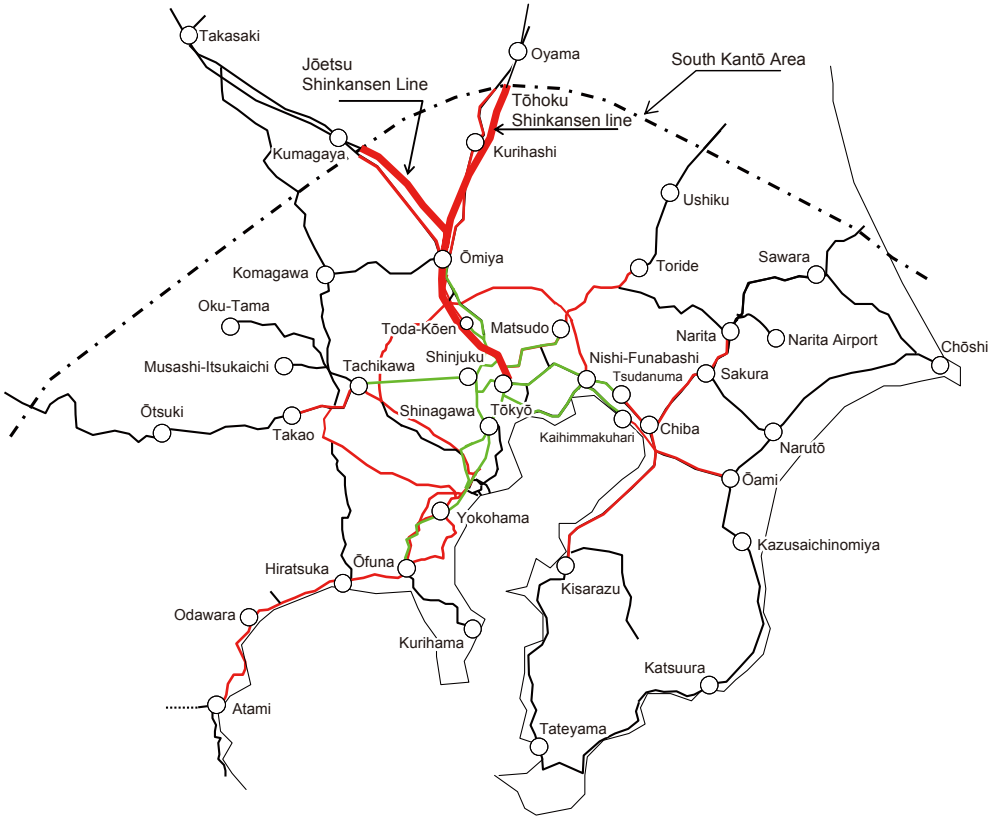
[Attachment 2]

Seismic reinforcement measures against an earthquake directly beneath the Tokyo metropolitan area

[Scope of seismic reinforcement measures against an earthquake directly beneath the Tokyo metropolitan area]



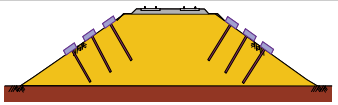
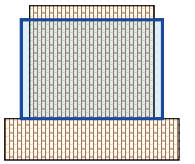
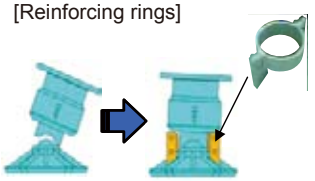
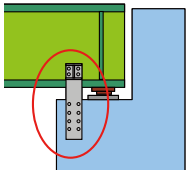
Key

- Line sections subject to seismic reinforcement of embankments, cutouts or bridges
- Line sections subject to seismic reinforcement of viaduct columns where area below elevated line used by shops, etc.
  - •South Kantō area Shinkansen lines
  - •South Kantō area conventional lines with 10 or more trains running one way per hour at peak times

Nine line sections with seismic reinforcement of embankments, cutouts and bridges (about 220 km)

(Break-down)	Yamanote Line	Approx. 34 km
	Chūō Line	Approx. 37 km
	Jōban Line	Approx. 16 km
	Sōbu Line	Approx. 27 km
	Keiyō Line	Approx. 32 km
	Tōhoku Line	Approx. 23 km
	Tōkaidō Line	Approx.40 km
	Akabane Line	Approx. 6 km
	Saikyō Line	Approx 5 km

[Seismic reinforcement of embankments, cutouts and bridges]

		Past damage example	Reinforcement image
Embankments and cutouts	About 8 km		 • Put reinforcements in embankments • Use anti-derailing guards *Do survey and design for embankments of 8 m or greater and for high cutouts
Bridges	Unreinforced concrete, stacked brick or stone bridge piers About 60 piers		[Wrapping with reinforced concrete] 
	Steel girders About 120 bridges	Sloping steel bridge piers 	[Reinforcing rings] 
		Lateral movement of girders 	[Movement-restraining devices] 

[Station/platform ceiling collapse prevention measures]

	Past damage example	Reinforcement image
Ceilings		 Diagonal bracing

Ceiling collapse prevention
•About 10 places, inc. Tokyo St. Shinkansen platform

[Viaduct column seismic reinforcement]

	Past damage example	Reinforcement image
Viaduct columns		

•Shinkansen lines: about 1,100 columns
•Conventional lines: about 5,630 columns