

Work on Linking the SBR to Geo-spatial Information in China

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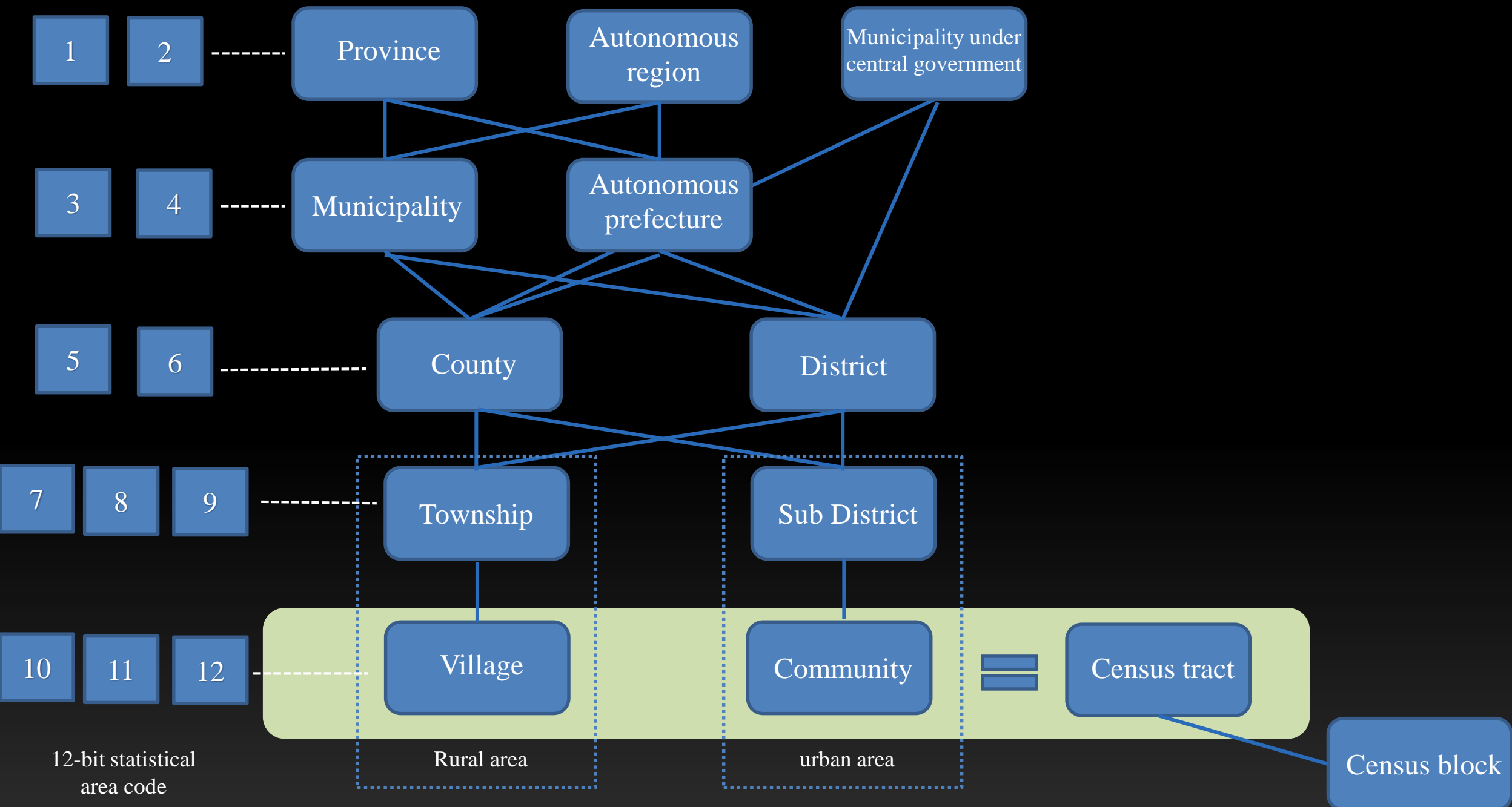
- 1 Census Mapping of the 2013 Economic Census**
- 2 How to build links between SBR and Geo-spatial Information**
- 3 Prospects**

1 Census Mapping of the 2013 Economic Census

- Economic census is an important source of SBR updating.
- In the 2013 Economic Census, GIS was widely used for the first time.
- NBS has collected the boundary of all the census tracts, and enumerators have located census using PDA in the field work.
- The links between units and geo-spatial information have initially built.

