

Beispiele zur Steigerung der Resilienz von Städten und Smart Cities

Dr. Hong Li 05.10.2020



Schmerzhafte Lektionen aus der Covid19 Pandemie

Erfahrungen aus der Corona Pandemie/Lock-down Zeit

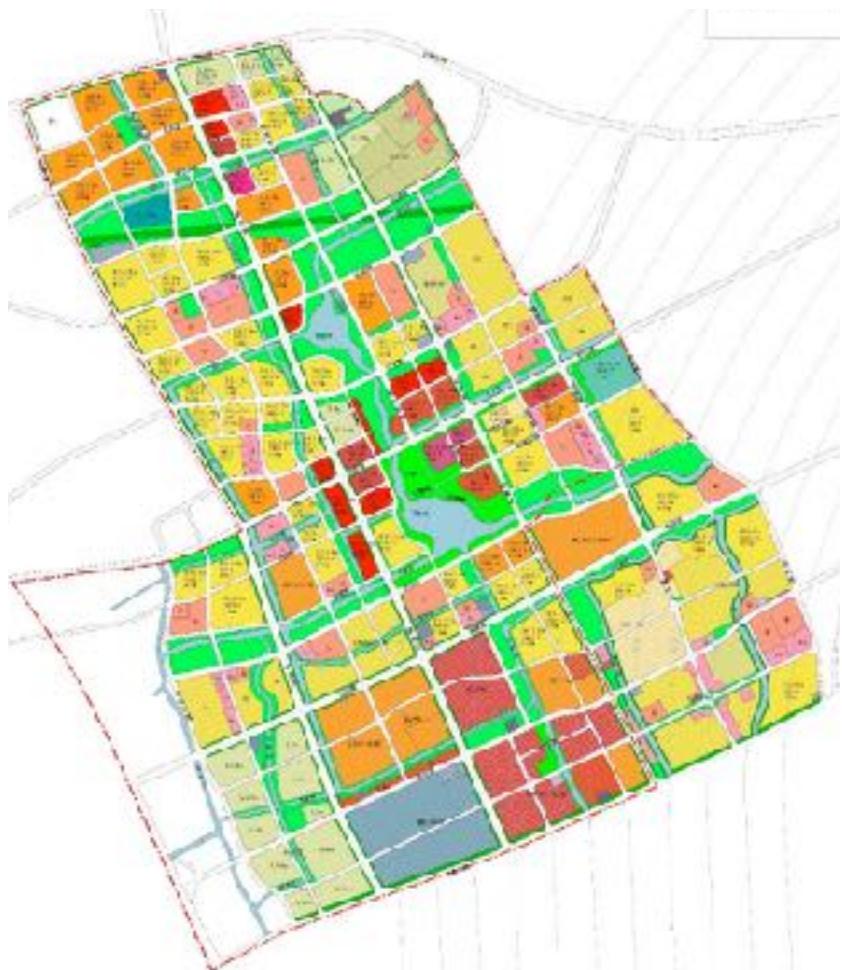
1, Mangelhaftigkeit der medizinischen Ressourcen

2, Risiko der Übertragung im städtischen öffentlichen Raum

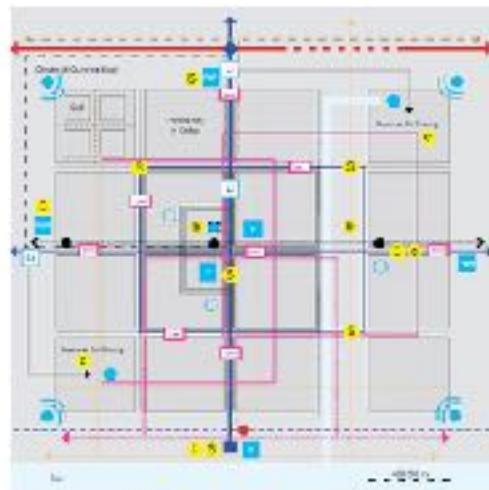
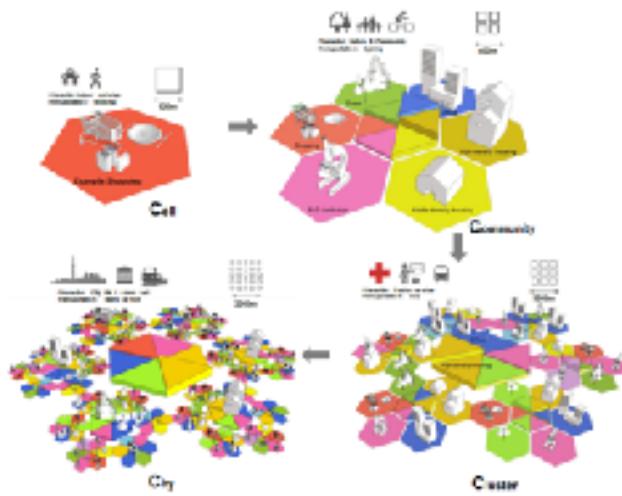
3, Big-Data und KI funktionieren nur mit „Realtime Life Data“



