



2018 Spring TSINGHUA & NUS Joint Studio

Data Augmented Design for Future Cities

The introduction to the spatial layers of 751

Baidu cloud link:

<https://pan.baidu.com/s/1rLnluhdZvyeAeXHrBDtm9A>

password : xflo

Tools : Arcgis or QGIS



751 QGIS



Sharing city pictures



StreetViewPictures



751.gdb



buildings.DWG



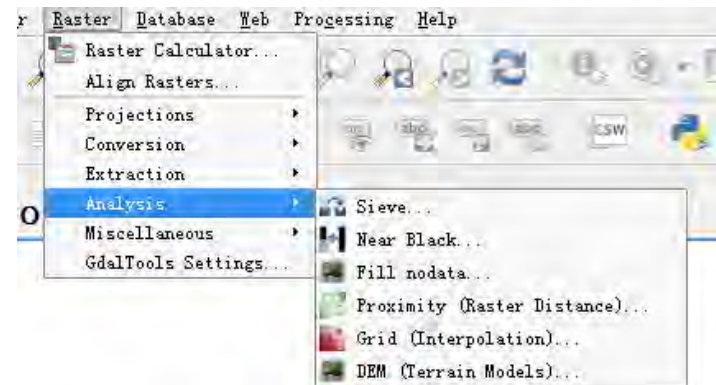
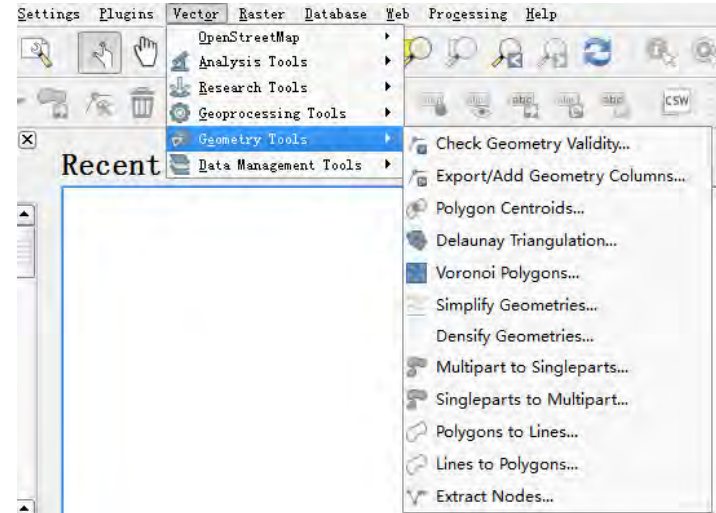
QGIS-OSGeo4W-2....

Tools



Arcgis

- [-] 系统工具箱
 - [+] 3D Analyst Tools.tbx
 - [+] Analysis Tools.tbx
 - [+] Cartography Tools.tbx
 - [+] Conversion Tools.tbx
 - [+] Data Interoperability Tools.tbx
 - [+] Data Management Tools.tbx
 - [+] Editing Tools.tbx
 - [+] Geocoding Tools.tbx
 - [+] Geostatistical Analyst Tools.tbx
 - [+] Linear Referencing Tools.tbx
 - [+] Multidimension Tools.tbx
 - [+] Network Analyst Tools.tbx
 - [+] Parcel Fabric Tools.tbx
 - [+] Schematics Tools.tbx
 - [+] Server Tools.tbx
 - [+] Spatial Analyst Tools.tbx
 - [+] Spatial Statistics Tools.tbx
 - [+] Tracking Analyst Tools.tbx

QGIS



Data Contents

  751.gdb

Analysis_scope/The Site

Buildings

BusStations2014

Dianping2014jped

Firm2009jn

LandTransaction

POI2016gaode

Road2016gaode

StreetViewPictures_point

Weibo_POI_Checkins

Weibo2014_07_10

A

1. Analysis_scope/ The Site Scope

File Type: Polygon

Amount: 1/1

Key Fields : Analysis and site scope

Meanings: Length and area

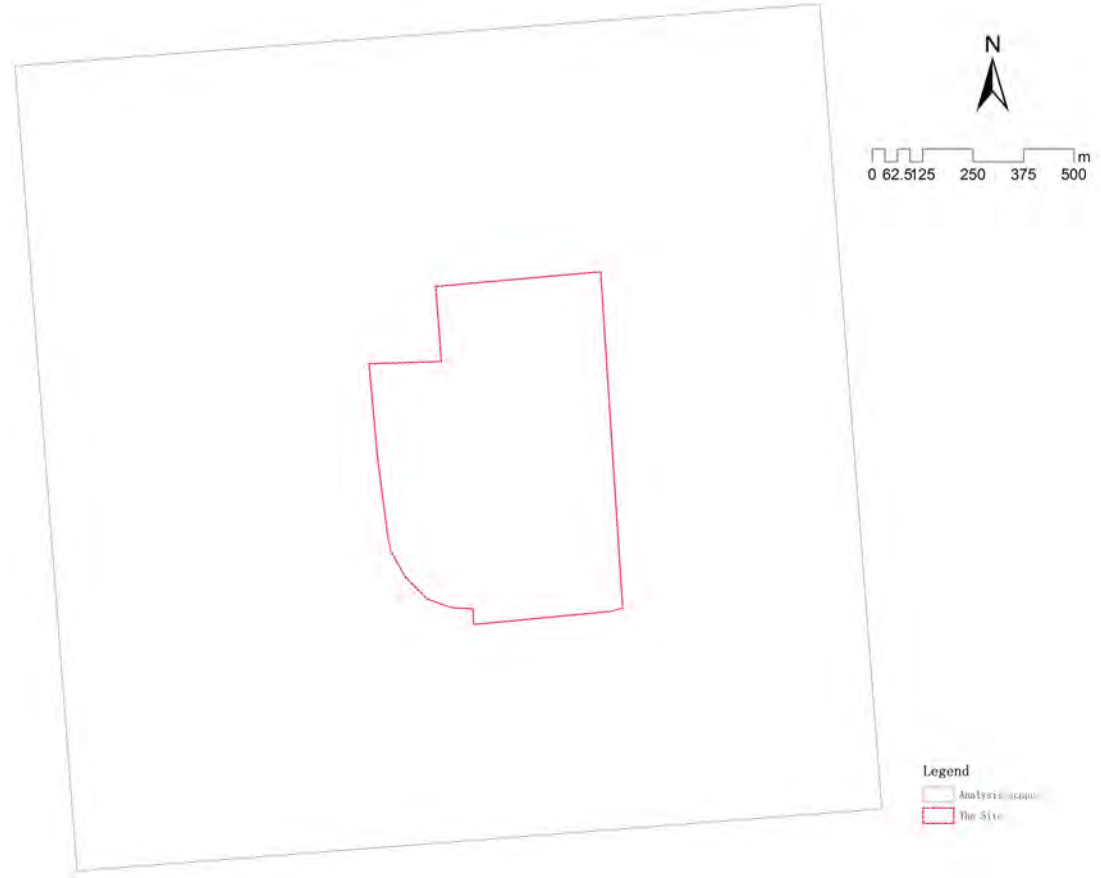
Key Elements:

Analysis_scope

OBJECTID	SHAPE	SHAPE_Length	SHAPE_Area
1	面	8000.429411	4000429.41985

The Site

OBJECTID	SHAPE	SHAPE_Length	SHAPE_Area
1	面	2757.423289	437893.977256



Scope

2. Buildings

Building information

File Type: Polygon

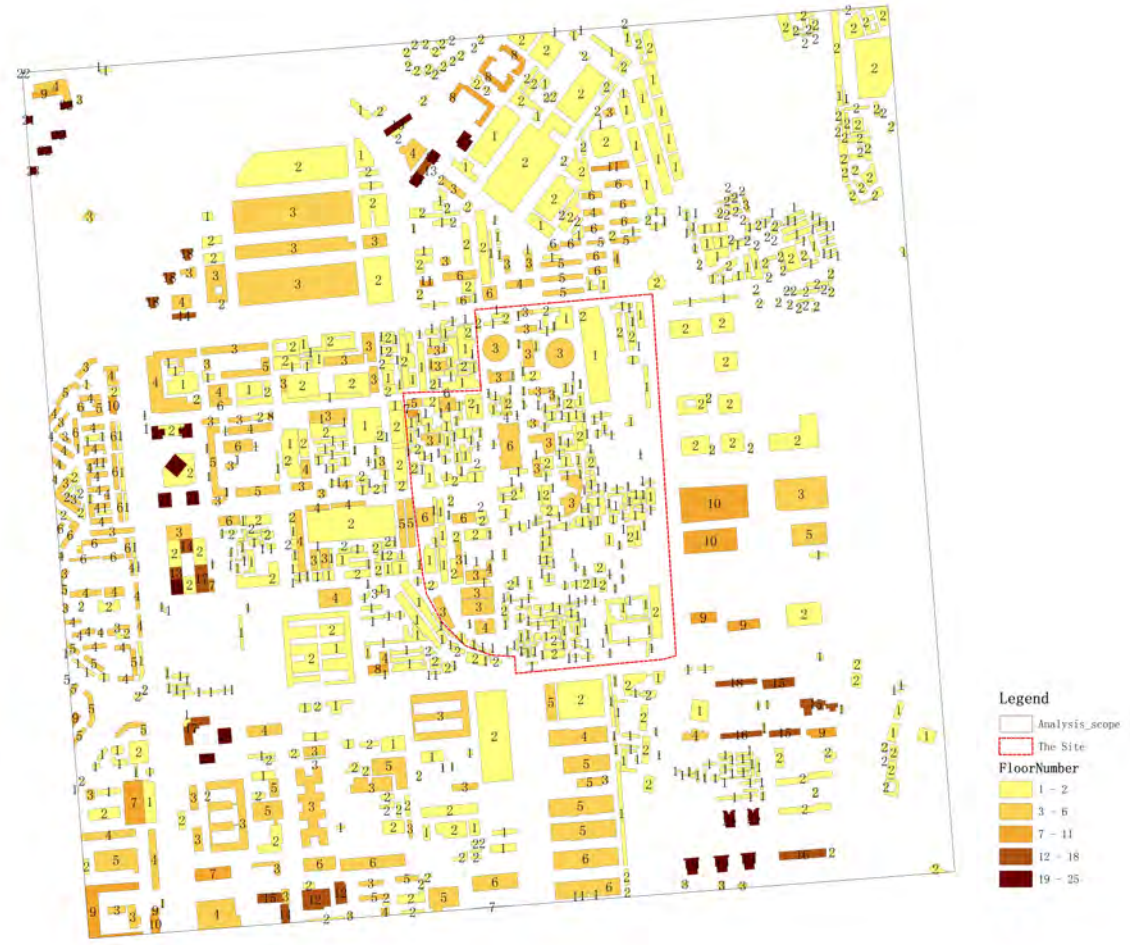
Amount: 1218

Key Fields : Address, Area, Years
Meanings: Building location and information

Key Elements:

OBJECTID	FloorNumber	BID	FloorSpace_m2
1	1	160959	71.31094

FootPrint_m2	InCBD	Shape_Area	years
71.31094		71.31094	1950s



Floor number

2. Buildings

Building information

File Type: Polygon

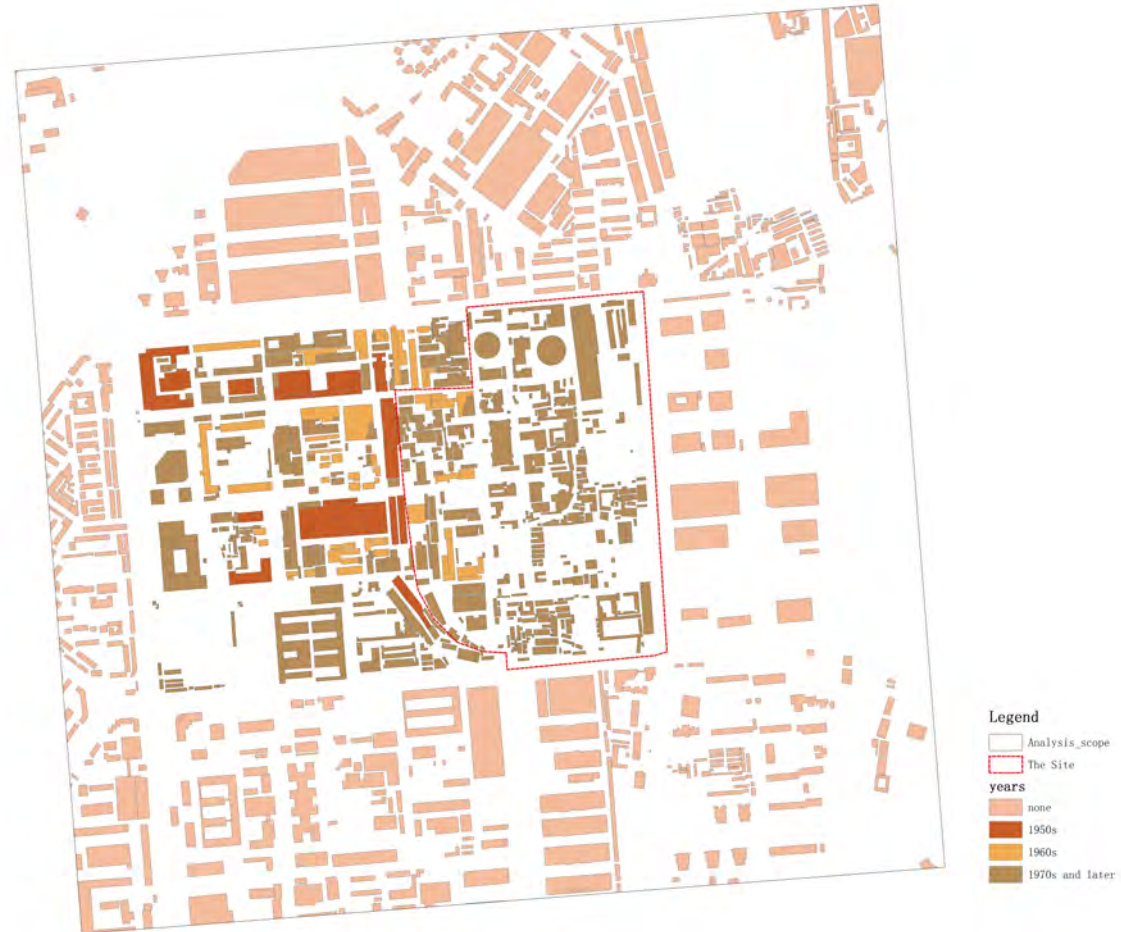
Amount: 1218

Key Fields : Address, Area, Years
Meanings: Building location and information

Key Elements:

OBJECTID	FloorNumber	BID	FloorSpace_m2
1	1	160959	71.31094

FootPrint_m2	InCBD	Shape_Area	years
71.31094		71.31094	1950s



Building years

3. BusStations2014

Bus Station information

File Type: Point

Amount: 156

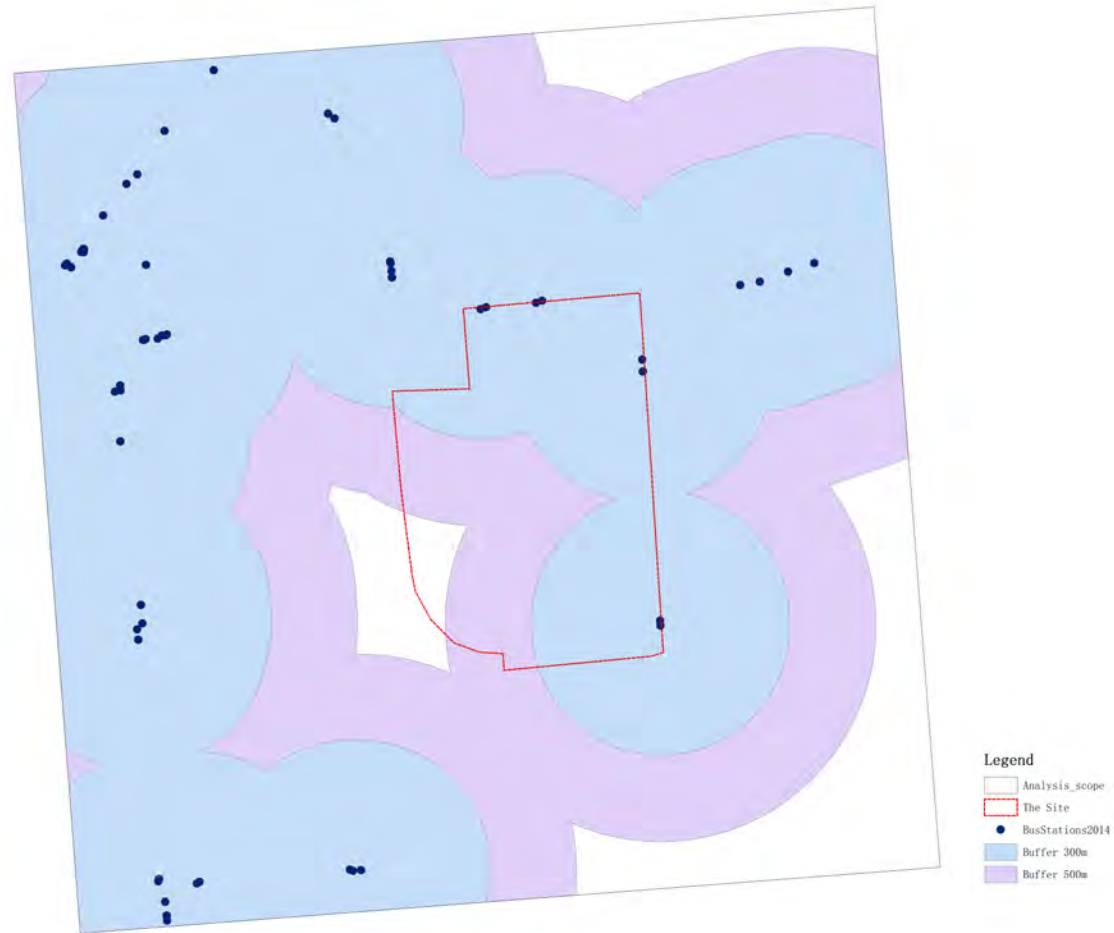
Key Fields : Bus station position and name