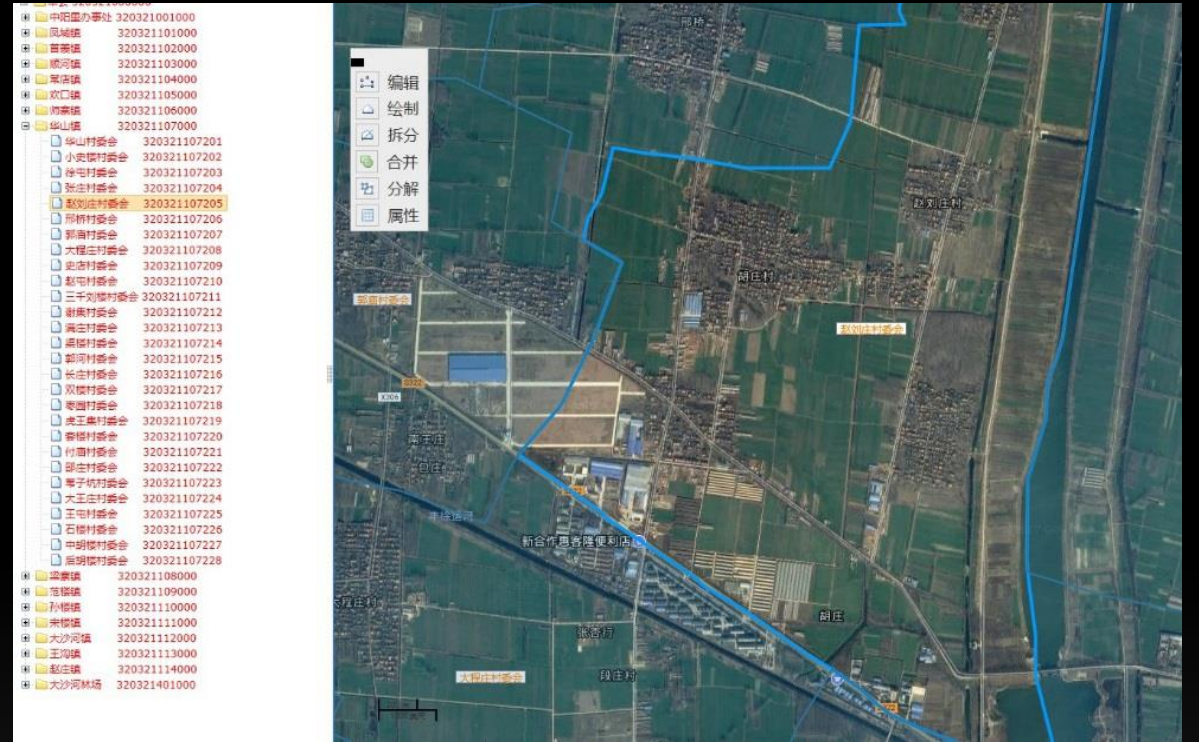
- NBS has cooperated with AutoNavi company to provide map services.
- Geographical data include all level of roads, places, POI, river systems and remote sensing images (similar to Google Map) .
- NBS and AutoNavi has developed a software for online census-mapping with B/S structured, and organized local census agencies to draw the boundaries of the census tract.

- All the census and statistical investigation objects (including units, households, etc.) of NBS have the unified 12-bit statistical area code.
- Statistical area levels from large to small is Province, Municipality, County, Township, Village (= Census tract) .
- Census tract can be divided into several census blocks if needed.
- 670,000 census tracts and 860,000 census blocks in 2013 Economic Census.

