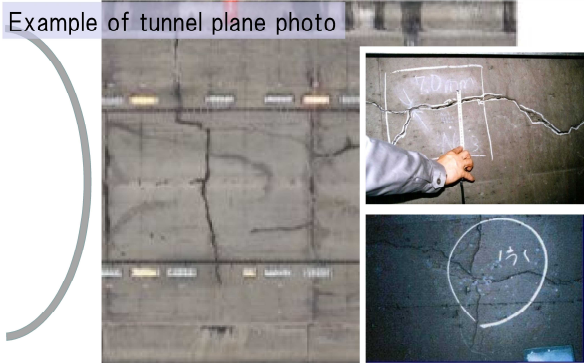


Renewal of the lining of mountain tunnels in service (New method !)

Issues on the aging tunnels

Old tunnels haven't been equipped with waterproofing

Example of tunnel plane photo



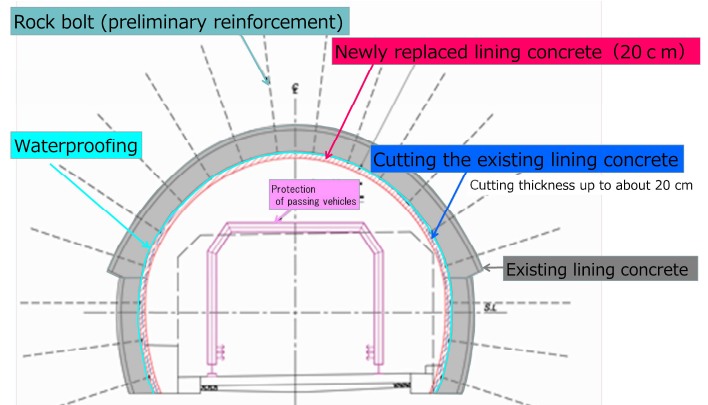
Cracks of lining concrete



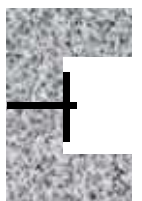
Water Leakage and freezing (icicles)

Construction method to renew a section of the lining concrete

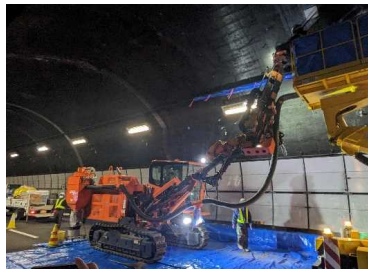
The new construction method renewing a section of the concrete lining with the expressway still in service will solve the issues.



STEP1

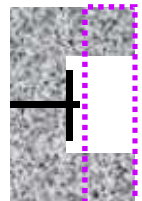


Installation of rock bolts



Reinforce the tunnel with rock bolts before cutting the existing lining concrete.

STEP2

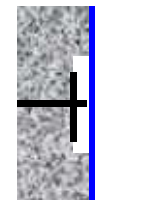


Cutting existing lining concrete



Cutting lining concrete

STEP3

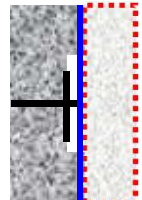


waterproofing



Installation of waterproofing

STEP4



Place new lining concrete



Lining concrete placement

Our Pilot project is planned to be launched this year