Beispiel I - MinHang Upper Town



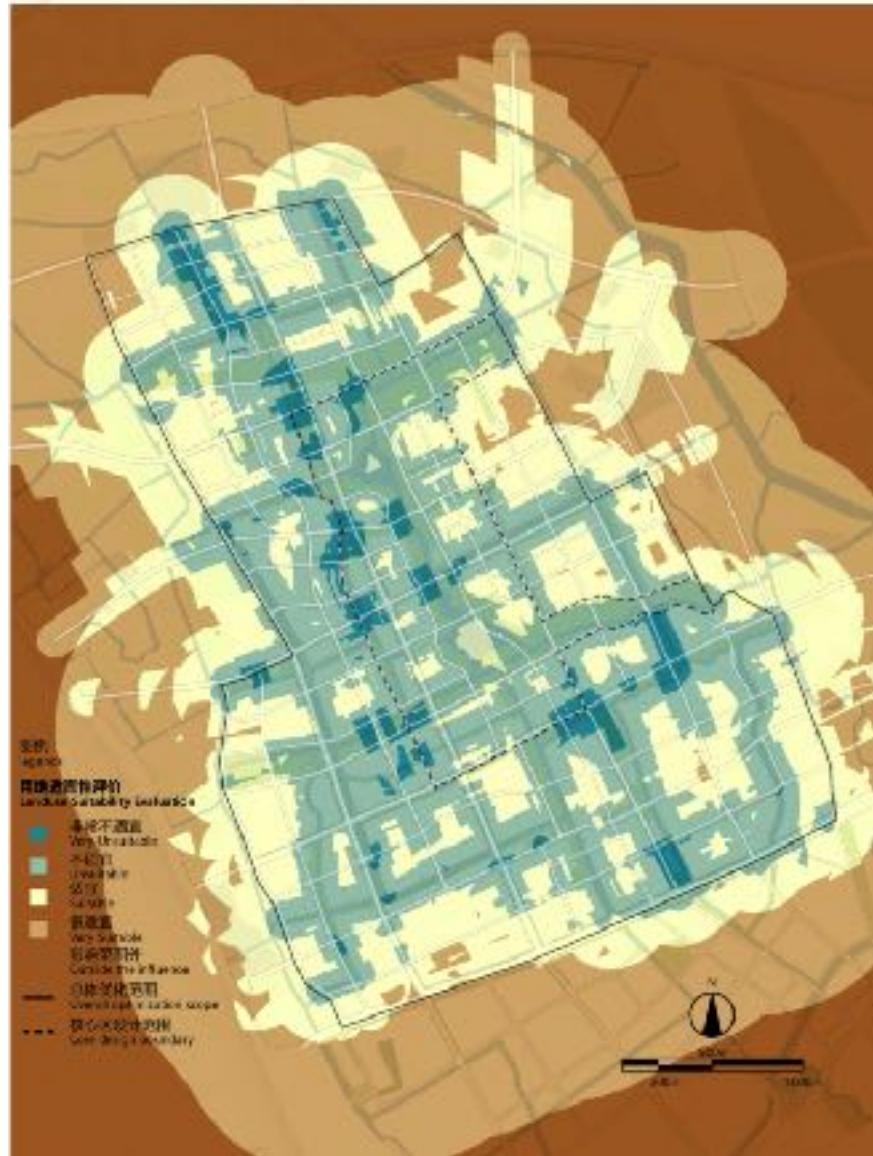
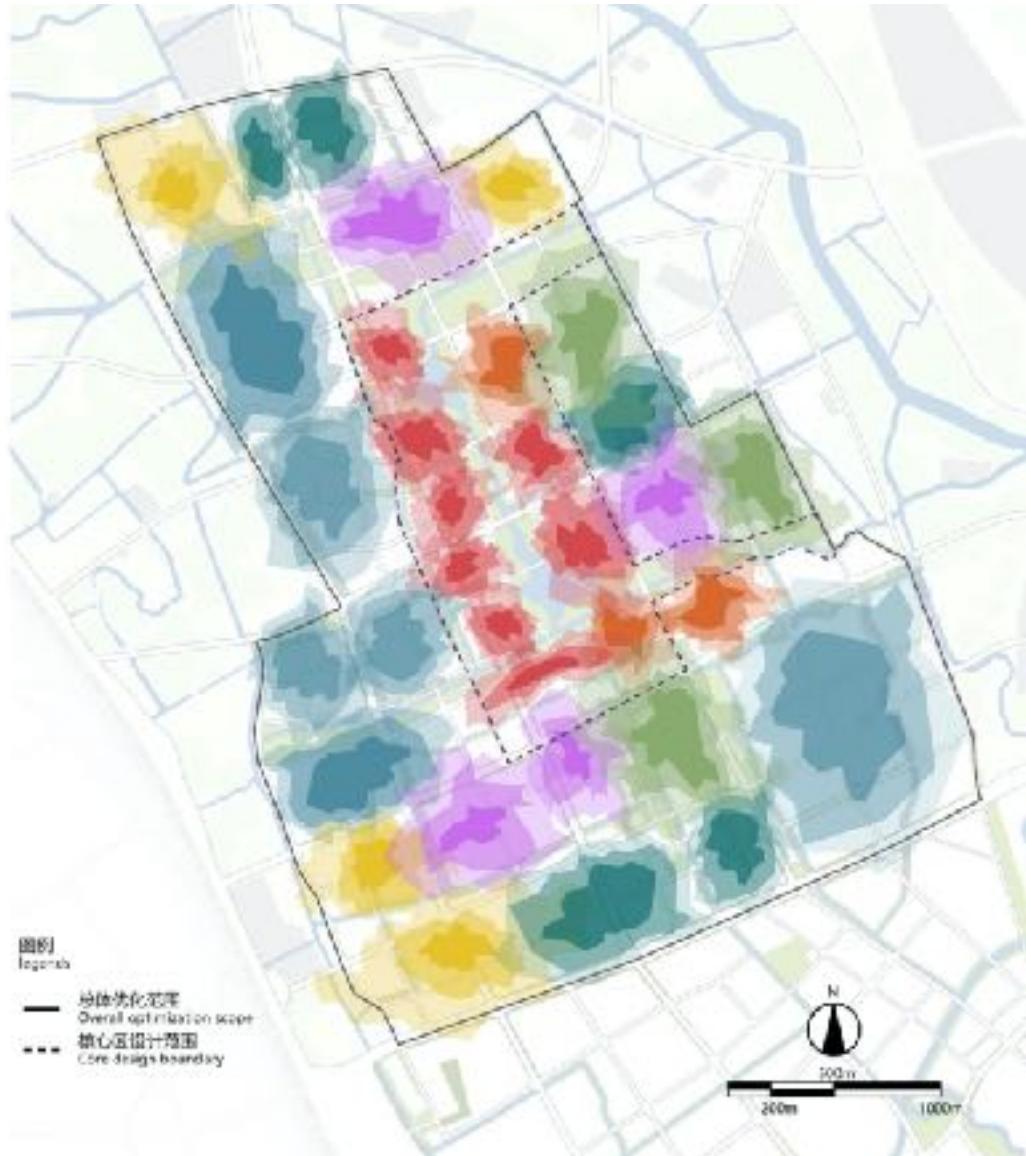
Beispiel I - Dezentralisierte Stadtstruktur



