

Reply on CC1:

We thank the reviewer for reading our article and the comments.

Regional railway vulnerability curves are potential and rare for risk assessment, especially in China. Therefore, the regional curves generated in this work are valuable for managers also for researchers. If you can list the parameters for each equation of curves, there must be clearer and more convenient for others.

Response: We thank for the reviewer's comments. In the revised manuscript, the estimated parameters of the fitted vulnerability curve are also provided in Table A3.

Table A3 Estimated parameters of the fitted vulnerability curve

Region	maximum_μ	maximum_σ	maximum_R²
Nation	7.17	2.94	0.91
South China	6.76	2.17	0.89
Southwest China	6.88	2.17	0.91
East China	6.86	2.31	0.79
Central & North China	6.71	2.04	0.87
Northeast China	6.45	2.05	0.85
Northwest China	6.88	2.83	0.87
Region	average_μ	average_σ	average_R²
Nation	8.25	3.16	0.92
South China	7.49	2.28	0.91
Southwest China	7.40	2.21	0.93
East China	7.81	2.57	0.78
Central & North China	7.71	2.45	0.84
Northeast China	7.19	2.07	0.91
Northwest China	7.58	2.85	0.90
Region	minimum_μ	minimum_σ	minimum_R²
Nation	9.48	3.14	0.90
South China	8.06	2.04	0.90
Southwest China	7.80	2.04	0.93
East China	9.06	2.74	0.74
Central & North China	9.72	3.20	0.76
Northeast China	7.30	1.38	0.94