Meanings: Bus station distribution

Key Elements:

TARGET_FID	code	name	num
1	110100	酒仙桥东路	12

spell	id	District	Code_1
Jiu xian qiao dong lu	110100013374012	朝阳区	110105



Scope of bus station service

4. Dianping2014jped Comment signature point 2014

File Type: Point

Amount: 1743

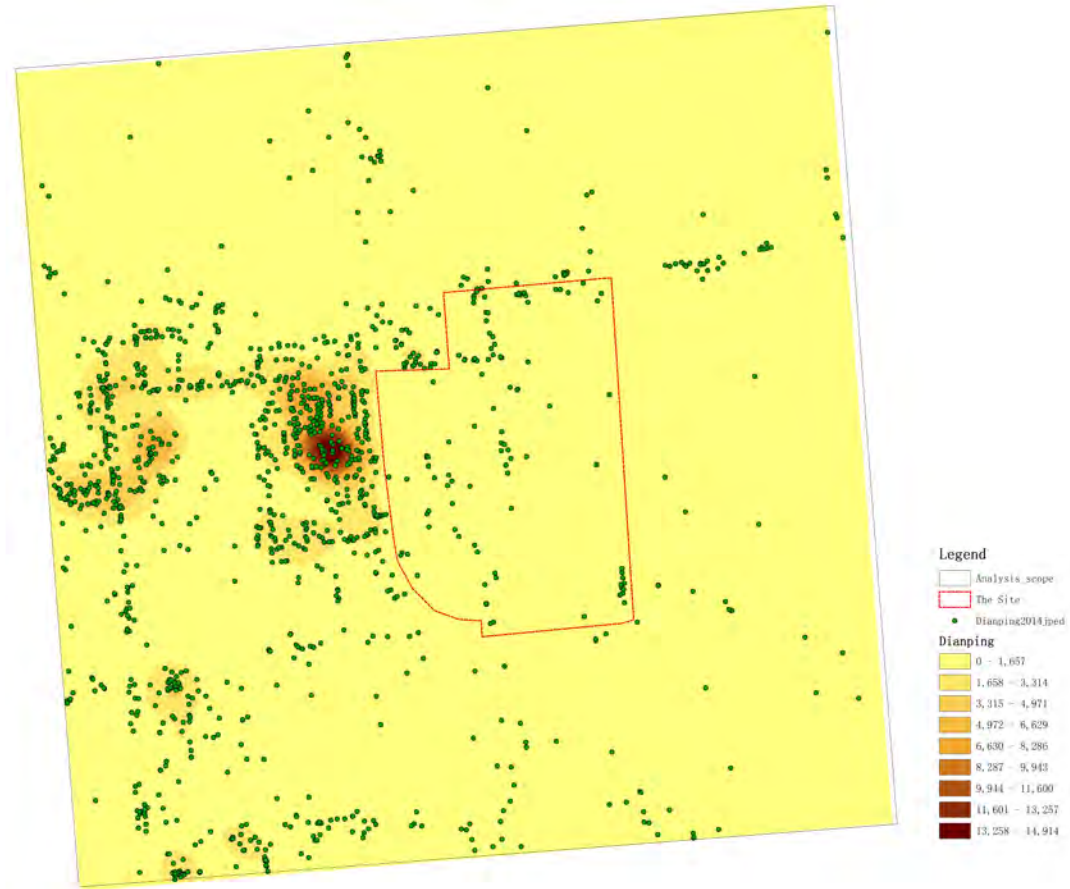
Key Fields : Location, Name,
Mode of transportation,
Category, consumption,
parking space

Meanings: Comment
signature

Key Elements:

OBIEC_TID	Shop_id	verified	is_closed	name	alias	area	big_cate	big_cate_id	small_cate	small_cat_id	address	Business_area	hours	Avg_price	Stars
1	507574	true	false	爱特咖啡	At Cafe	朝阳区	美食	10	咖啡厅	g132	酒仙桥路4号798艺术区内(近大山子桥)	酒仙桥	11:00-23:00	74	3.5

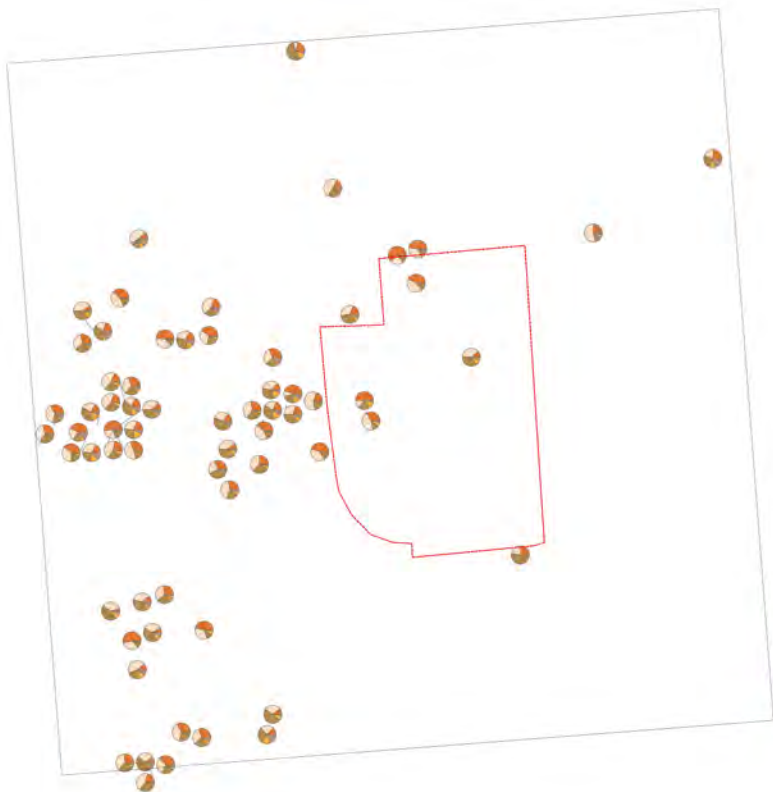
Product_rating	Environment_rating	Service_rating	all_remarks	Very_good_remarks	Good_remarks	Common_remarks	Bad_remarks	Very_bad_remarks
6.8	7.4	6.8	154	15	49	40	7	14



