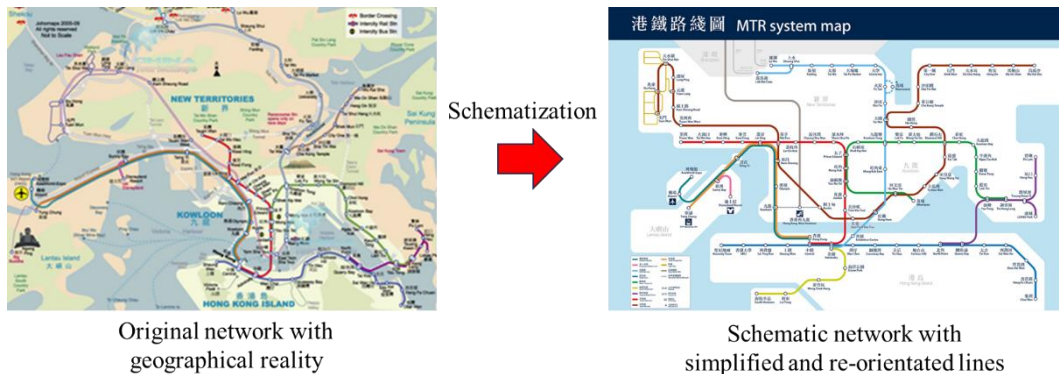
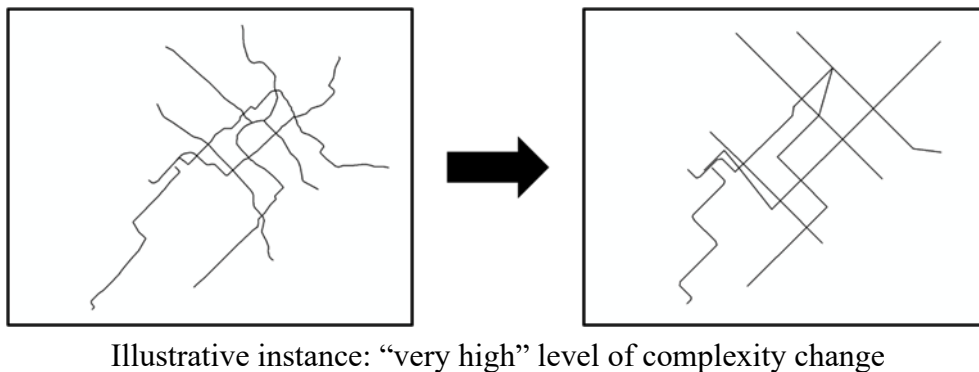


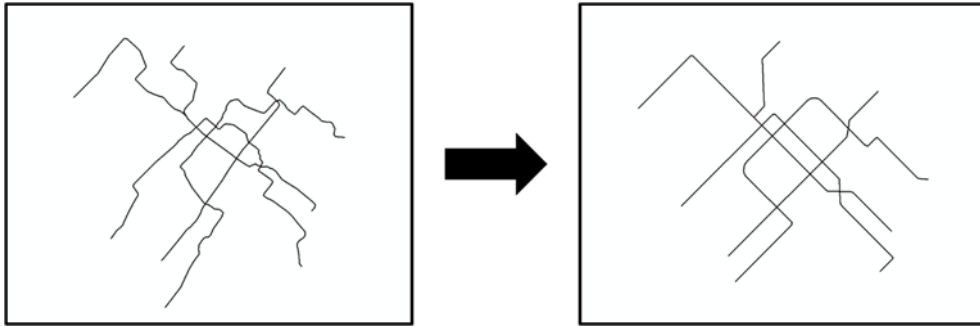
Cognitive experiment on schematization of metro lines (Gaode)

Schematic network maps are simplified representations of real-world geographic networks designed to help people perform tasks such as route planning and navigation quickly and accurately. One of the most common schematic network maps is schematic metro networks. In this map, the real shape of the lines is simplified to enhance the user experience when using it.

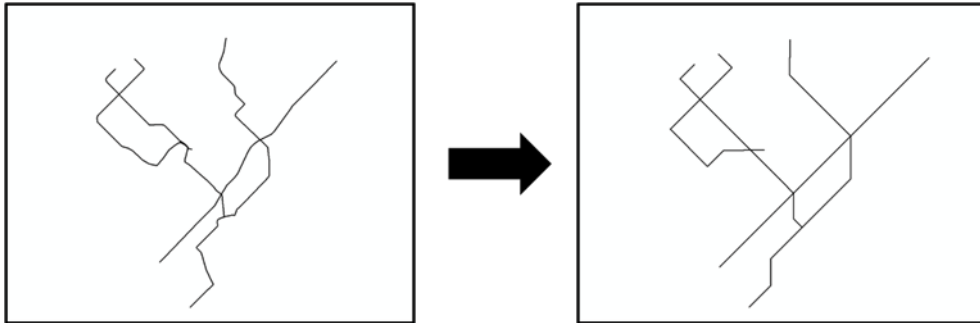


In this questionnaire, 26 Chinese original metro networks and their schematic networks are displayed. This questionnaire requires participants to score such complexity change after schematization for 26 metro networks using a 5-grade marking system (5: Very high, 4: High, 3: Medium, 2: Low, and 1: Very low).





