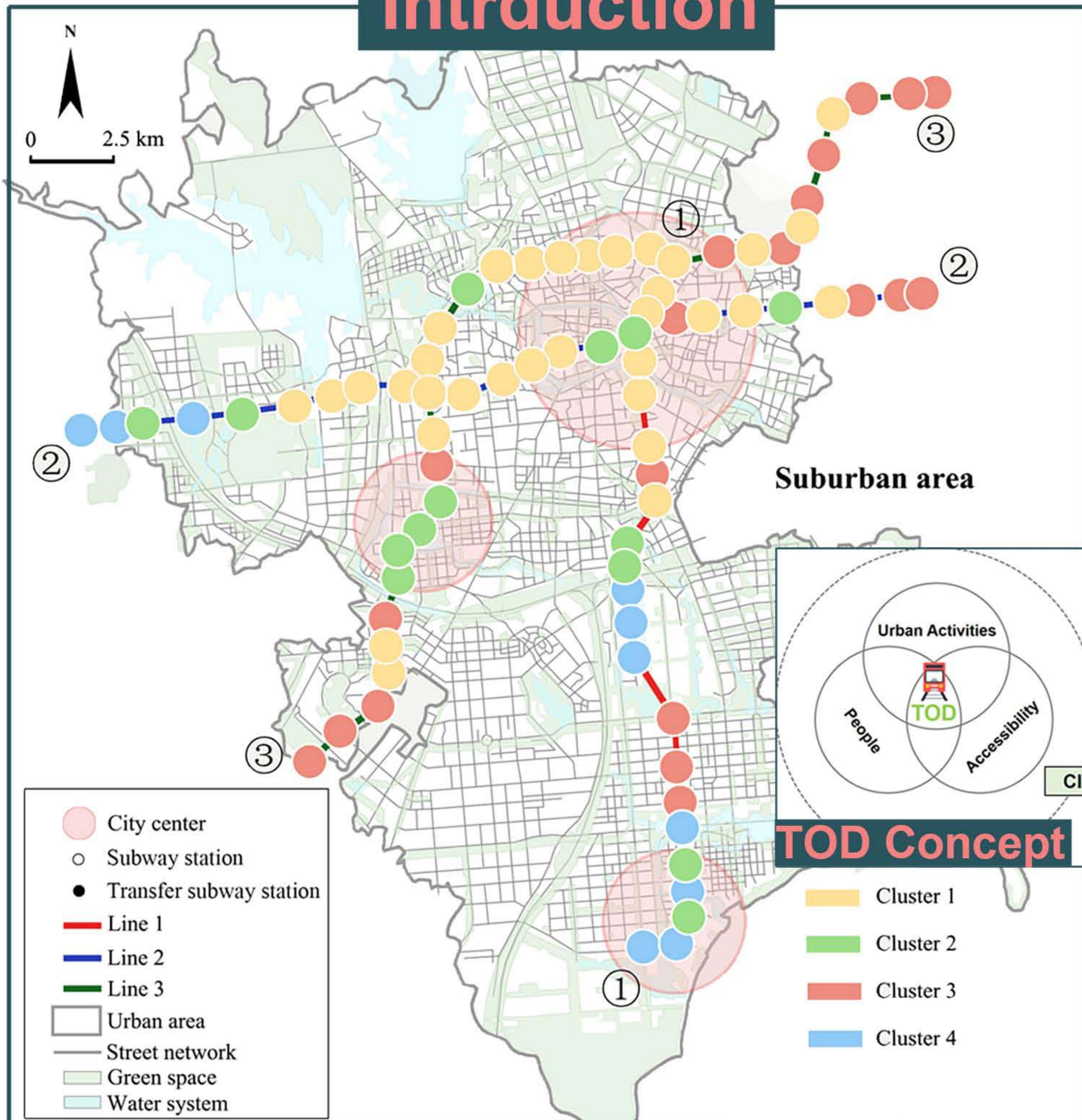


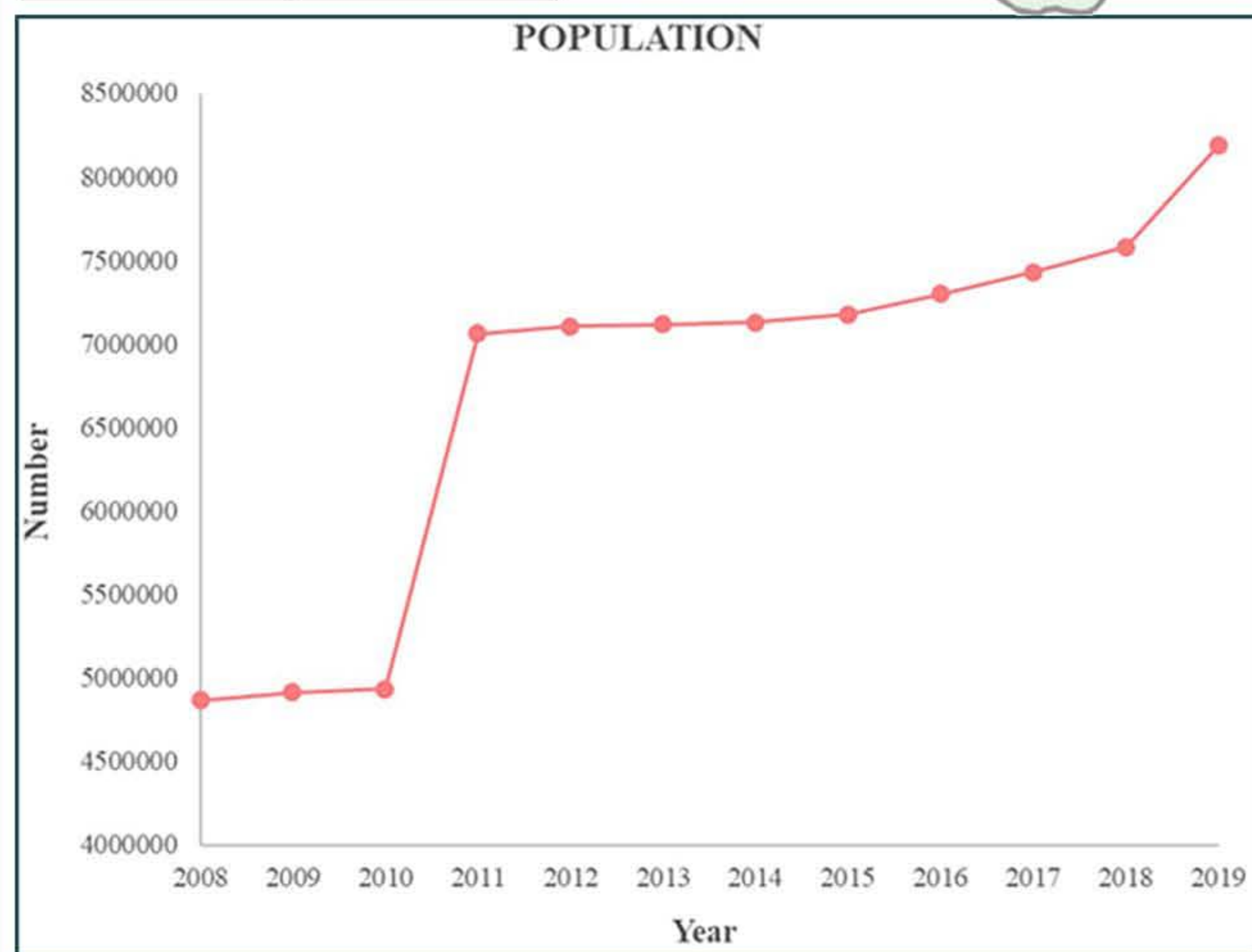