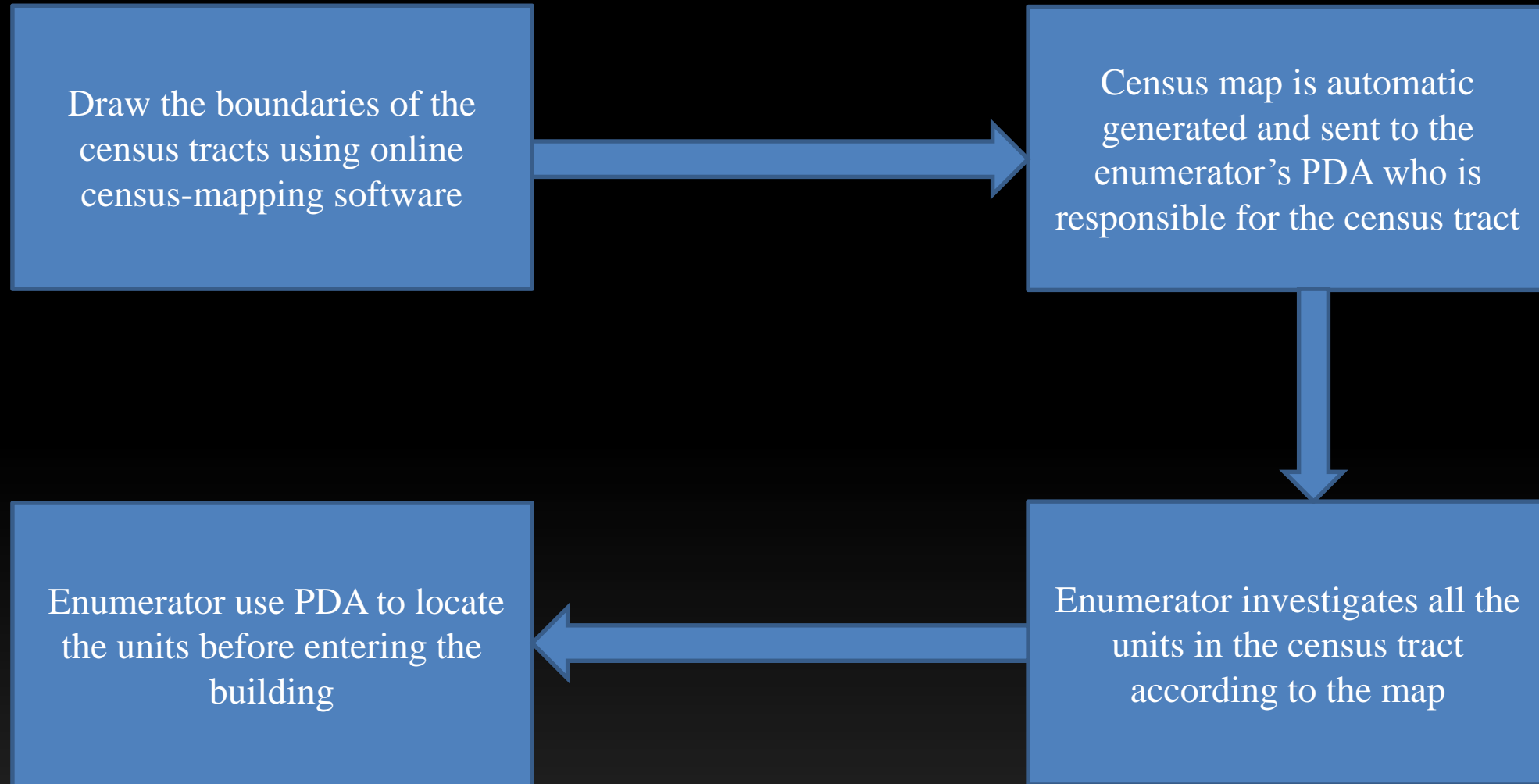




Map of a census tract in urban area



Map of a census tract in rural area





Enumerator use PDA to locate all the units in the census tract in field work



PDA device has 7 inch touch screen, camera and GPS module with Android systems and customized APPs for economic census.

National and local census agencies have bought more than 200,000 PDA for the 2013 Economic Census, which were also used for subsequent statistical surveys.

2 How to build links between SBR and Geo-spatial Information

- Every unit in SBR has address and 12-bit statistical area code
- Since SBR has been completely updated based on the information from the 2013 Economic Census, each unit of SBR established before 2013 can be located to a point.
- Additional units in SBR from 2014 can only be located to census tract by statistical area code.