4C hierarchy development model

- The essence of smart city is the decentralization of urban systems
- The 4C Hierarchy breaks the urban system down to four different levels
- Different Hierarchy solve different levels of mixed use
- Different Traffic and Energy supply model
- Improved the urban operation efficiency and resource utilization

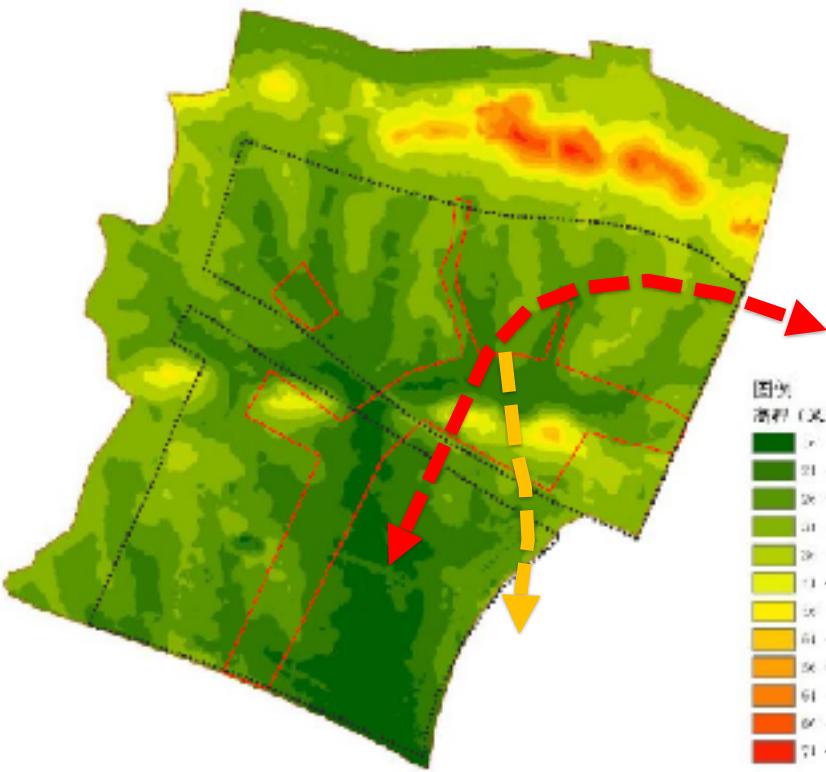
Beispiel I - Dezentralisierte Stadtstruktur



