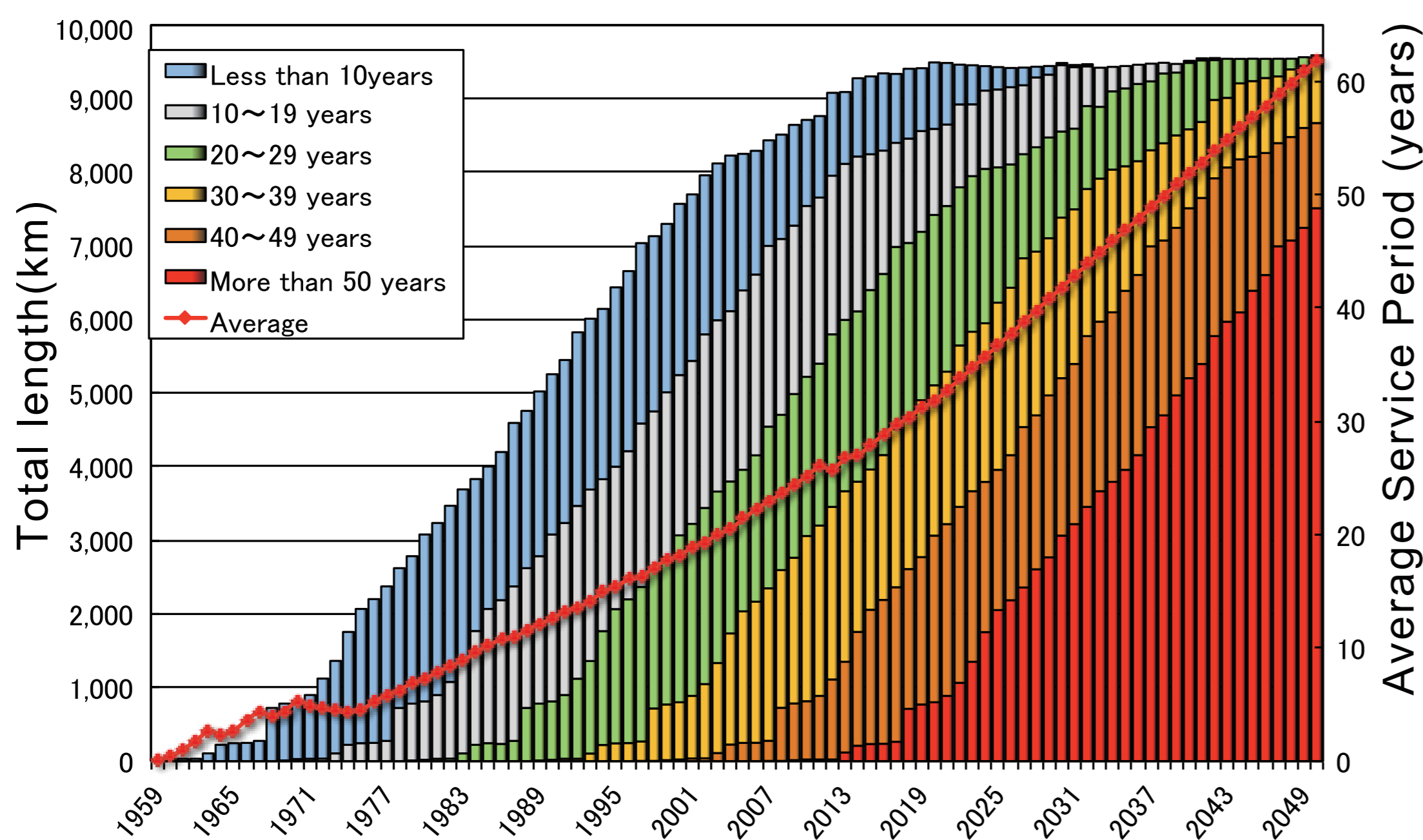
Expressway Maintenance - 1

The Large-scale Renewal and Disaster-prevention Measures

고속도로 관리 - 1 대규모 리뉴얼 및 구조물 수리

Current situation and problem of expressways

- The 40% of about 9,000 km of the total expressways-length had been operated for more than 30 years as of 2013 and because of this, the expressways are seriously deteriorated.
- The 40% of the total bridges-length and the 20% of the total tunnel-length were also constructed more than 30 years ago and they are facing increased risk by the aged deterioration.
- The total vehicle weight is increasing with the increase in the number of large-scale vehicle on the expressways. The expressways are under severe conditions such as increasing in the usage of anti-freezing agent (NACL) and the increase in the amount of extreme rainfall for a short time.