04 单位所在地及区划

区划代码(旧):	110102007006 选择 北京市 市辖区 西城区 月坛街道办事处 三里河一区社区居委会
区划代码:	110102007006 选择 北京市 市辖区 西城区 月坛街道办事处 三里河一区社区居委会
单位所在地详细地址(街(村)、门牌号):	北京市西城区月坛南街57号

15 单位注册地址及区划

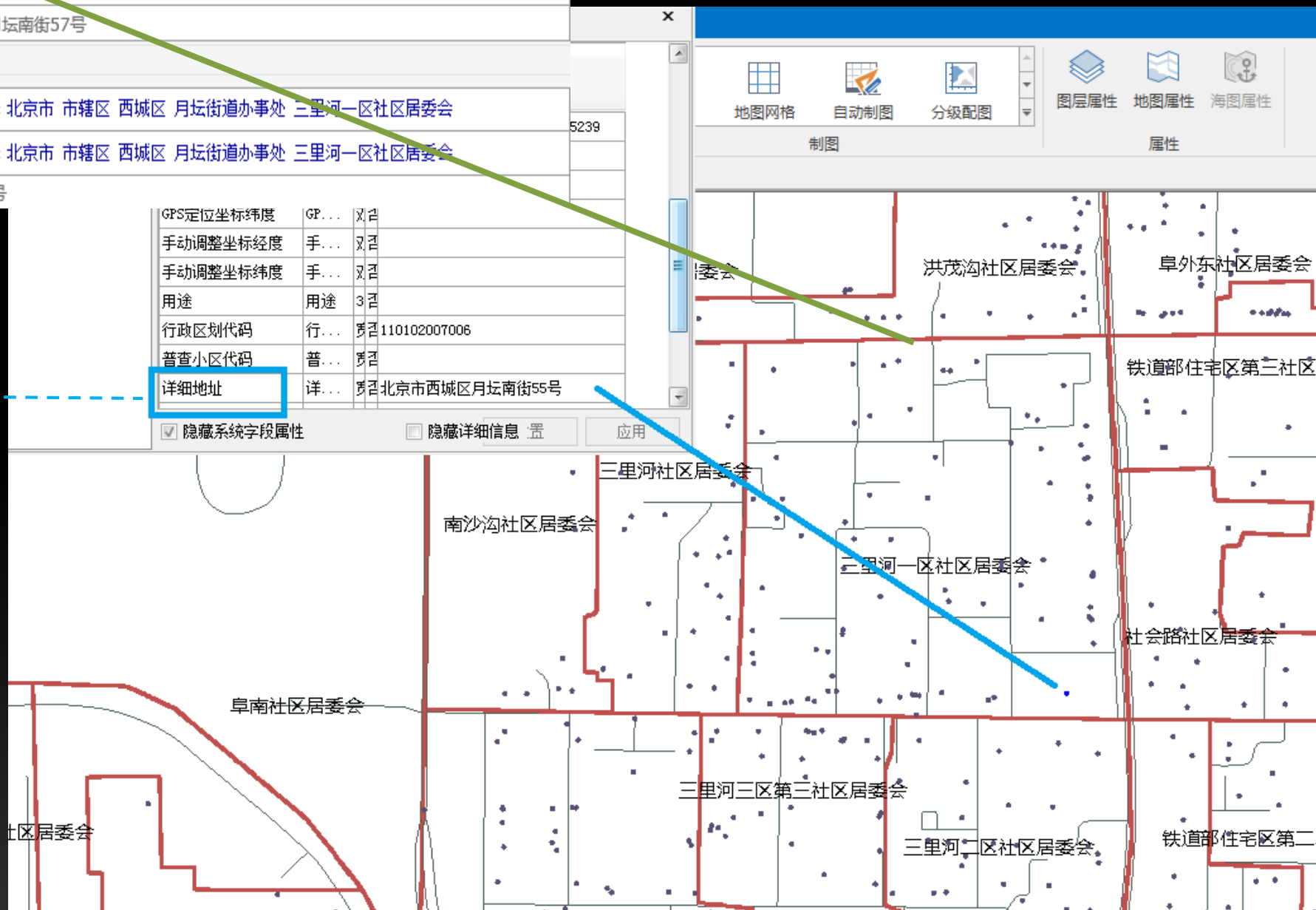
区划代码(旧):	110102007006 选择 北京市 市辖区 西城区 月坛街道办事处 三里河一区社区居委会
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注册地址(街(村)、门牌号):	北京市西城区月坛南街75号