Beispiel I - Vielfältige Funktionen der Freiräume

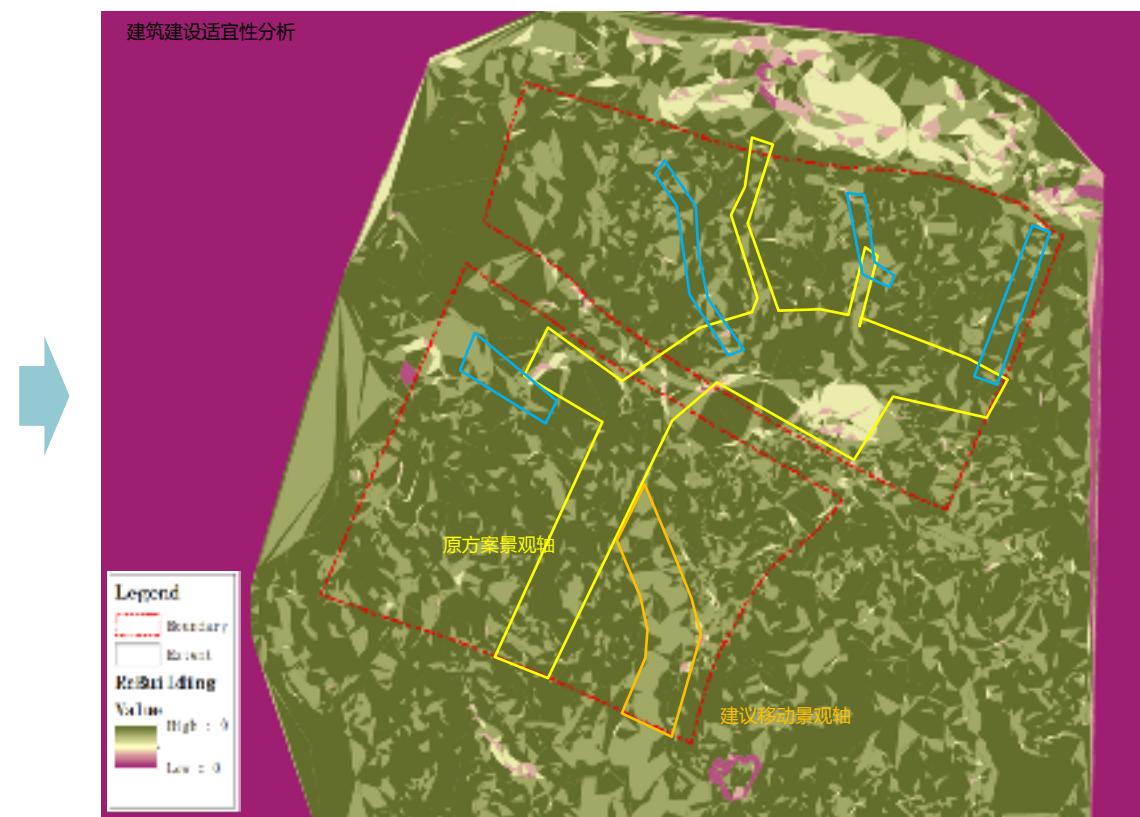
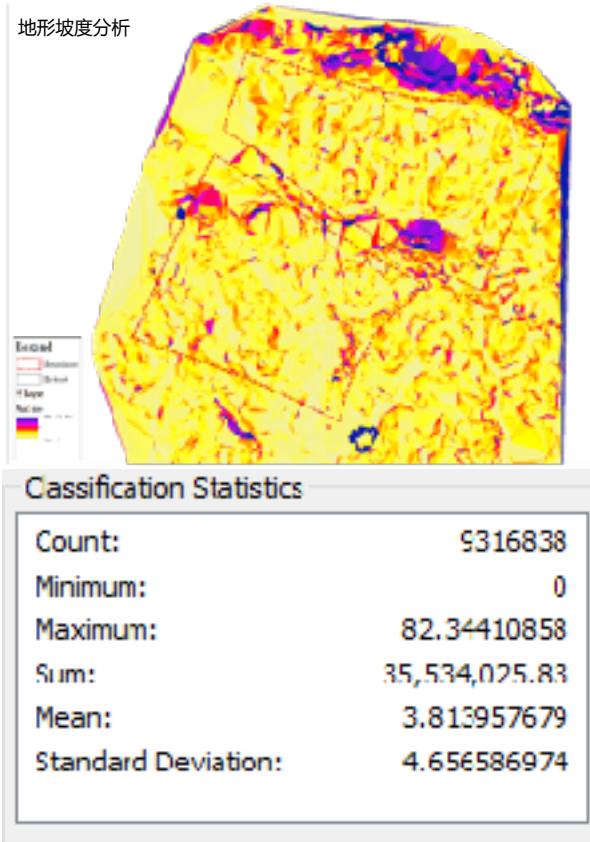