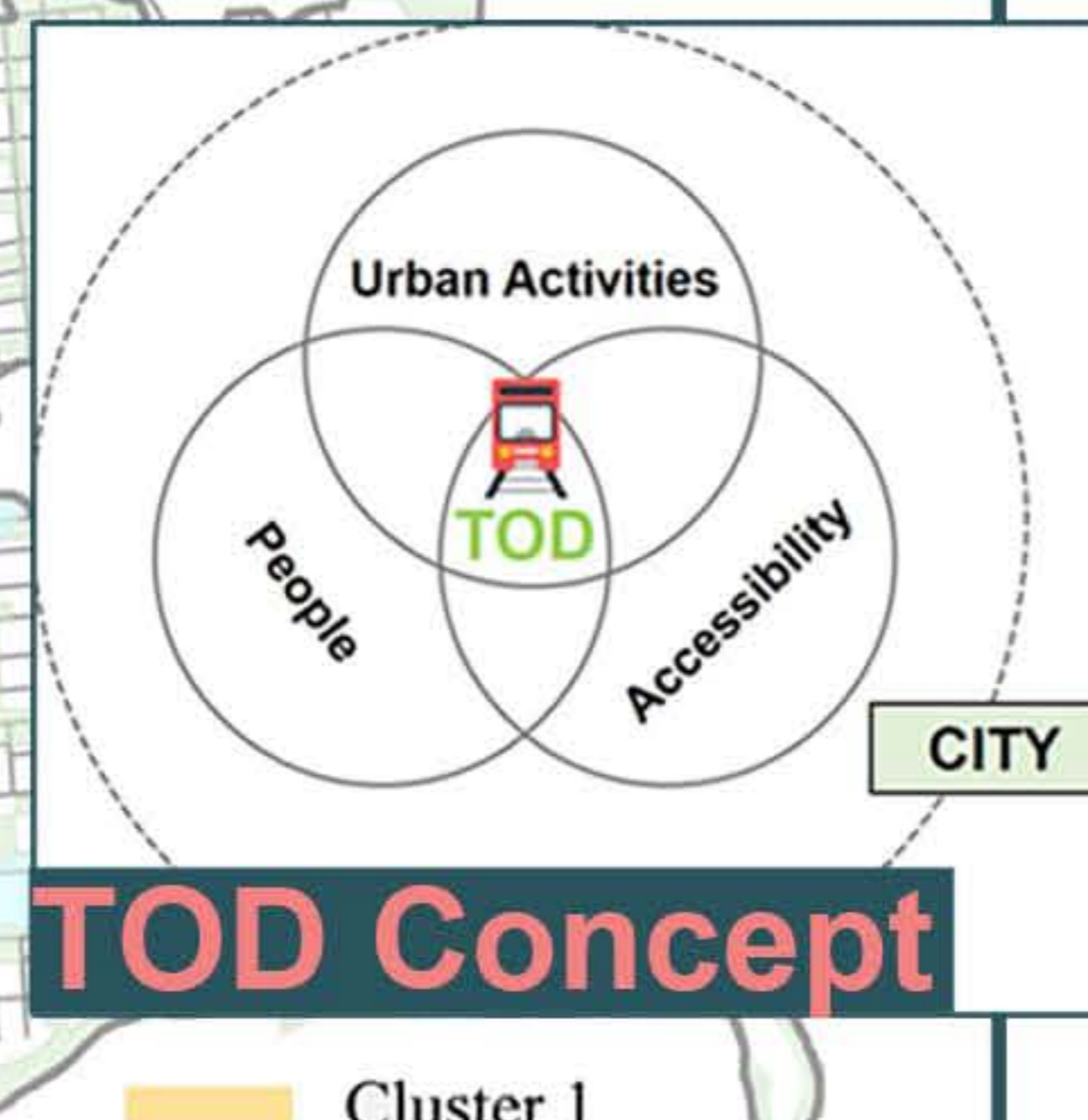
Integrating Land-use and Transit Network as a Strategy to Reduce the Negative Impact of Rapid Urbanization: the Case Study of Hefei TOD Network