Severe environment in snow region



Damaged condition of structures

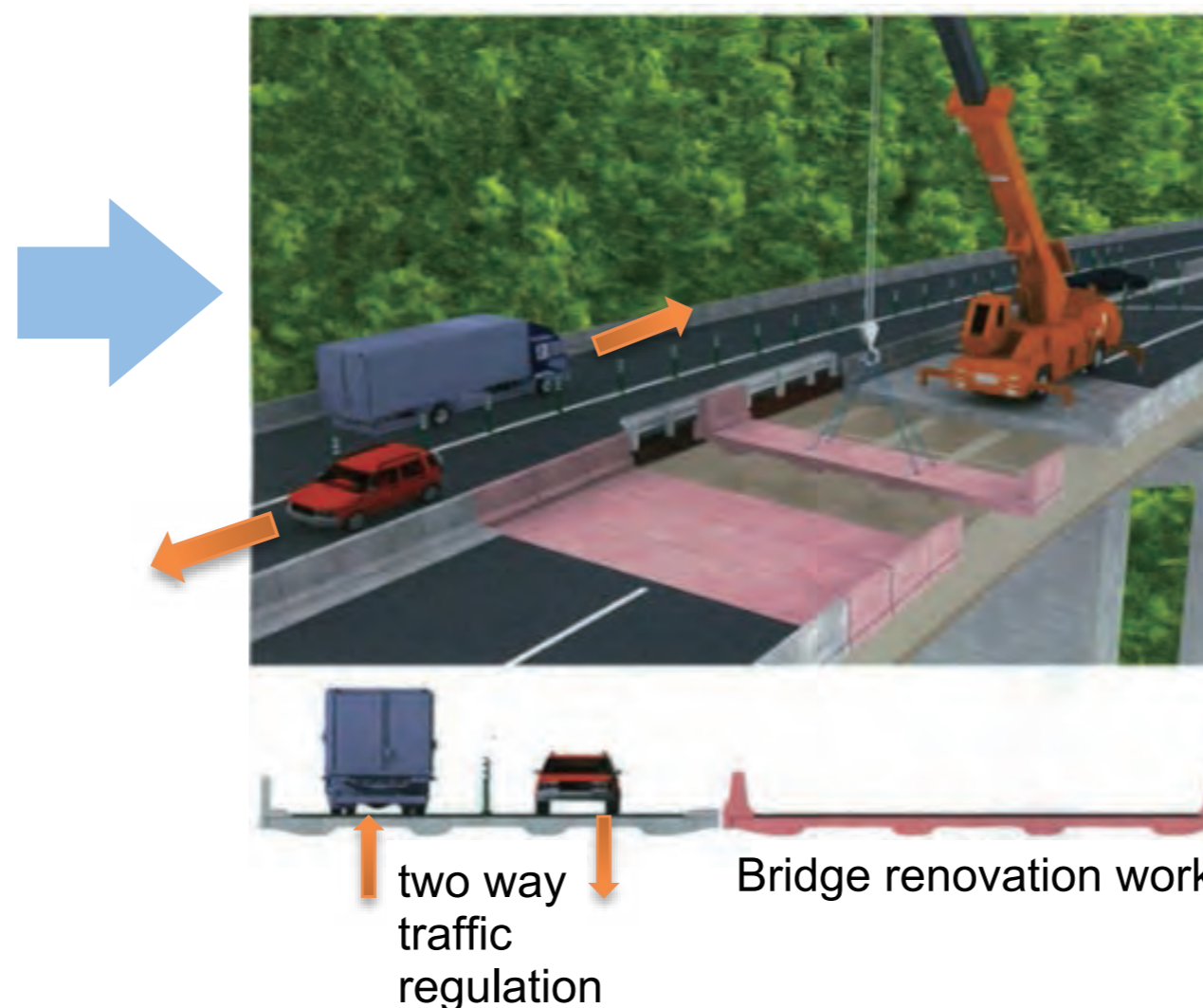


Large-scale Renewal

Severe deterioration in slab lower surface



Large-scale renovation for bridges e.g. Replacement of RC concrete slab with PC precast slab