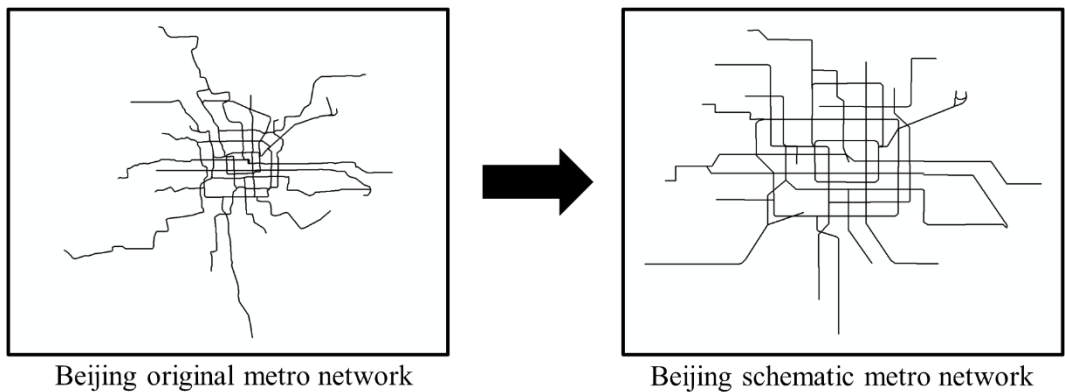
Illustrative instance: “medium” level of complexity change



Illustrative instance: “very low” level of complexity change

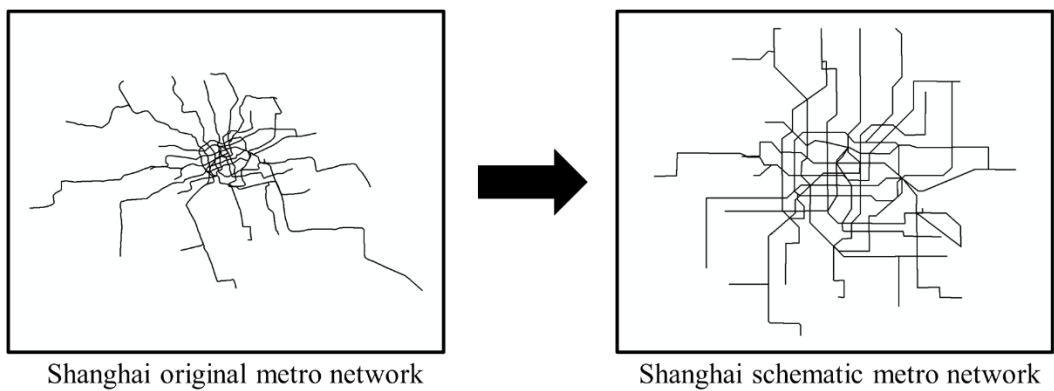
1. Gender
 - ☐ Male
 - ☐ Female
2. Age
 - ☐ < 18
 - ☐ 18 ~ 30
 - ☐ 31 ~ 40
 - ☐ 41 ~ 50
 - ☐ 51 ~ 60
 - ☐ 61 ~ 70
 - ☐ > 70
3. Cartography background?
 - ☐ Yes
 - ☐ No

4. Score complexity change after schematization for Beijing metro networks



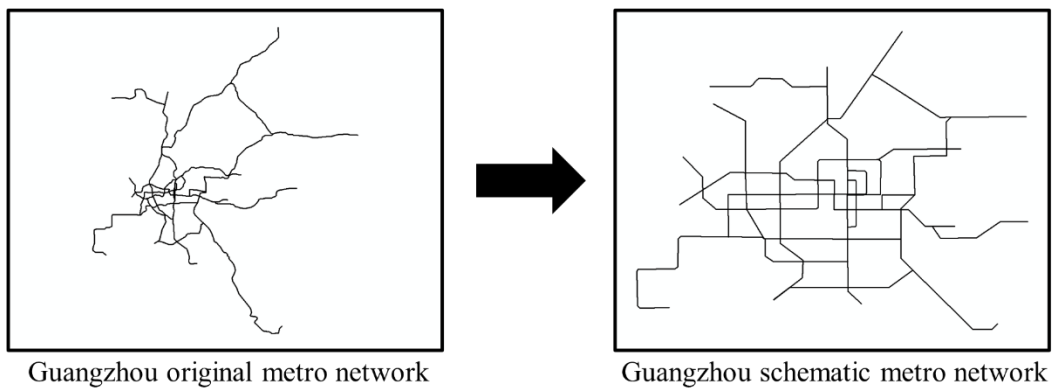
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