Statistical area code

Address

GPS定位坐标纬度	GP...	双	否
手动调整坐标经度	手...	双	否
手动调整坐标纬度	手...	双	否
用途	用途	3	否
行政区划代码	行...	否	110102007006
普查小区代码	普...	否	
详细地址	详...	否	北京市西城区月坛南街55号

☒ 隐藏系统字段属性 ☐ 隐藏详细信息 置 应用

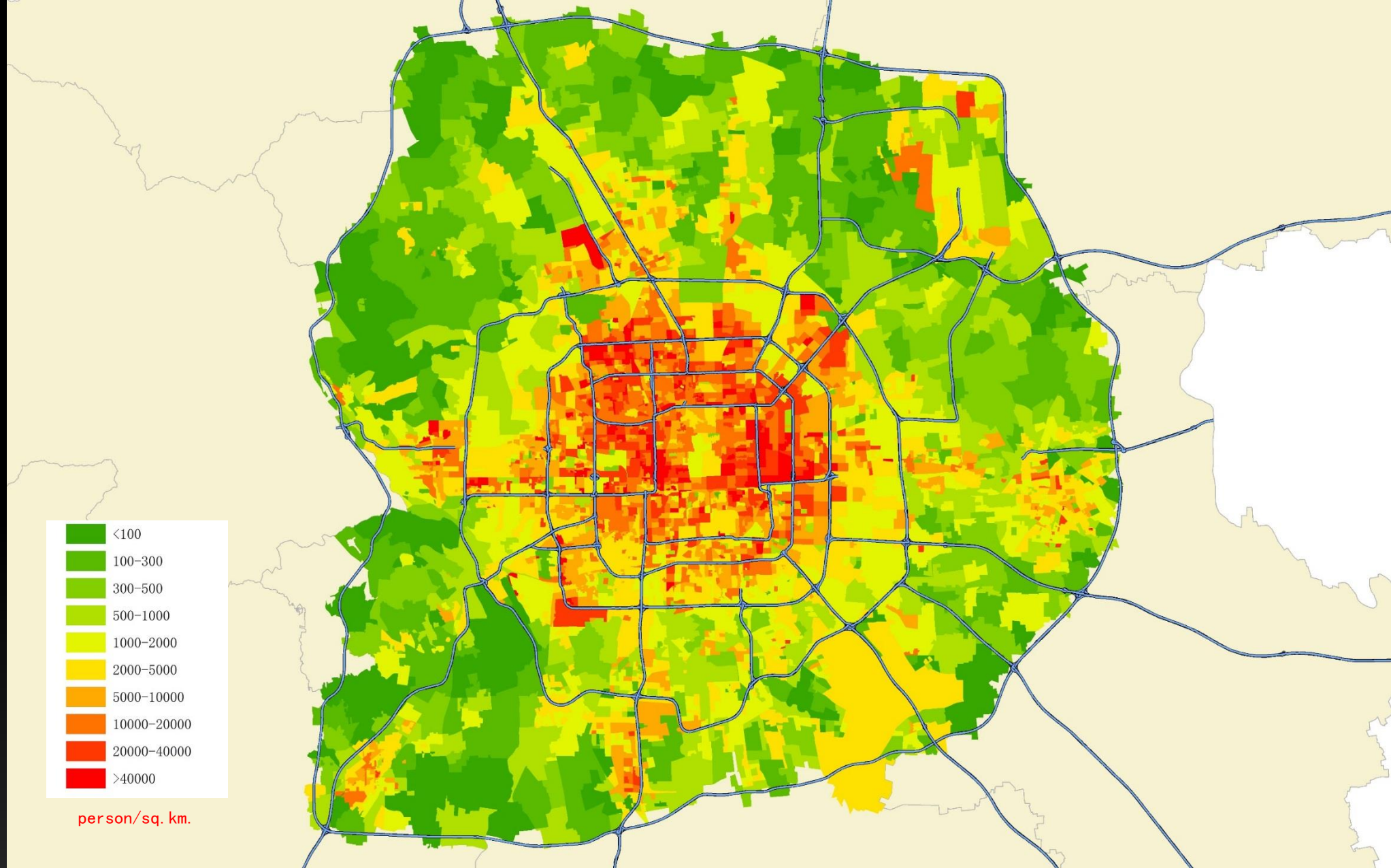


- There are a large number of units in SBR and it increase very fast.
- Legal units in SBR:2013 --11million 2016-18million
- In non-census years, newly established units can't be investigated by PDA as they were in the economic census, because NBS don't have enough manpower.