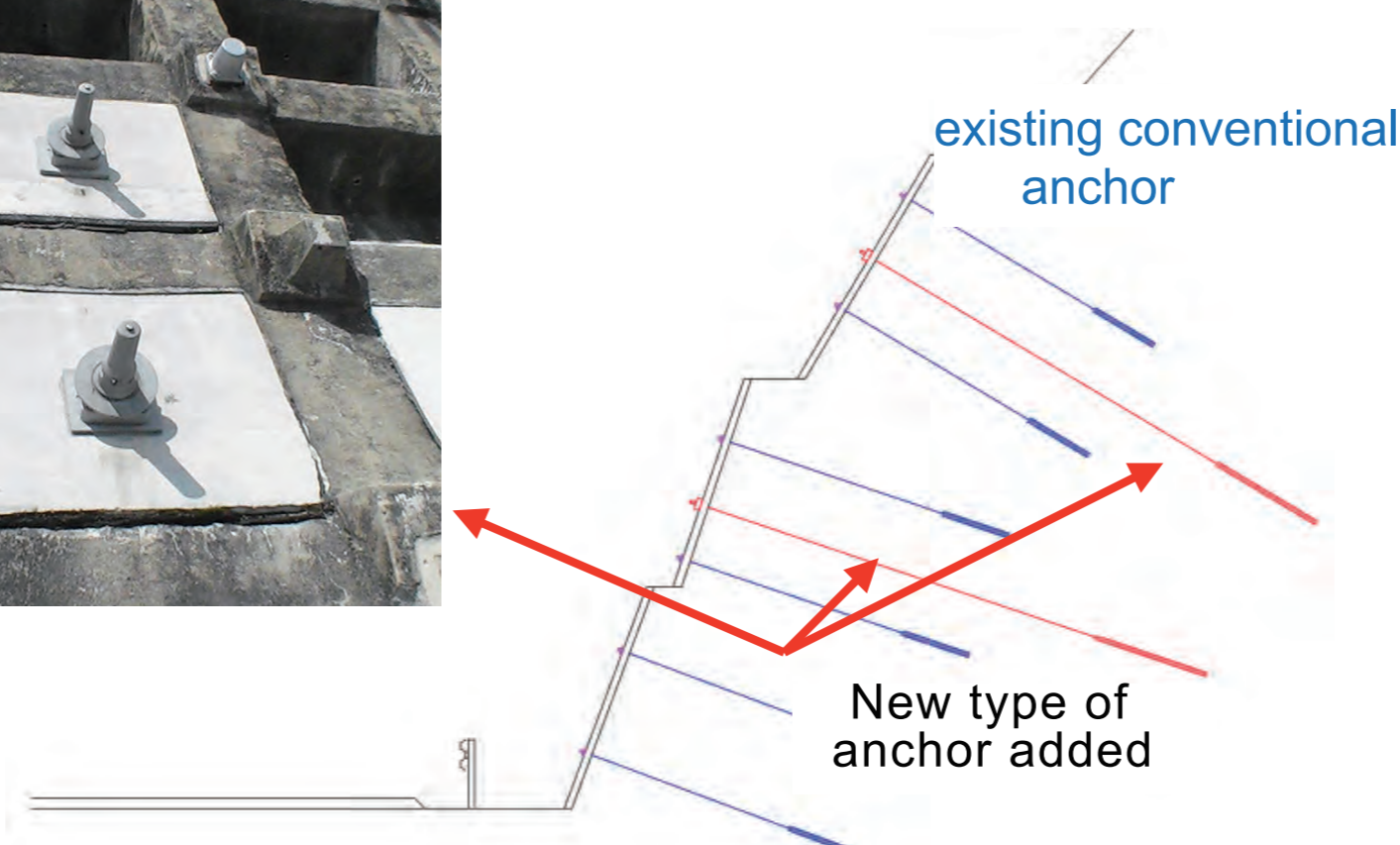
Disaster Prevention



Disaster caused by extreme rainfall for a short time

Ground anchor

New type of anchor was installed instead of traditional anchor with inadequate anticorrosion function



Slope Protection Work

Measures against landslide

