

Damage to Shinkansen from Massive Earthquakes

	Great East Japan	Great Hanshin-Awaji	Mid-Niigata
Breakout Time	2011.3.11 (Fri.) 14:46	1995.1.17(Tue.) 5:46	2004.10.23 (Sat.) 17:56
Moment Magnitude (Mw)	9.0	6.9	6.7
Section of Damaged Line	536km (Omiya to Iwate-Numakunai)	83km (Shin-Osaka to Himeji)	65km (Urasa to Tsubame-sanjyo)
Derailment of Running Trains	None	None	1
casualties	None	None	None
Fallen Bridges Damage on Pillar of Elevated Bridges	None	8	None
Misaligned Breams	About 100	708	47
Gap of girder of Bridge	2	72	1
Fallen Tunnel Surfaces	None	1	4
Damaged Power Poles	About 540	43	61
Days from the Breakout Day to Resuming Operations	49 days	81 days	66 days

Note: The original data of this figure is provided by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT).

Resource: The revised title is based on the MLIT “ WHITE PAPER ON LAND, INFRASTRUCTURE AND TRANSPORT IN JAPAN, 2010”

Detailed Information of the figure on the previous page

Title on the previous page		Damage to Shinkansen from Massive Earthquakes
Point of displayed contents		In the case of the Great East Japan Earthquake, there were no human casualties and serious damage like collapsed viaduct, although there is breakage of electrification poles and severing of overhead wires.
Details of the source	Name of the source	Ministry of Land, Infrastructure, Transport and Tourism (MLIT) “WHITE PAPER ON LAND, INFRASTRUCTURE AND TRANSPORT IN JAPAN, 2010” Figure 38 of Part 1, Chapter 1, Section 2 <August 2011>
	Title	Damage to Shinkansen from Massive Earthquakes
	URL	http://www.mlit.go.jp/english/white-paper/2010.pdf
Details of the original data	Name of the original data	MLIT “Shinkansen Derailment Prevention Council” <May 13, 2011> (in Japanese)
	Title	Damage to Shinkansen from Massive Earthquakes
	URL	http://www.mlit.go.jp/common/000144351.pdf
Keywords		Large-scale Earthquake, Great Hanshin-Awaji Earthquake, Niigata Chuetsu earthquake, Damage, Shinkansen