Kernel analysis of Dianping

D

4. Dianping2014jped Comment signature point 2014



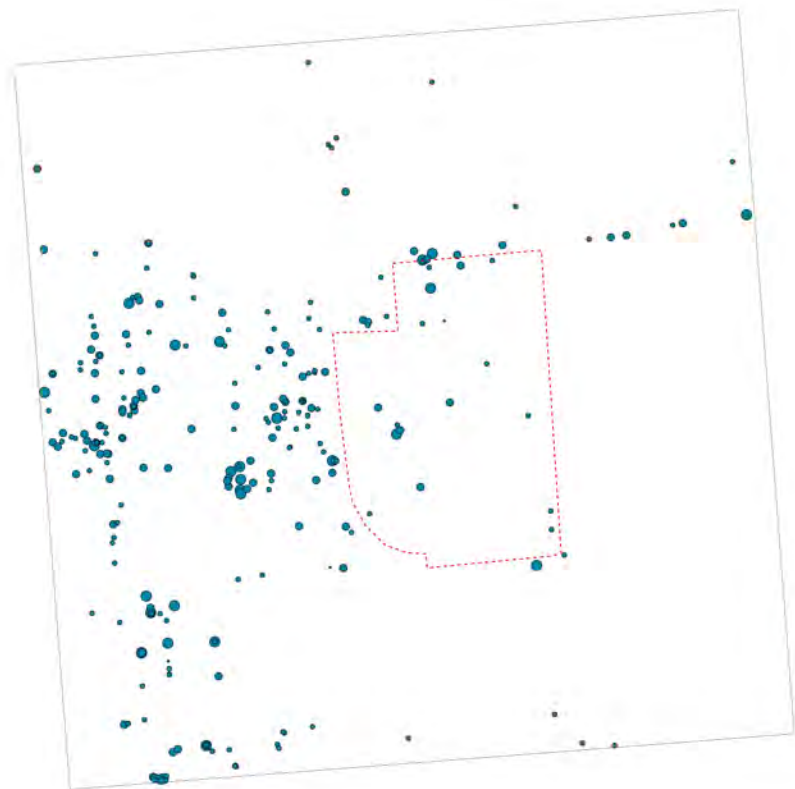
Dianping scores



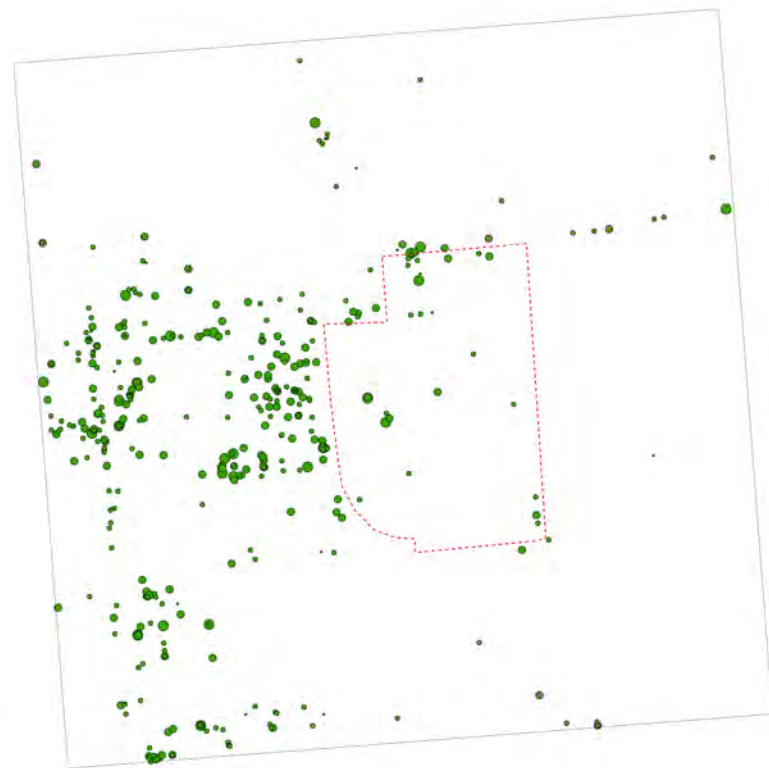
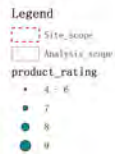
Dianping type

D

4. Dianping2014jped Comment signature point 2014



Product rating

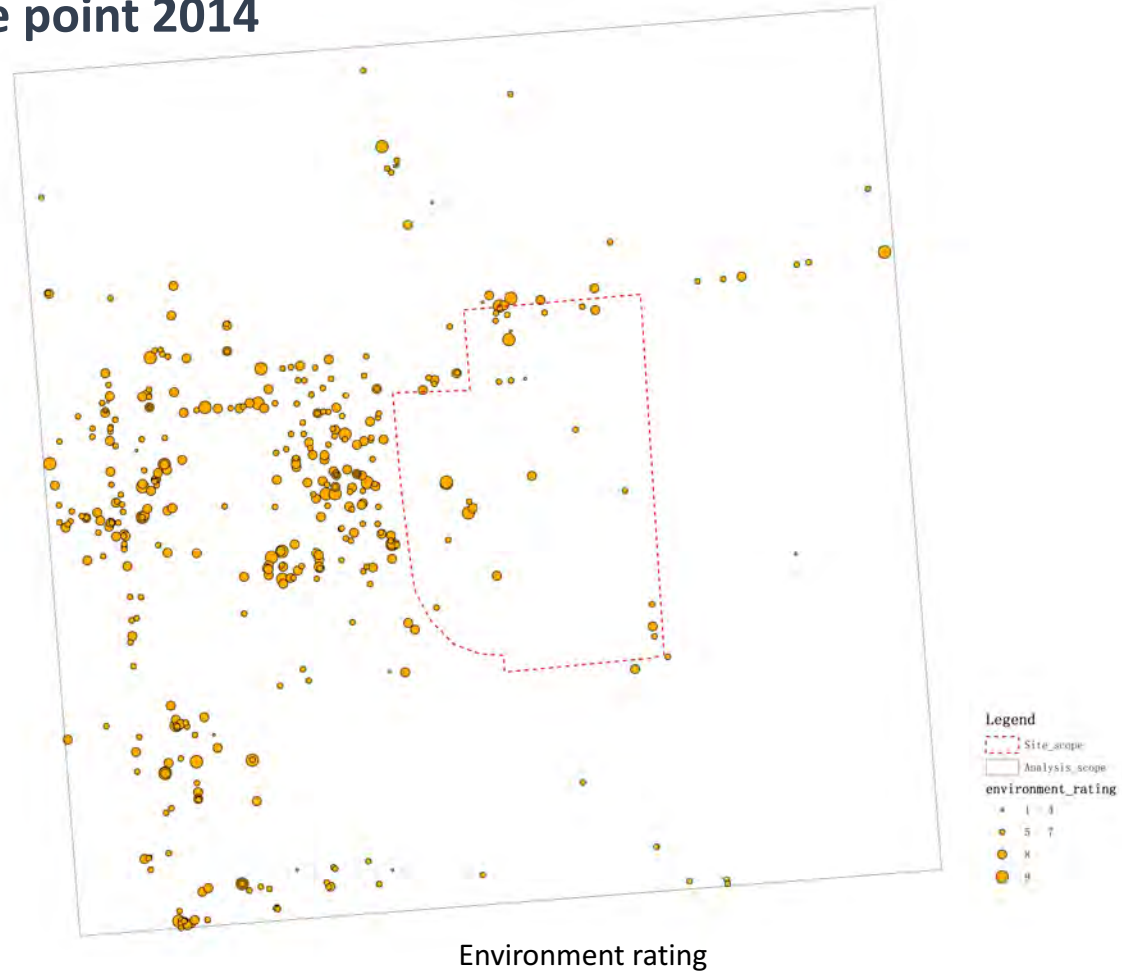


Service rating



D

4. Dianping2014jped Comment signature point 2014



5. Firm2009jn Firms information

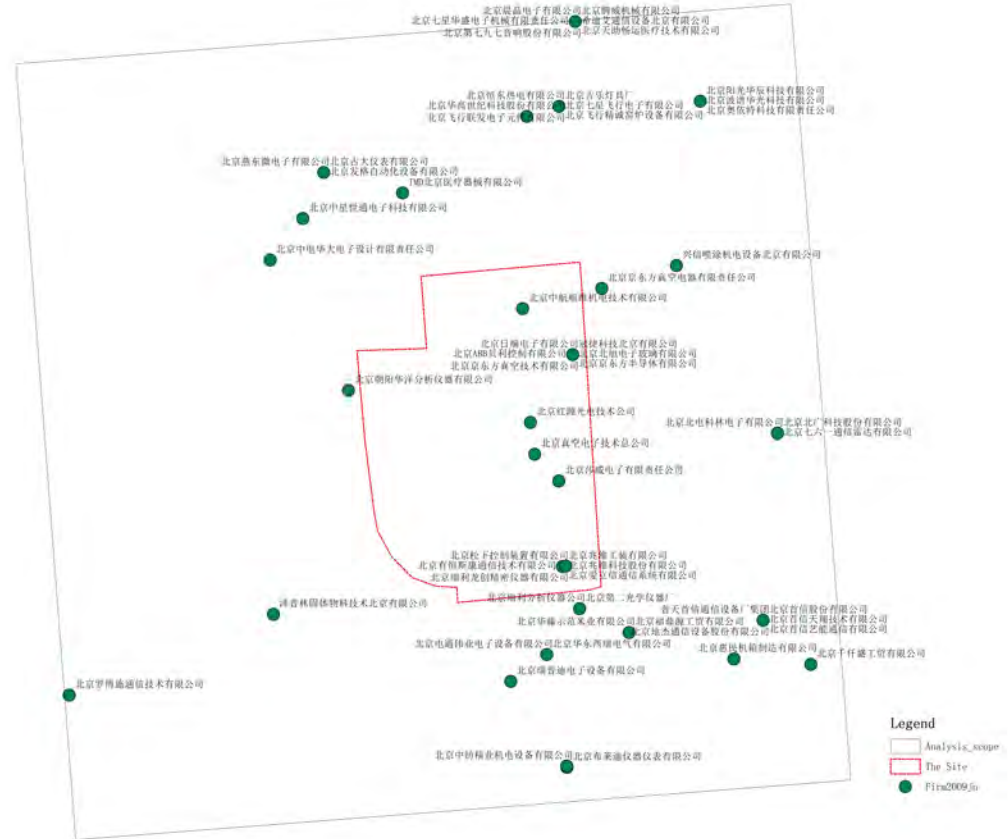
File Type: Point
Amount: 73

Key Fields : Name, Address, Type, Time

Meanings: Firm location and information

Key Elements:

OBJECTID_1	Qymc(name)	Year	Yzbm (postalcode)	C_jmph (address)
2	北京瑞利分析仪器公司	2009	11045	北京市朝阳区酒仙桥路4号 (798院)



Firms information

6. LandTransaction

Land transaction information

File Type: Point

Amount: 16

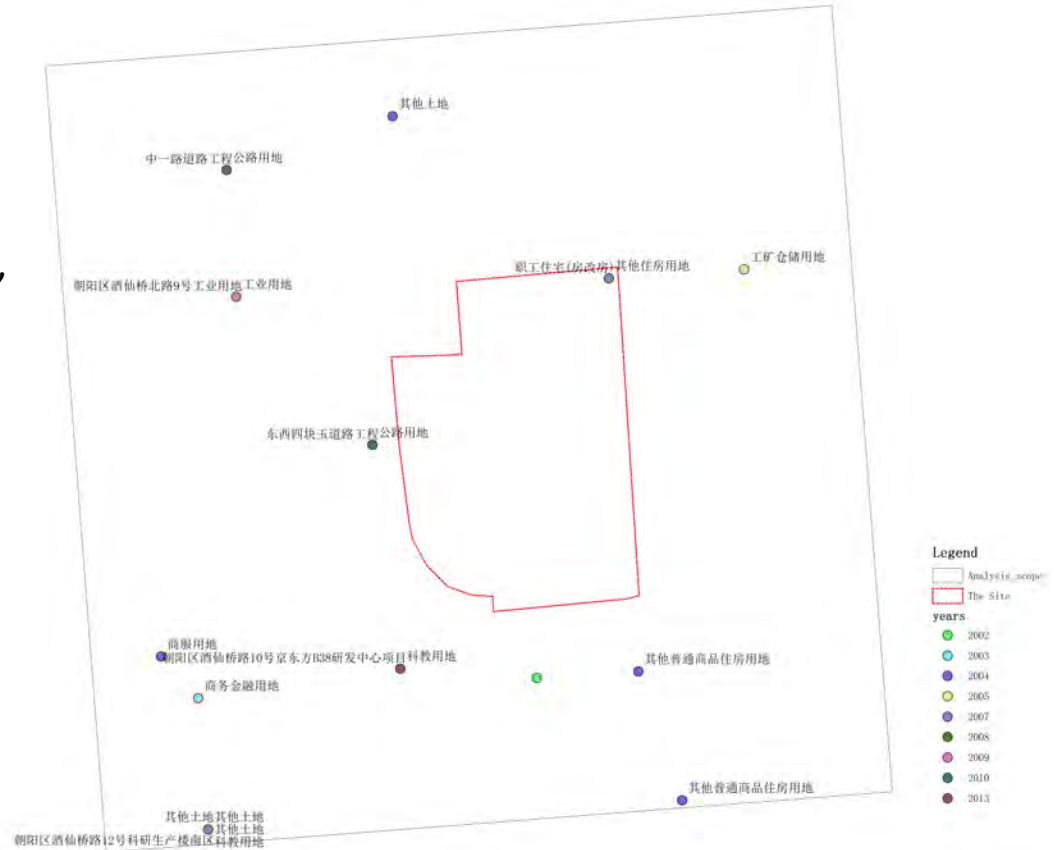
Key Fields : Developmental item, Land use, Subject of investment, Area, Plot ratio, Land source, Land price

Meanings: Land transaction information

Key Elements:

OBJECTID	签订日期 (time)	签订年份 (year)	主要土地用途 (land use)	供应方式 (supply way)
1	1905/6/27	2005	6	协议出让

投资项目名称 (name)	土地坐落 (address)	YT_SM (land use)	供应面积 (supply area)	金额 (price)	土地均价 (land price)
--	朝阳区酒仙桥北路甲4号	工矿仓储用地	0.159300	36.3643	229.27559



Land transaction information

7. POI2016gaode Point of Interest 2016

File Type: Point

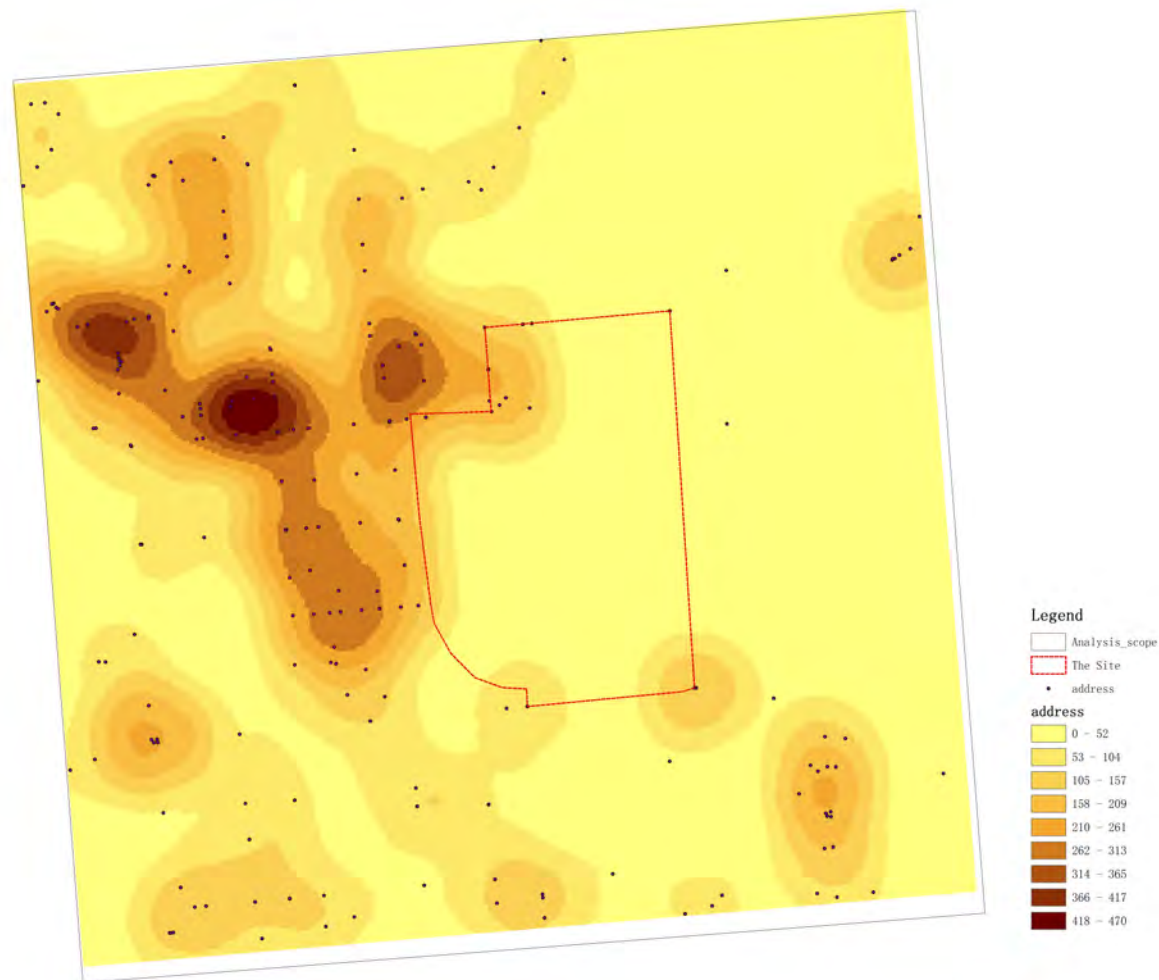
Amount: 3849

Key Fields : Name, Address, Type

Meanings: POI location and information

Key Elements:

Object ID	Name	address	type
1	878东区	酒仙桥中路24号	商务住宅；楼宇； 商务写字楼



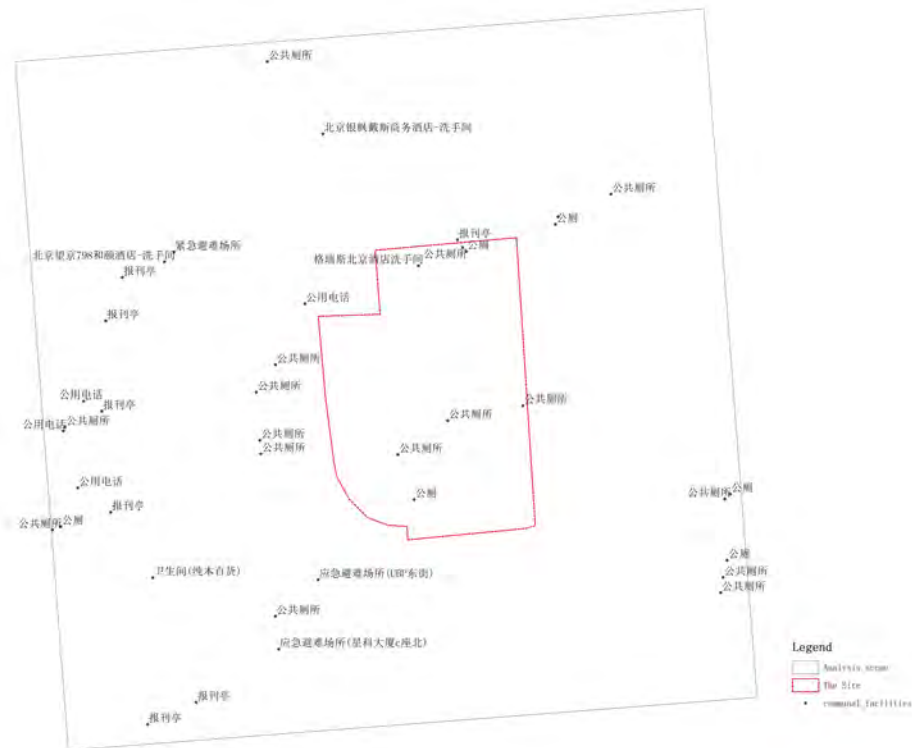
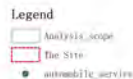
POI_Address