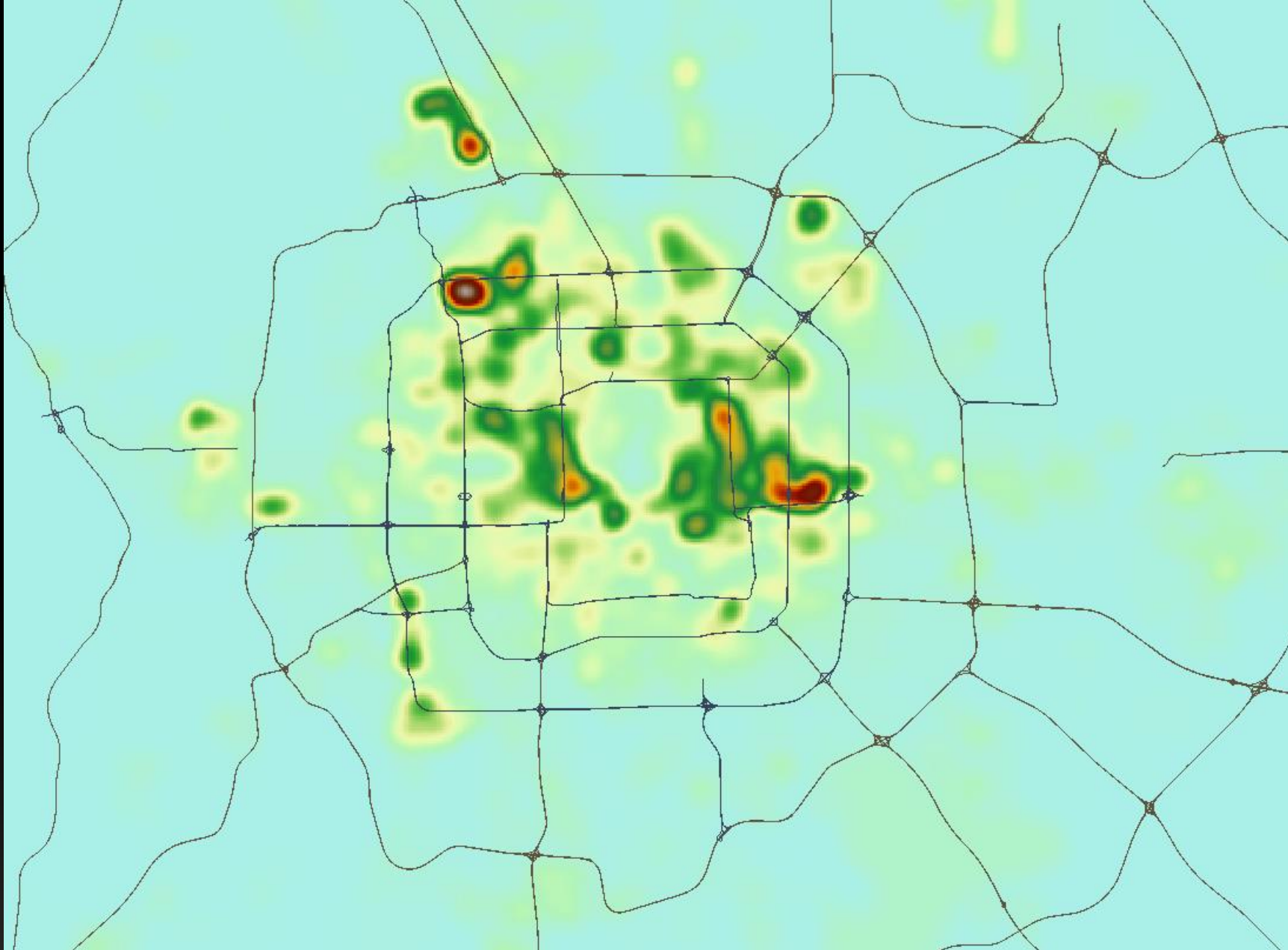
- Address matching is a better solution to locate the units.
- Cities are changing rapidly in China, and so is address information.
- There is no authoritative and comprehensive address database available for statistics.