5. Score complexity change after schematization for Shanghai metro networks



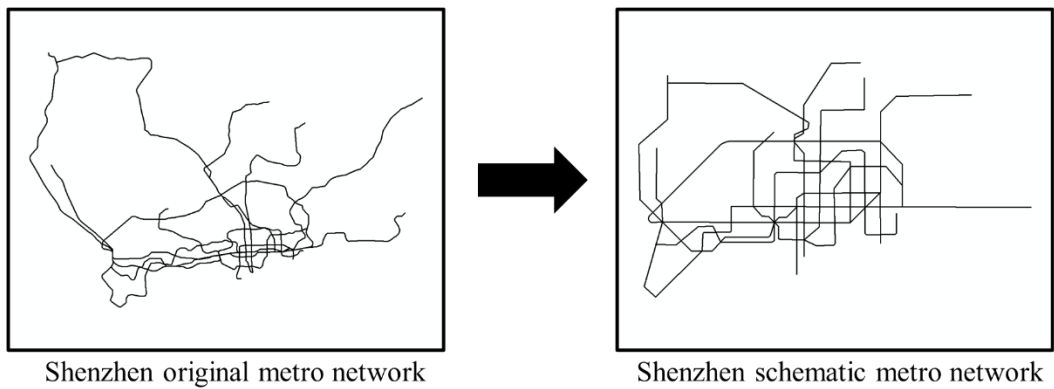
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

6. Score complexity change after schematization for Guangzhou metro networks



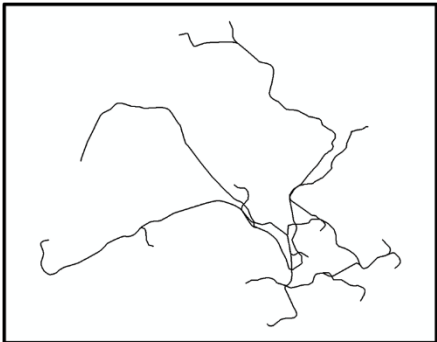
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