7. POI2016gaode

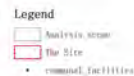
Point of Interest 2016



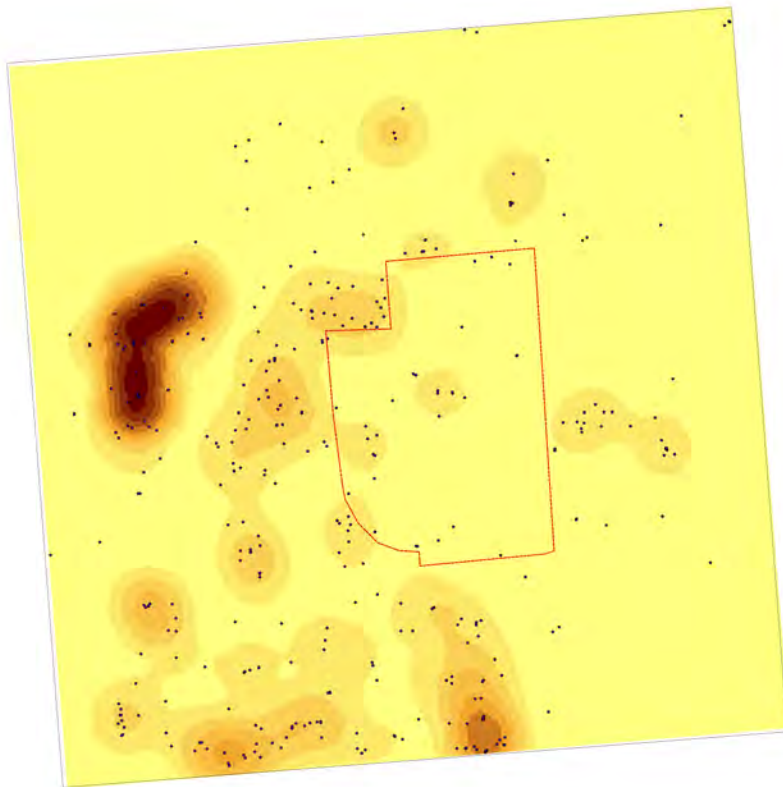
POI_Automobile_service



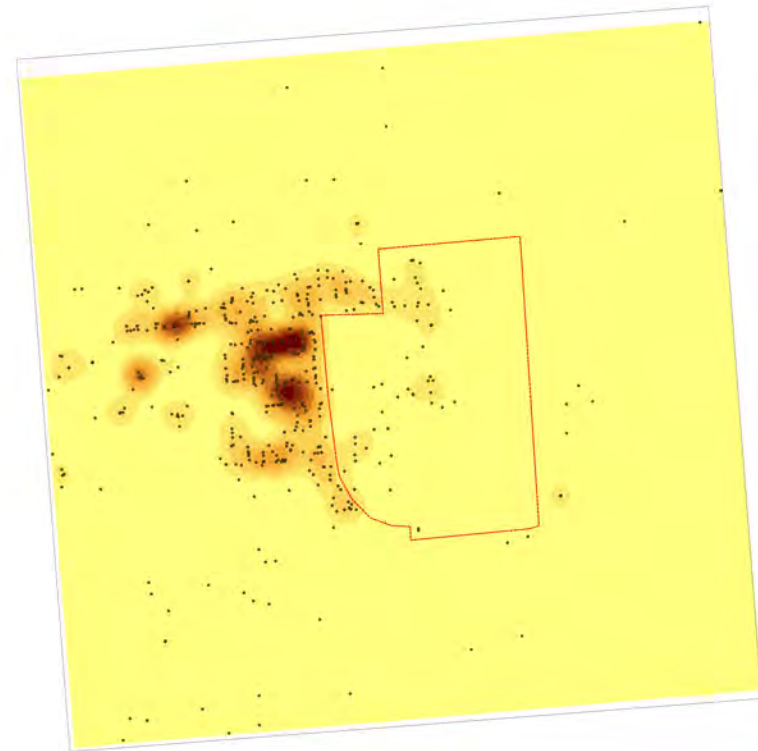
POI_Communal_facilities



7. POI2016gaode Point of Interest 2016



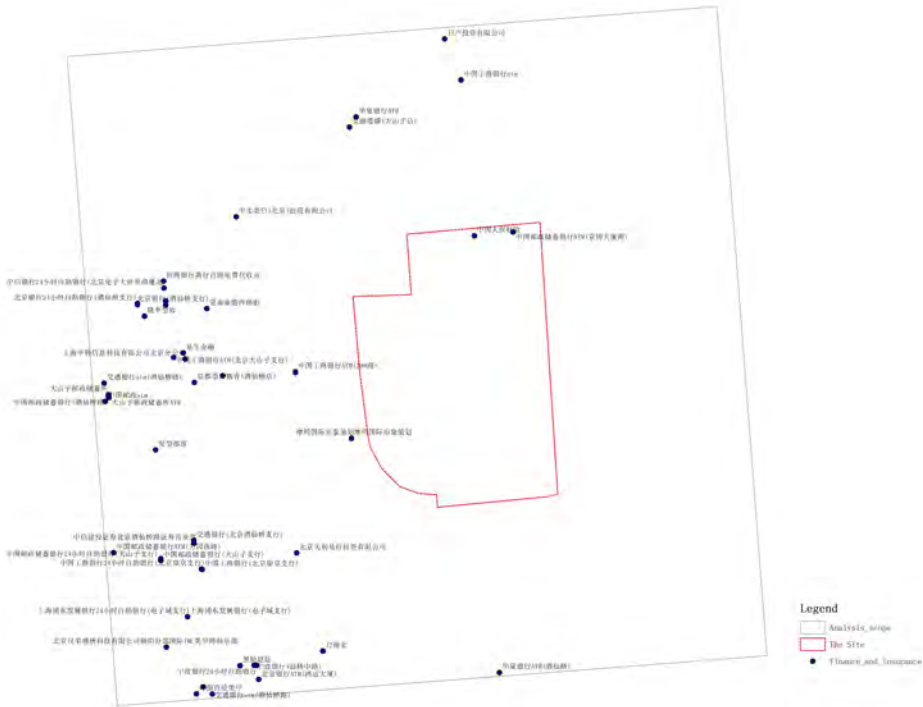
POI_Company



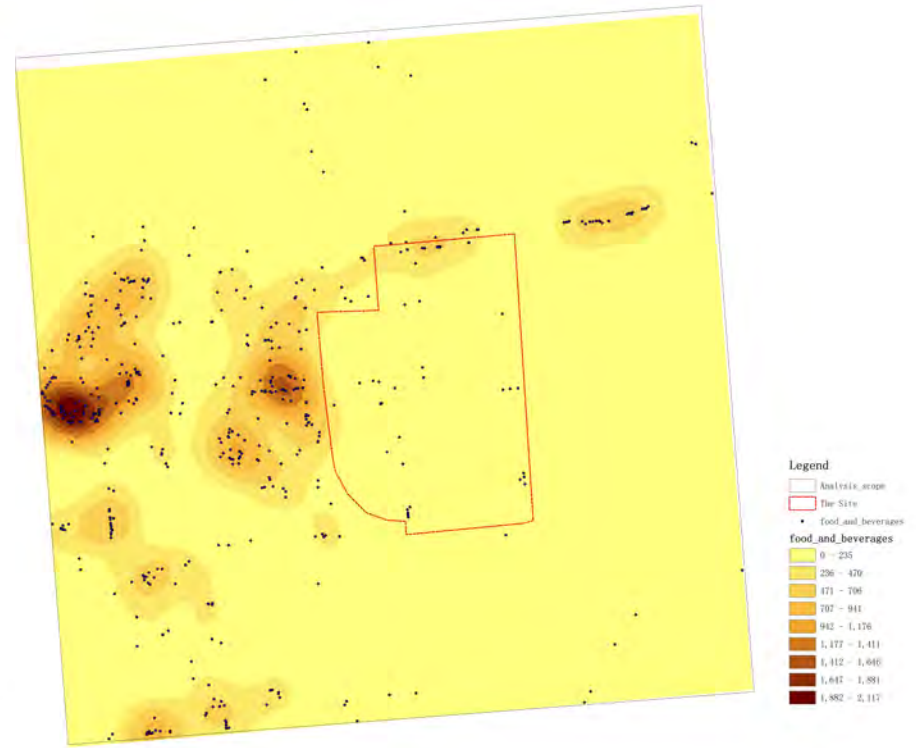
POI_Education_and_culture

7. POI2016gaode

Point of Interest 2016

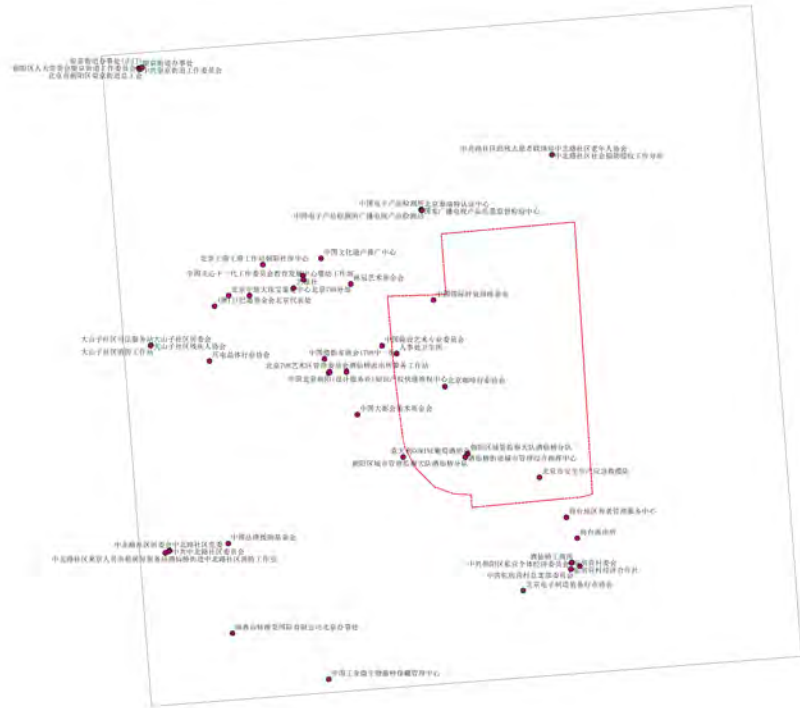


POI_Finance_and_insurance

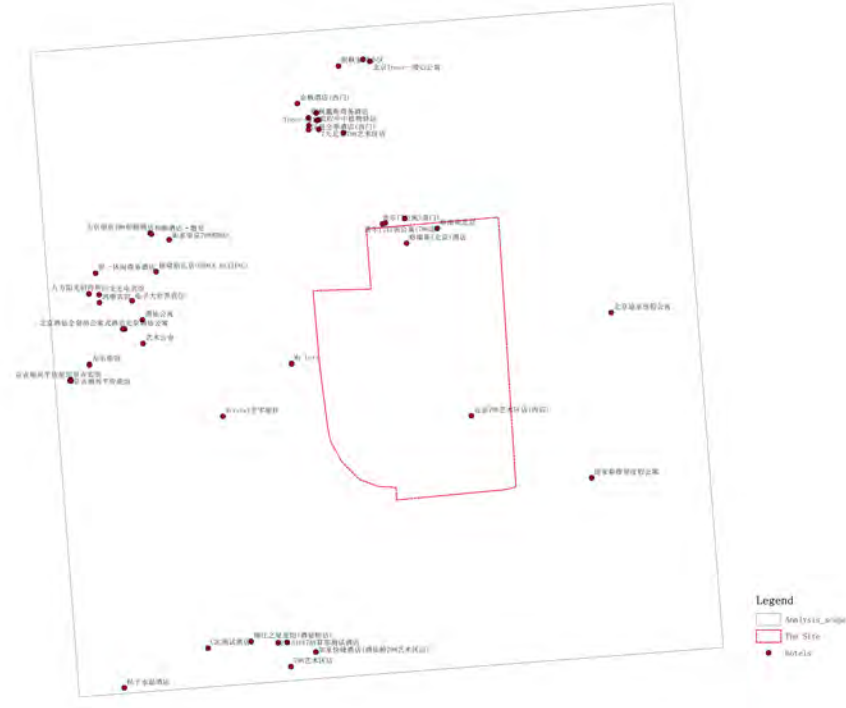