Benefits of linking SBR to geo-spatial information

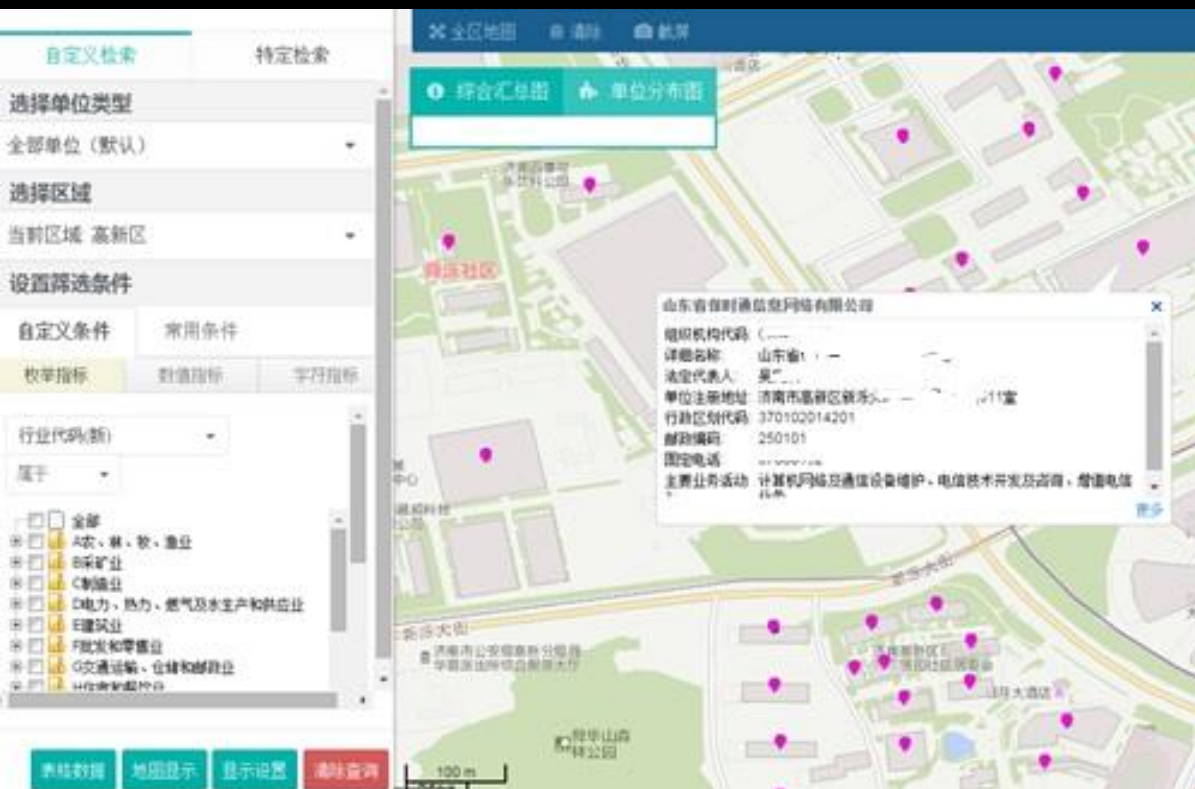
- The geo-spatial information can be used for the dissemination and analysis of economic census data and SBR data, especially for making small area statistic products.
- Some local statistical institutions have developed statistical-geographic information systems, and users can query the distribution of the units on the map