Beispiel II - WUHAN BigData New Town



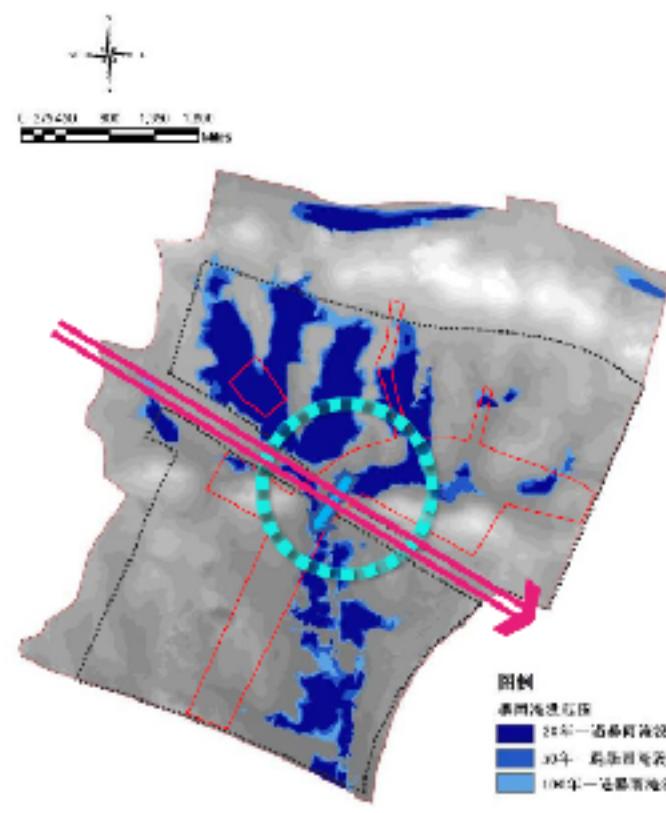
Beispiel II - WUHAN BigData New Town

Through GIS analysis, it is suggested that: 1. On the basis of the original plan, the landscape axis is moved eastward to the area with lower land value, and the design is combined with the original terrain; 2. Finger-like ecological infiltration can continue to be derived by connecting with mountains in areas of low land value, eliminating the sense of boundary between natural landscape and urban buildings.



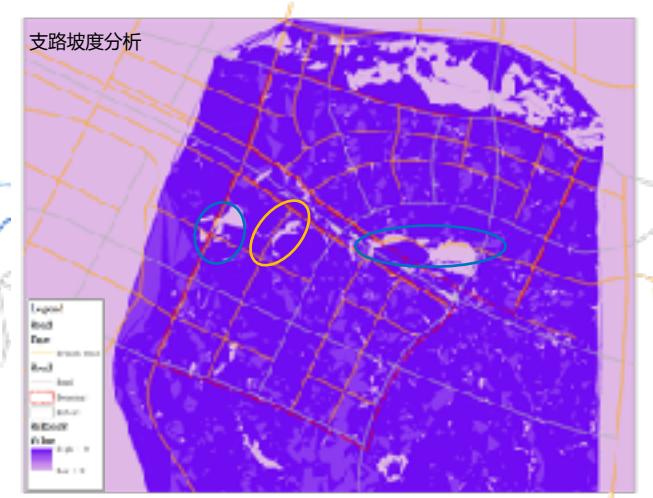
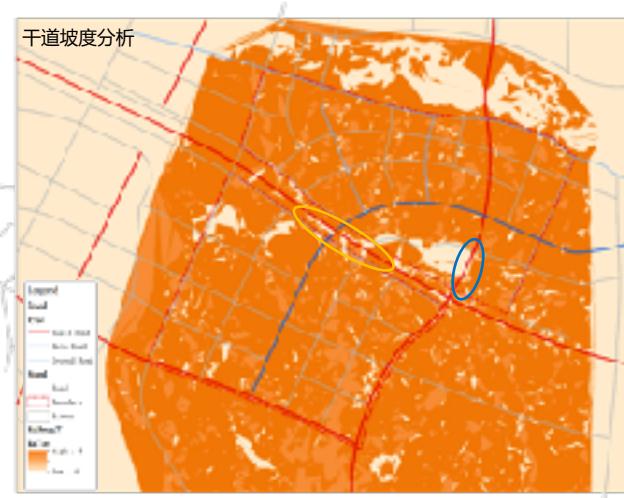
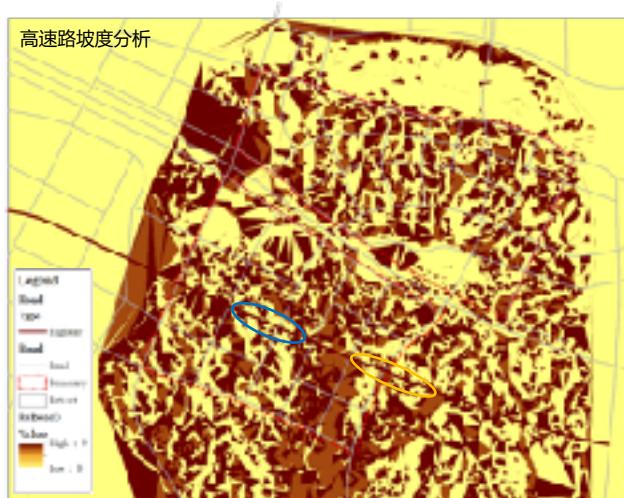
Beispiel II - WUHAN BigData New Town

The landscape axis is optimized to comply with the terrain design to reduce the pressure of flood control and drainage. The relocation of urban functions to higher ground reduces the risk of flooding. The landscape belt designed in combination with the current water system can increase the overall stormwater storage capacity of the site and create a more colorful urban landscape belt according to different water levels.