7. Score complexity change after schematization for Shenzhen metro networks

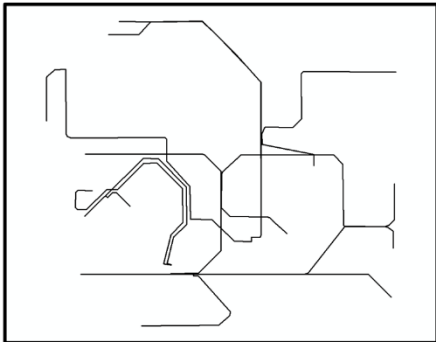


	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

8. Score complexity change after schematization for Hong Kong metro networks



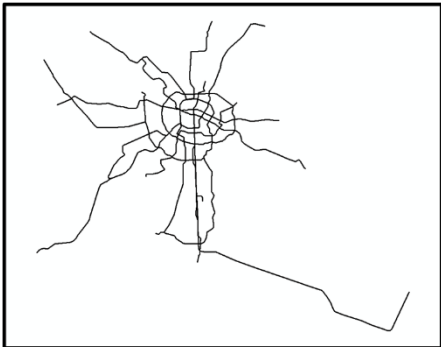
Hong Kong original metro network



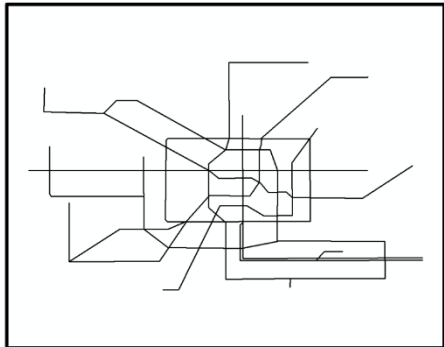
Hong Kong schematic metro network

	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

9. Score complexity change after schematization for Chengdu metro networks



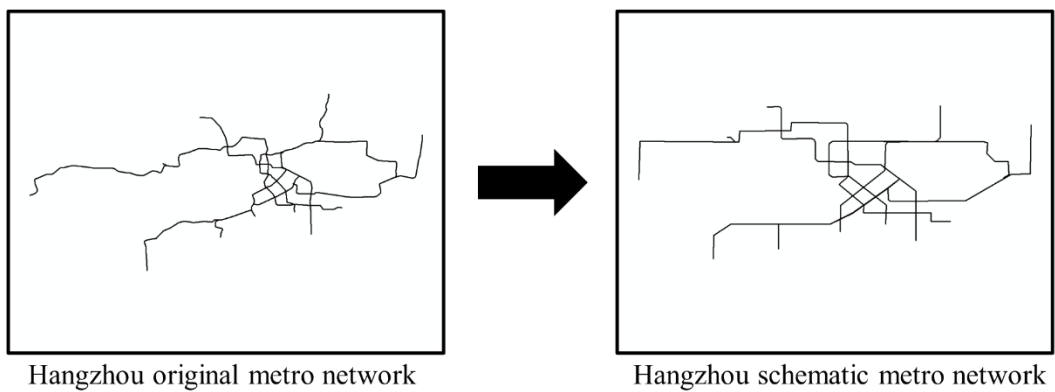
Chengdu original metro network



Chengdu schematic metro network

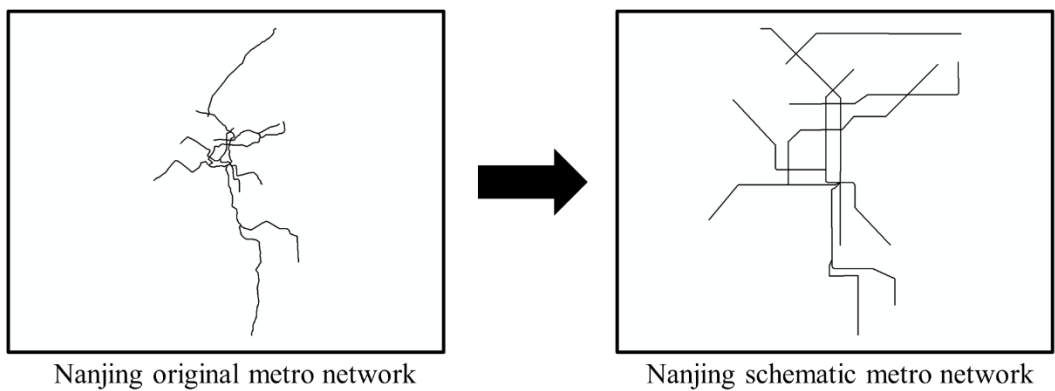
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

10. Score complexity change after schematization for Hangzhou metro networks



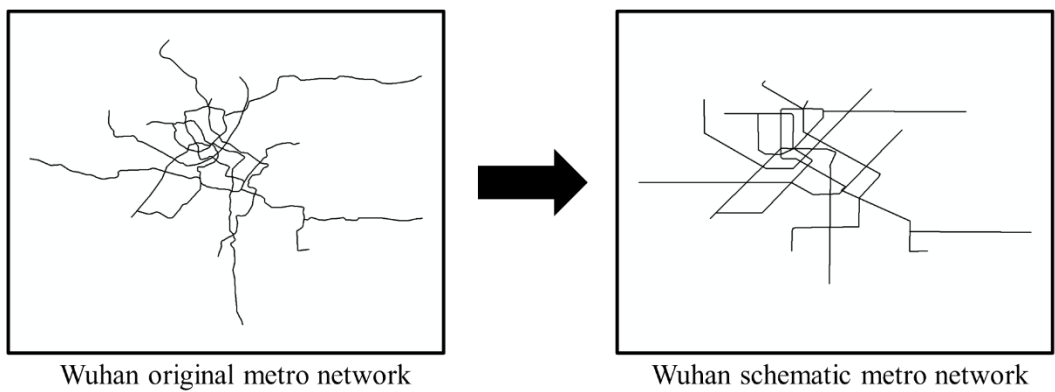
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

11. Score complexity change after schematization for Nanjing metro networks



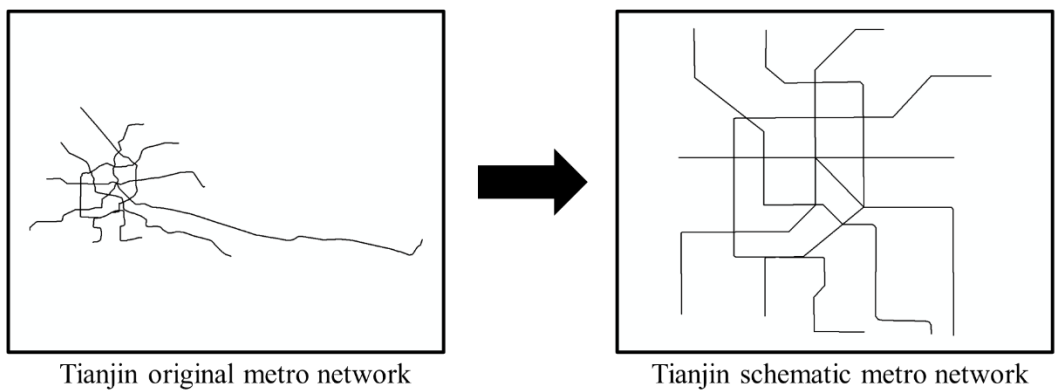
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

12. Score complexity change after schematization for Wuhan metro networks



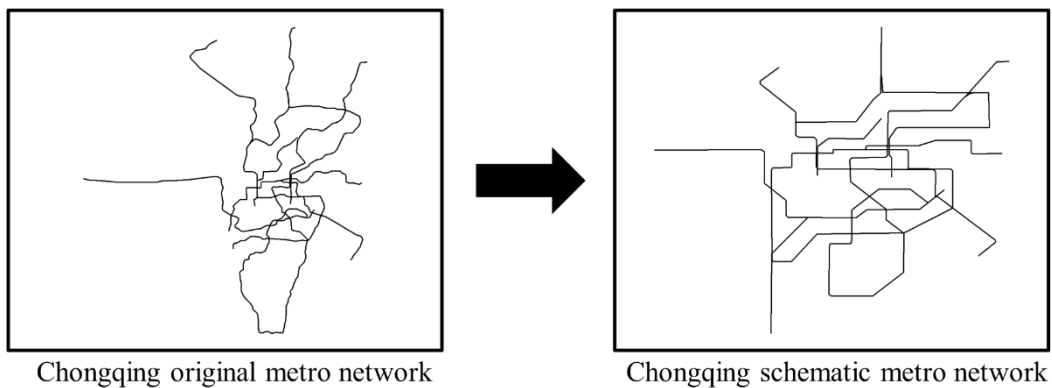
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