Employees' density map by Census tract in Beijing

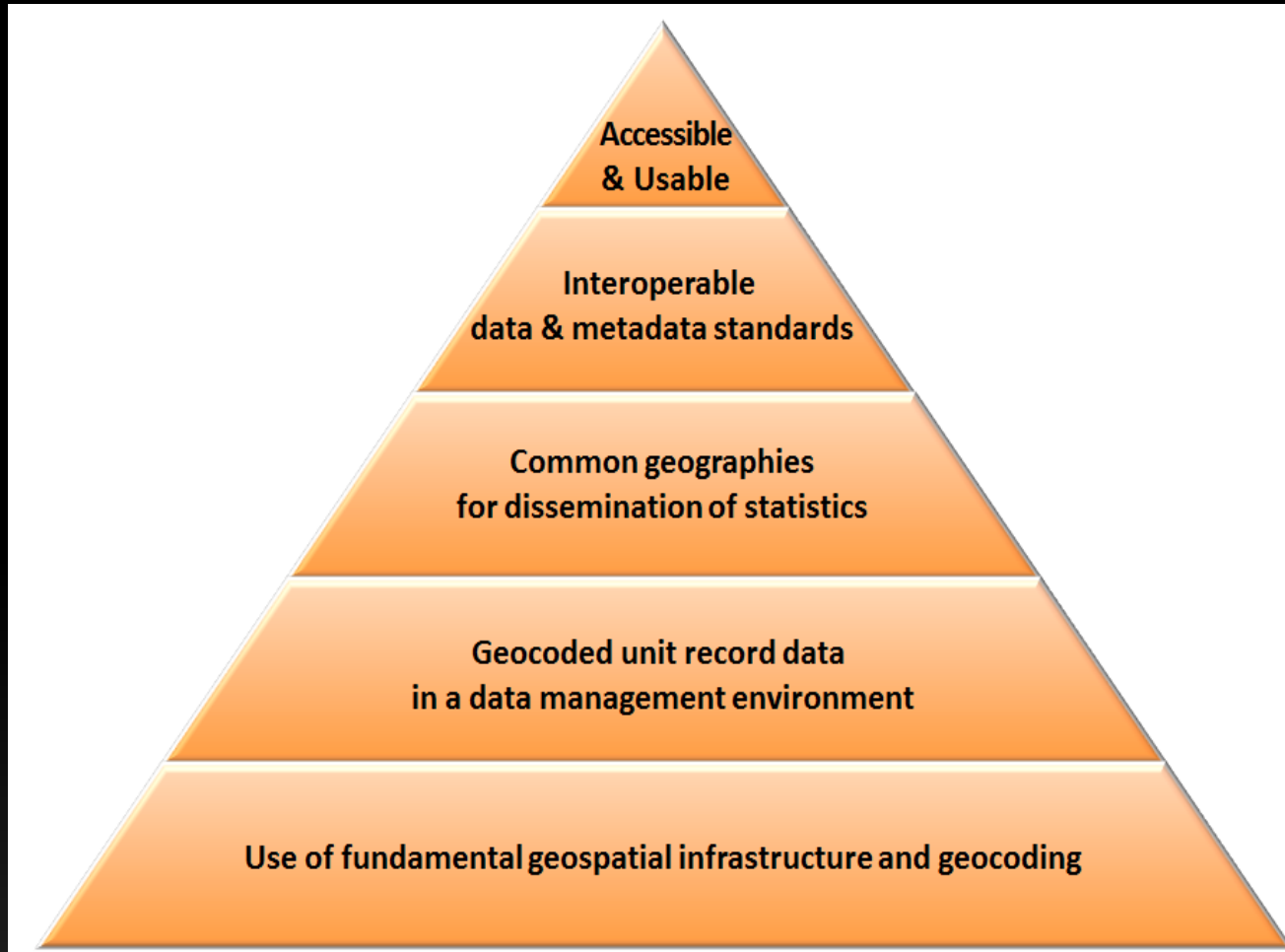


Kernel density estimation results of employees' distribution in Beijing



Statistical-Geographic information system

3 Prospects



Proposed by United Nations Expert Group
on the Integration of Statistical and
Geographical Information

Five main principles of Global Statistical Geospatial Framework

- The NBS approved the Global Statistical Geospatial Framework and planned to gradually promote the integration of statistical information and geo-spatial information
- Maintaining accurate, up-to-date boundaries of census tracts and coordinates of addresses is a key component of linking the SBR to geo-spatial information.

- Boundaries of census tracts and location of all units will be completely updated in the 2018 economic census.
- NBS is making a Long-term plan to build a comprehensive and timely updated address database for statistics cooperate with other institutions.
- All the units in SBR will be located by address information in the future.

- Standards and guidance on the use of geographies for dissemination, visualization and analysis of SBR should also be proposed.
- NBS plan to release more maps and geography products on the website so that data users can discover and access geospatially enabled statistics easily.

THANK YOU

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