Beispiel II - WUHAN BigData New Town

Through the suitability analysis of GIS road construction, the overall road network structure of the scheme is reasonable, and only some branches are adjusted.



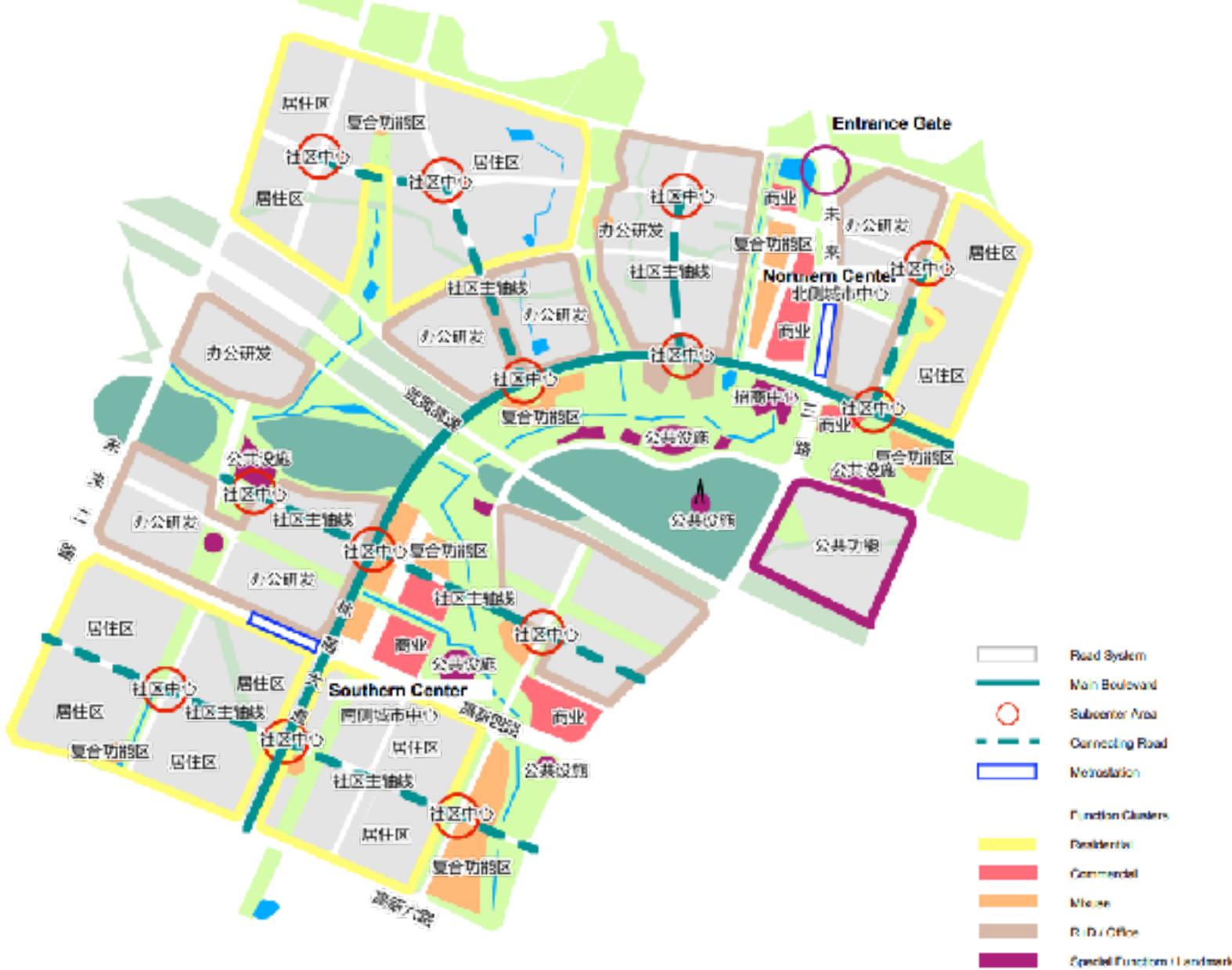
- Low value areas (such as blue circle areas) not suitable for paving, consider detour diversion; In the case of a viaduct, that is another matter
- Lower value areas (such as yellow circle areas) can be combined with excavation and earthwork if it is necessary to lay roads, considering the economic cost, etc
- High value places are best for laying roads

Beispiel II - WUHAN BigData New Town

"80% of your creativity is not done at your desk."-- Entrepreneurial community needs to increase the space