13. Score complexity change after schematization for Tianjin metro networks



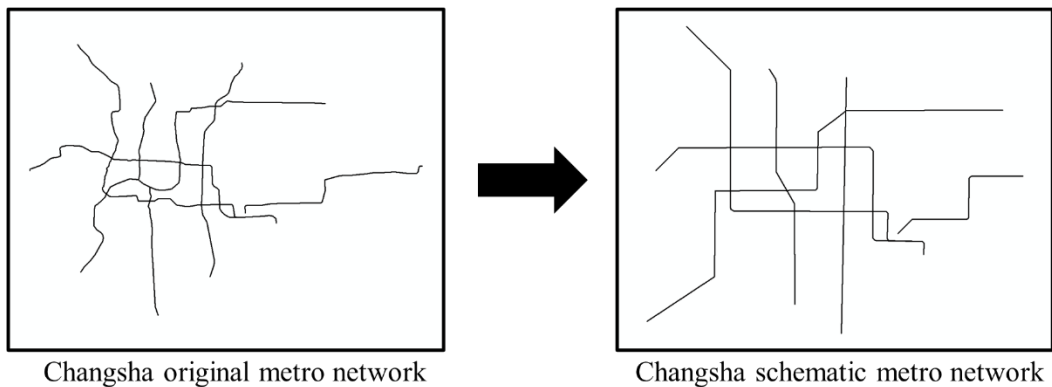
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

14. Score complexity change after schematization for Chongqing metro networks



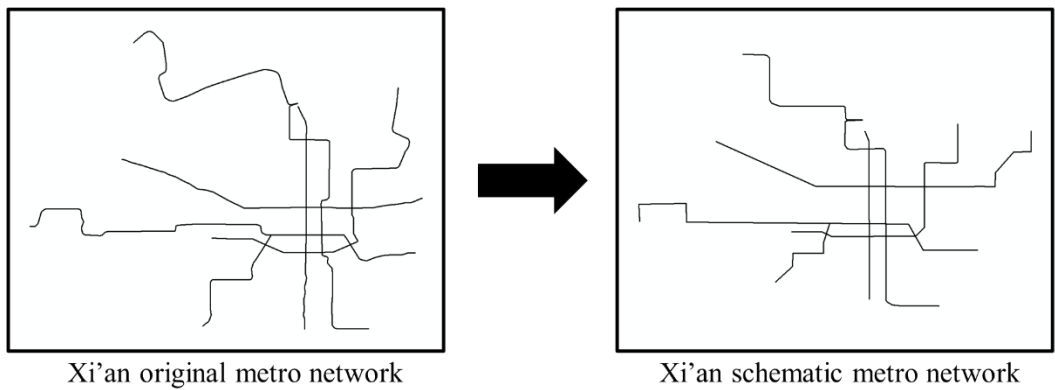
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

15. Score complexity change after schematization for Changsha metro networks



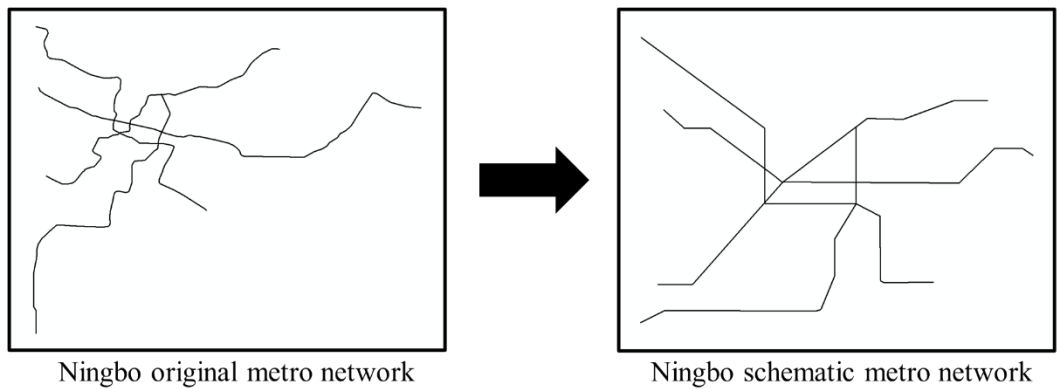
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

16. Score complexity change after schematization for Xi'an metro networks



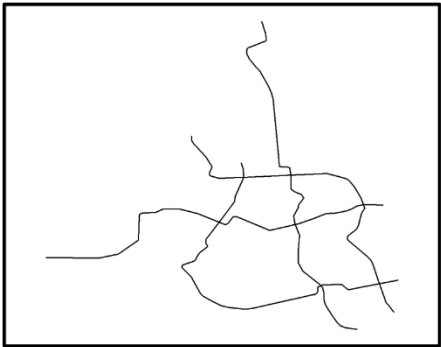
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