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Introduction



TOD Concept

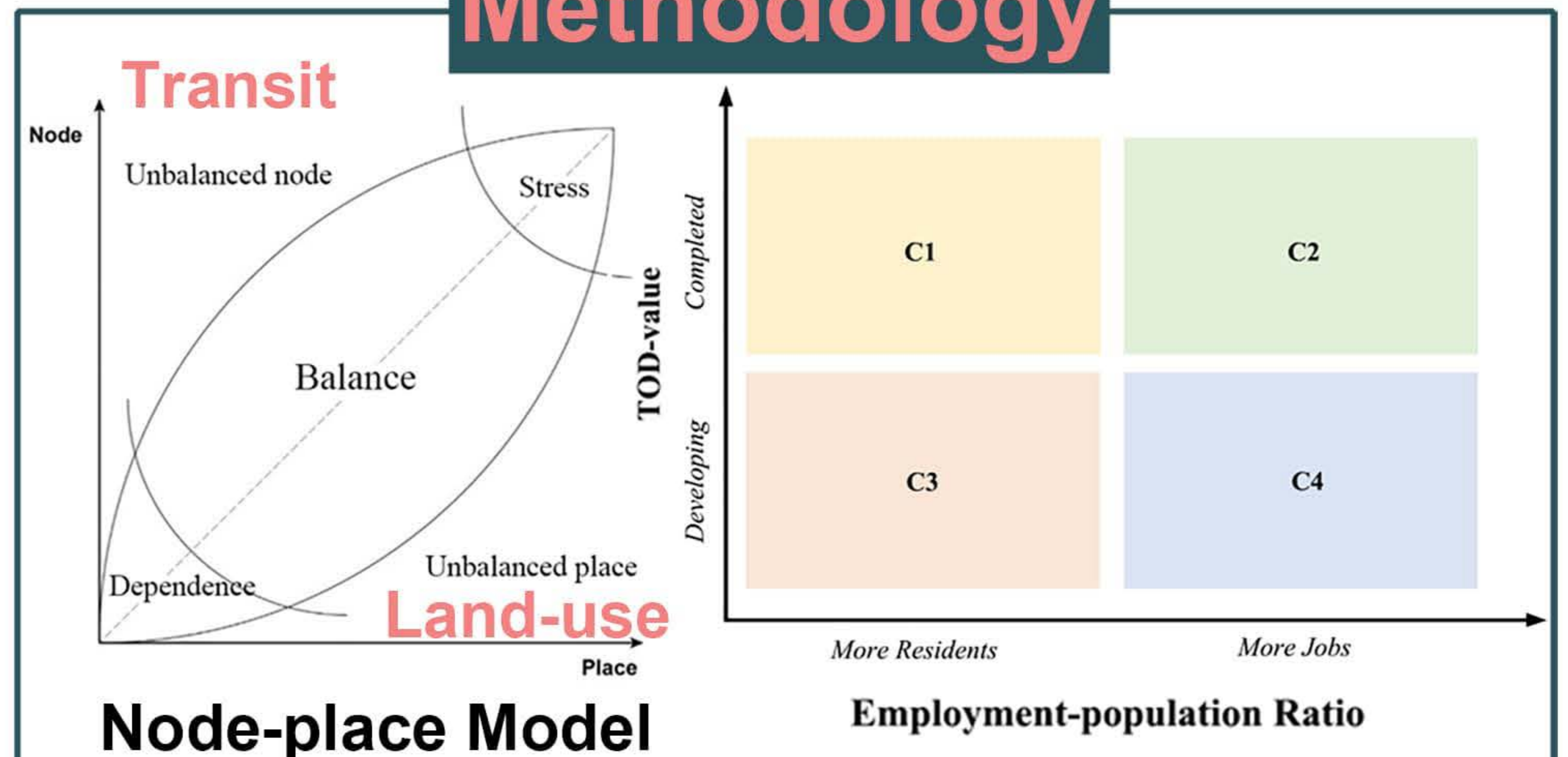


Hefei city is the capital and largest city of Anhui Province in China with the city area of 11,434.25 km². Local government encouraged to develop the rail transit system with Transit-oriented Development (TOD) concept to reduce the transport pressure and environmental pollution since 2017. However, transit network and surrounding areas always were developed separately, which failed to maximize benefits of TOD network.

Objective

Developing a method to integrate the land-use and transit network to reduce the negative impact of rapid urbanization.

Methodology



Node-place Model

This research can obtain a general TOD value (node+place) based on the node-place model. Then, comparing the TOD value with population composition at each TOD project.

Results

C1: Shilimiao Station

- Vacant land
- Higher accessibility
- Lower land use diversity
- More residents

↓

- Increasing the land-use diversity to realize the expected goals.

C2: Douqiaowan Station

- Lower land use diversity
- More residents

↓

- Increasing the land use diversity to meet the surrounding people's demands.

C3: Sanshibu Station

- Vacant land
- Lower accessibility
- More residents

↓

- Increasing the accessibility and developing the vacant land.

C4: Wanda City Station

- Vacant land
- Lower accessibility
- Lower land use diversity
- More jobs

↓

- Increasing the land use diversity and accessibility.

C1: High TOD level, more residents
C2: High TOD level, more jobs
C3: Low TOD level, more residents
C4: Low TOD level, more jobs

Conclusion

A model was proposed to integrate land-use and transit network. The model also assessed the interaction between needs of subway users and TODs.