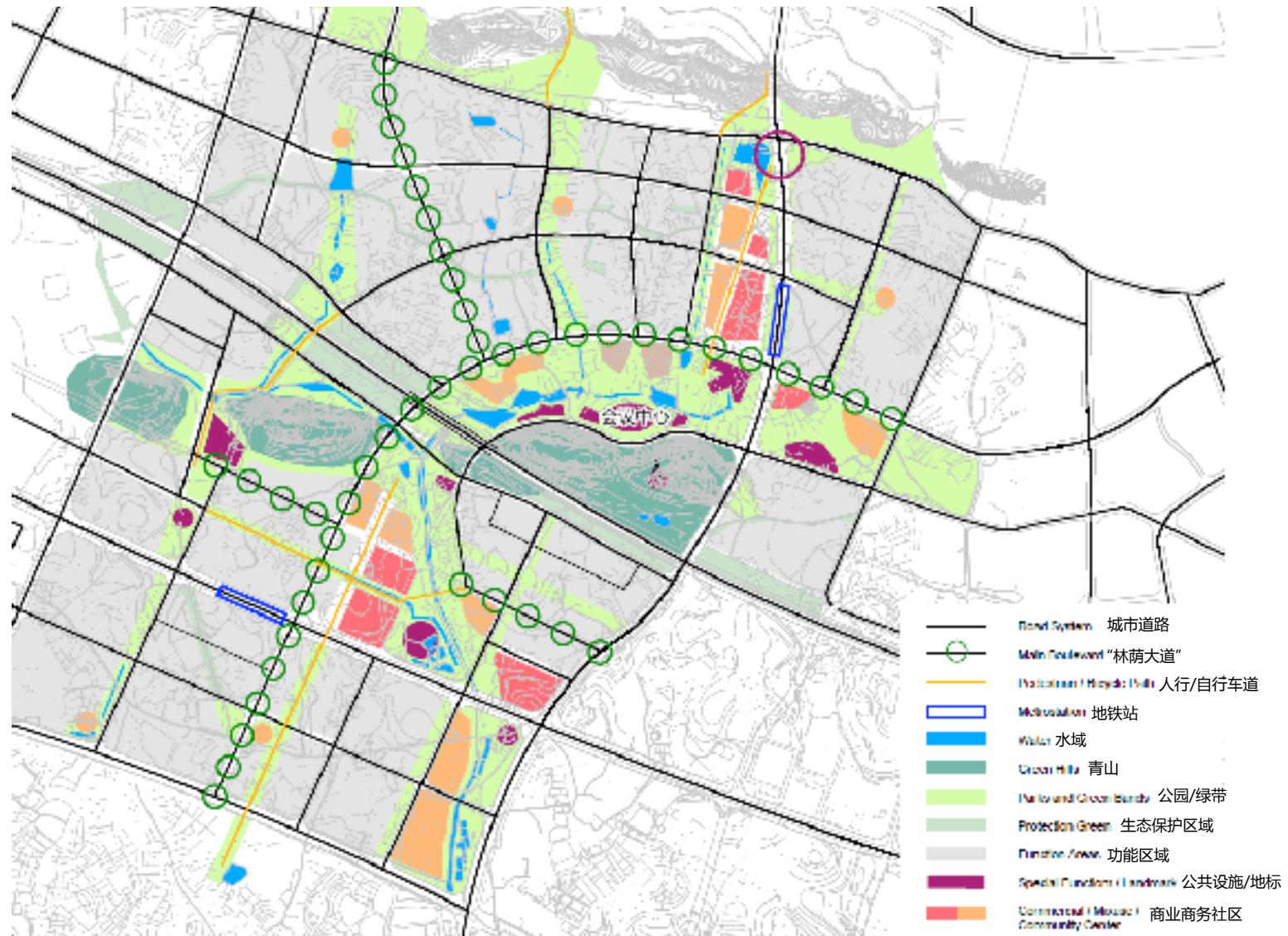


Beispiel II - WUHAN BigData New Town

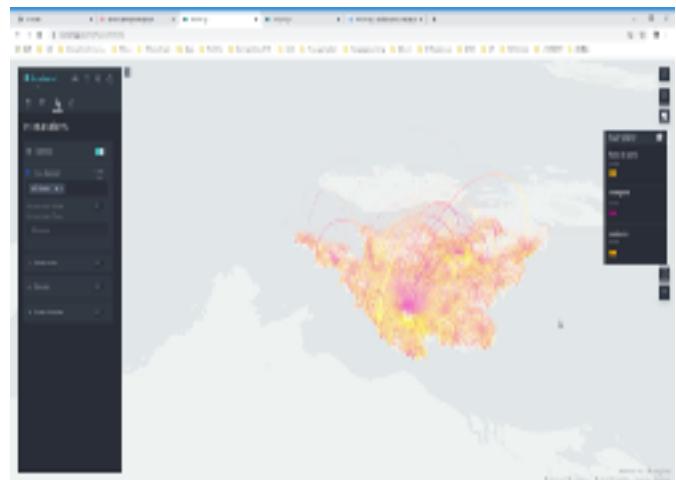
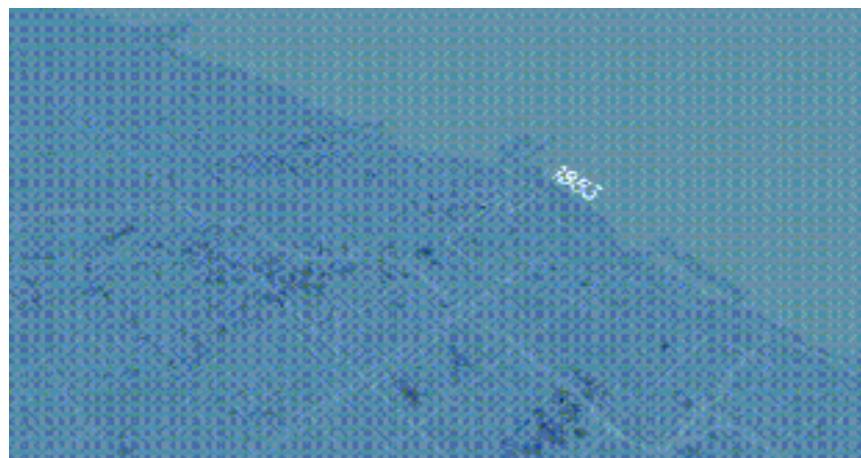
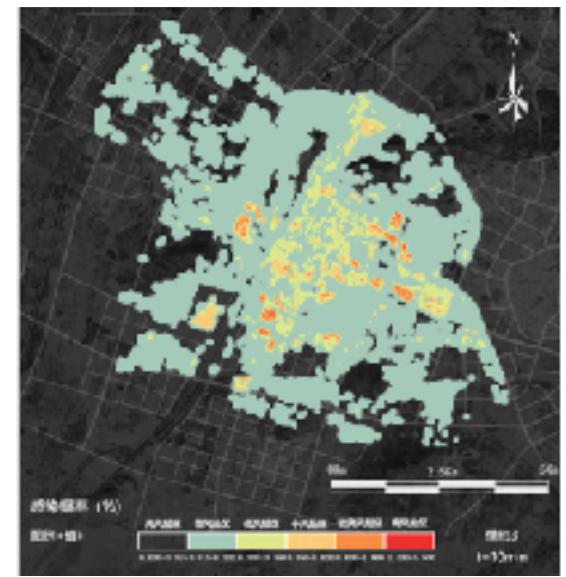
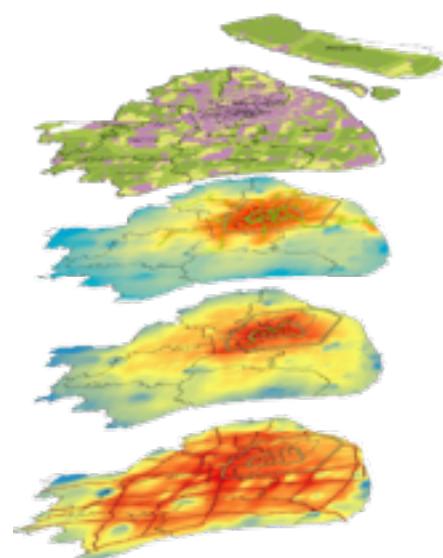
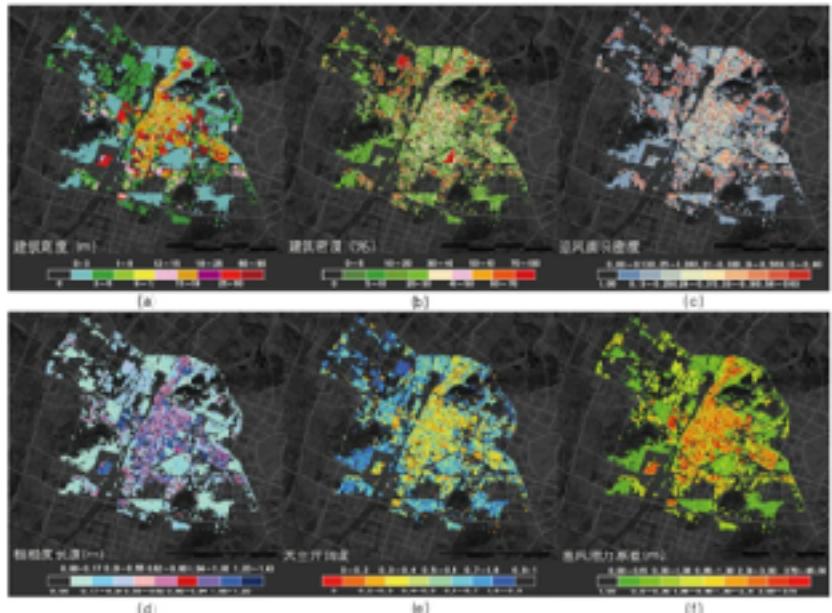


Beispiel II - WUHAN BigData New Town

Special functions like culture/entertainment, hotel, education, exhibition and promotion can be located in the green to achieve a vivid sequence of places of interest.



Beispiel III - Risikoanalysen mit digitalem Stadtmodell



- Räumliche Entwicklung

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- Echtezeit Menschenflow