17. Score complexity change after schematization for Ningbo metro networks

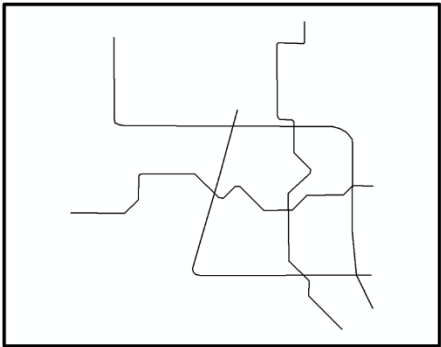


	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

18. Score complexity change after schematization for Shenyang metro networks



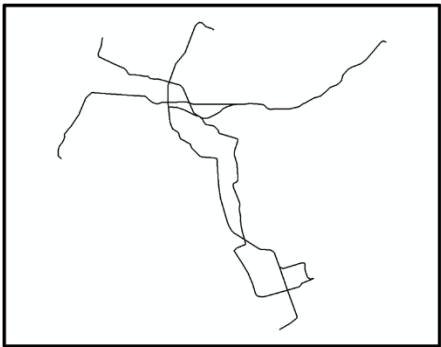
Shenyang original metro network



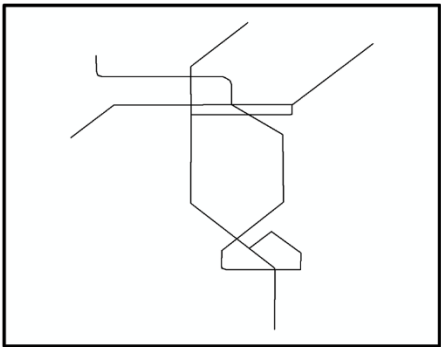
Shenyang schematic metro network

	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

19. Score complexity change after schematization for Kunming metro networks



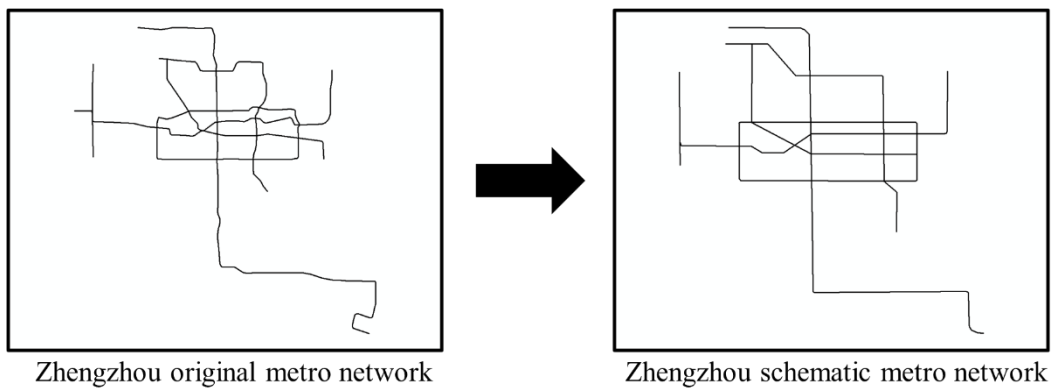
Kunming original metro network



Kunming schematic metro network

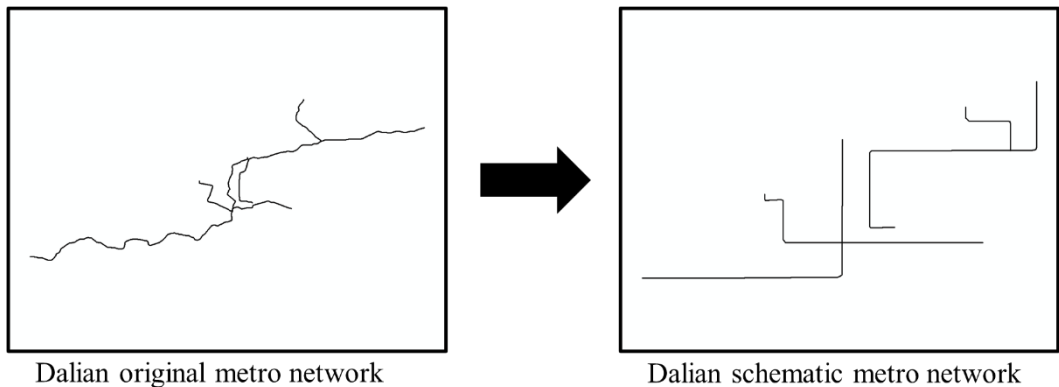
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

20. Score complexity change after schematization for Zhengzhou metro networks



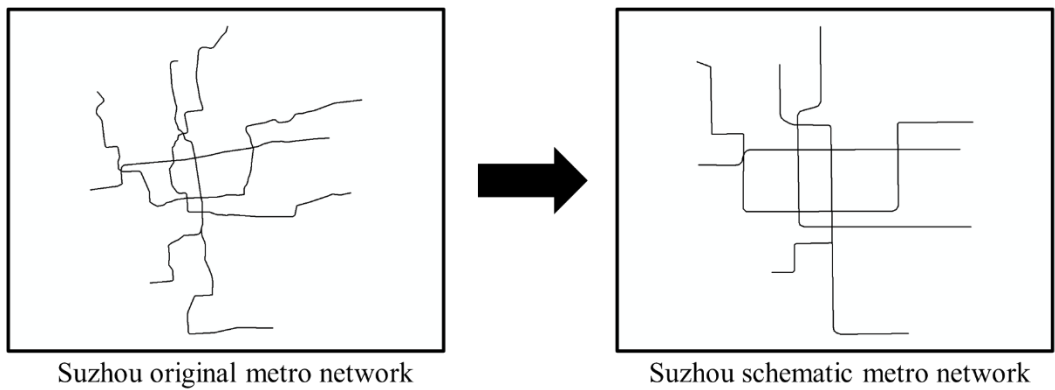
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

21. Score complexity change after schematization for Dalian metro networks



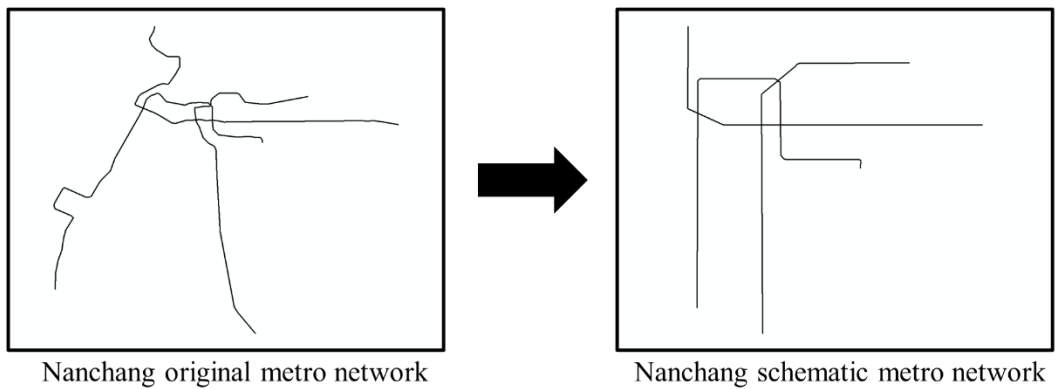
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

22. Score complexity change after schematization for Suzhou metro networks



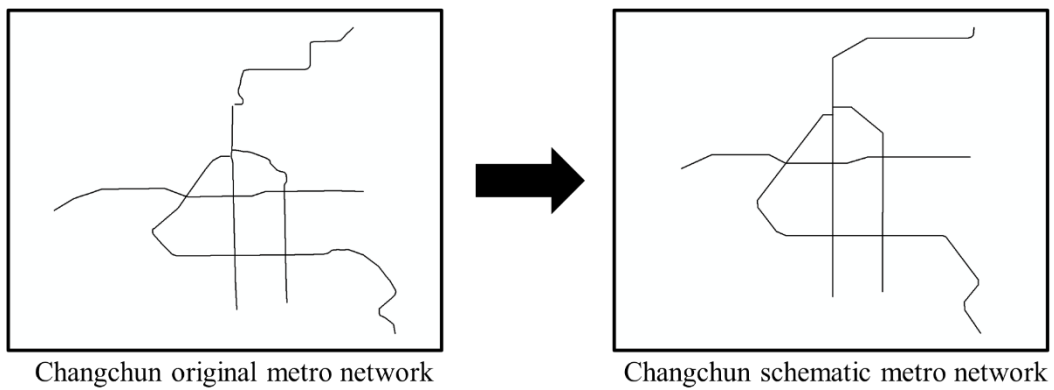
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

23. Score complexity change after schematization for Nanchang metro networks



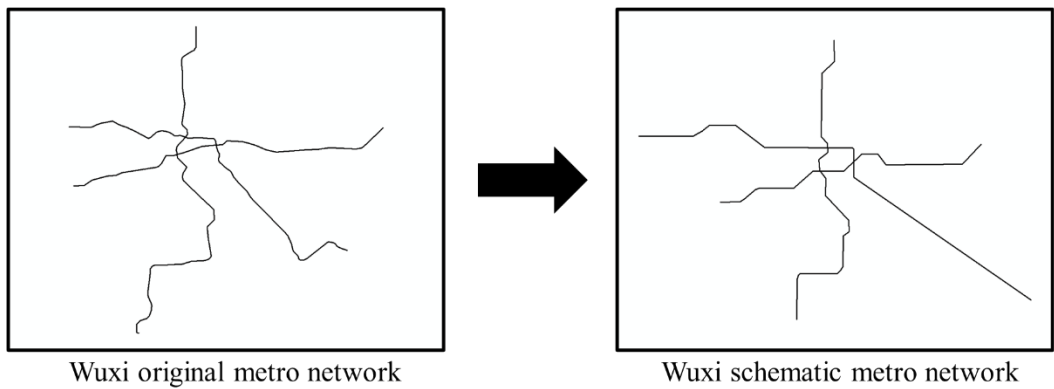
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

24. Score complexity change after schematization for Changchun metro networks



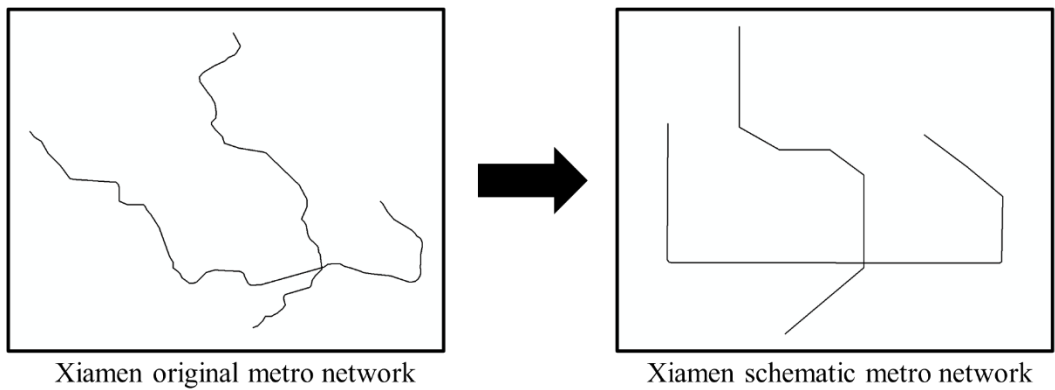
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

25. Score complexity change after schematization for Wuxi metro networks



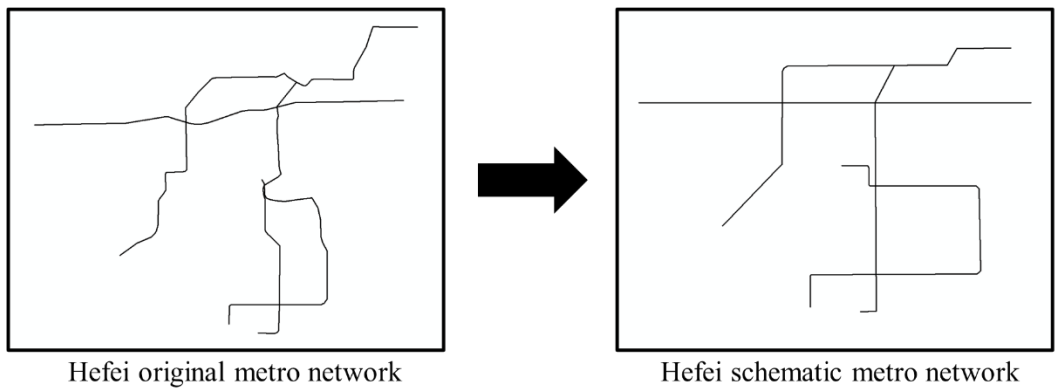
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

26. Score complexity change after schematization for Xiamen metro networks



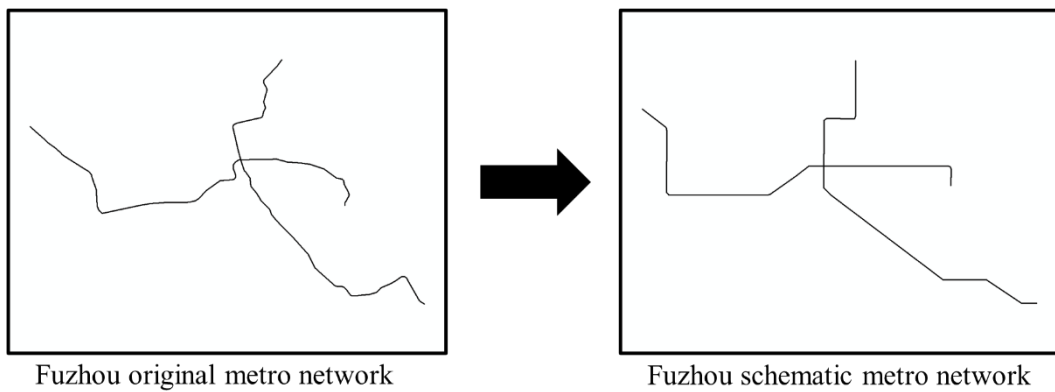
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

27. Score complexity change after schematization for Hefei metro networks



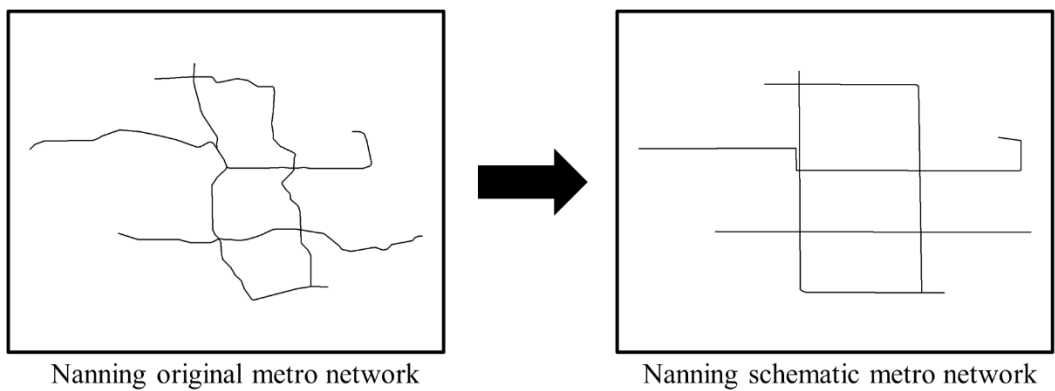
	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

28. Score complexity change after schematization for Fuzhou metro networks



	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○

29. Score complexity change after schematization for Nanning metro networks



	1 (Very low)	2 (Low)	3 (Medium)	4 (High)	5 (Very high)
Complexity change	○	○	○	○	○