POI_Food_and_beverages

7. POI2016gaode Point of Interest 2016



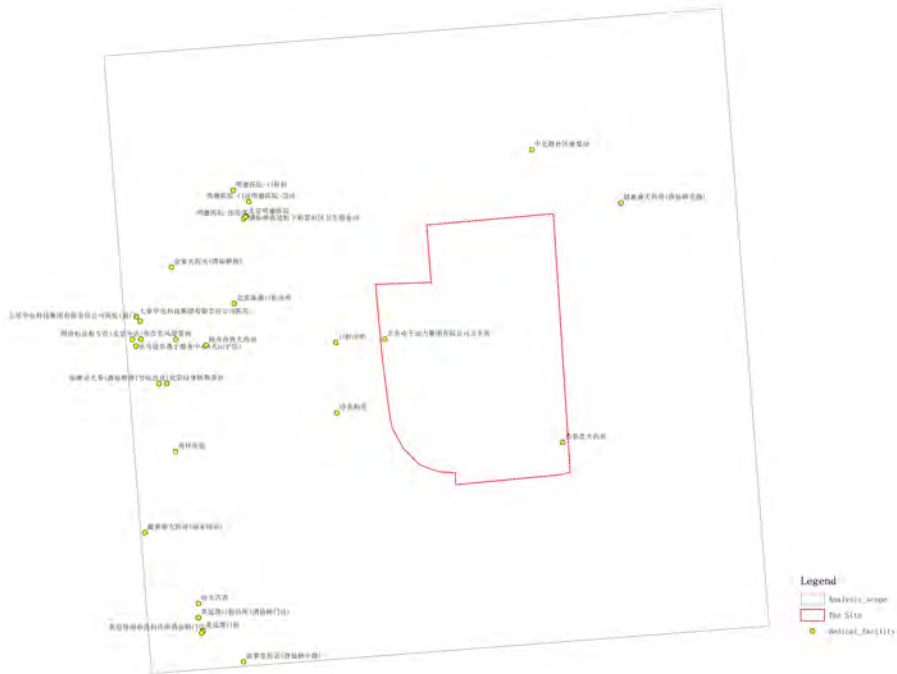
POI_Government_and_social_groups



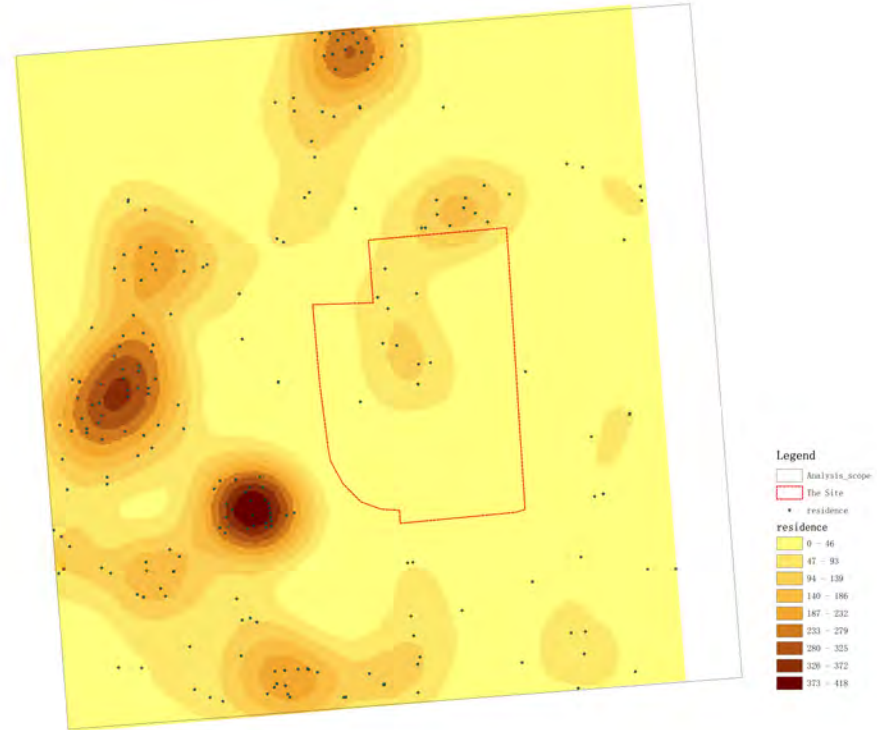
POI_Hotels

7. POI2016gaode

Point of Interest 2016

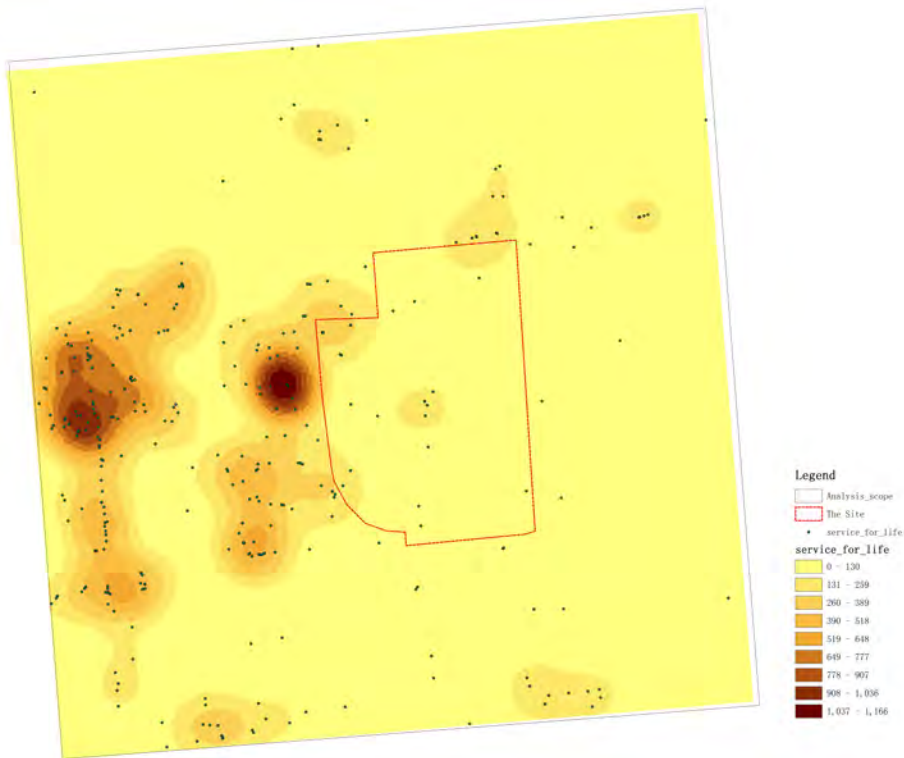


POI_Medical_facility

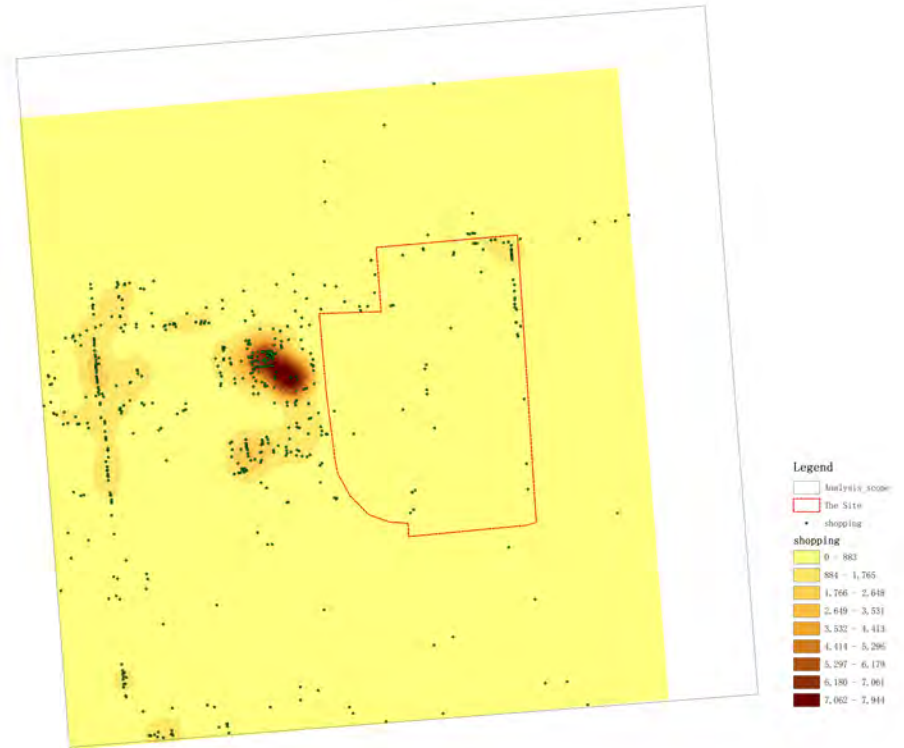


POI_Residence

7. POI2016gaode Point of Interest 2016



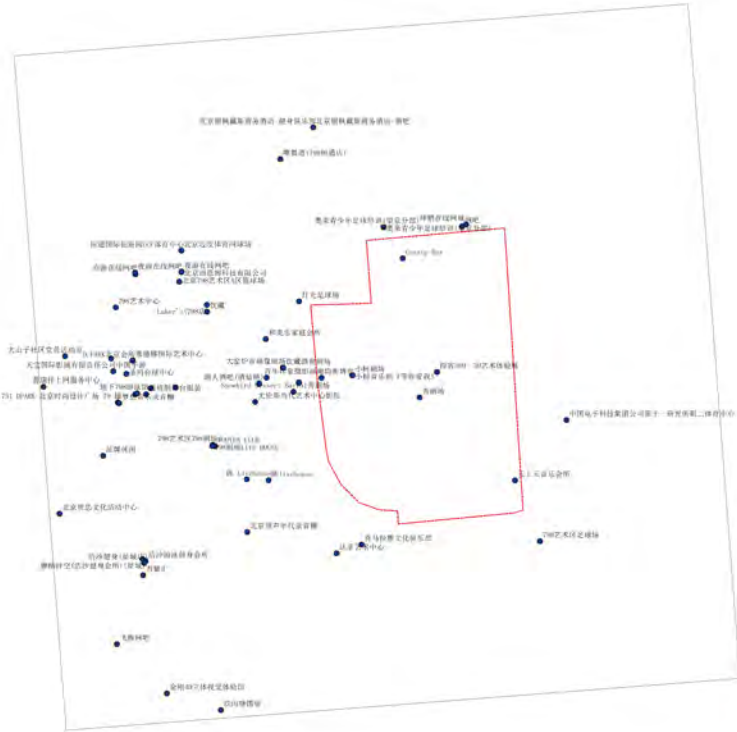
POI_service_for_life



POI_Shopping

7. POI2016gaode

Point of Interest 2016

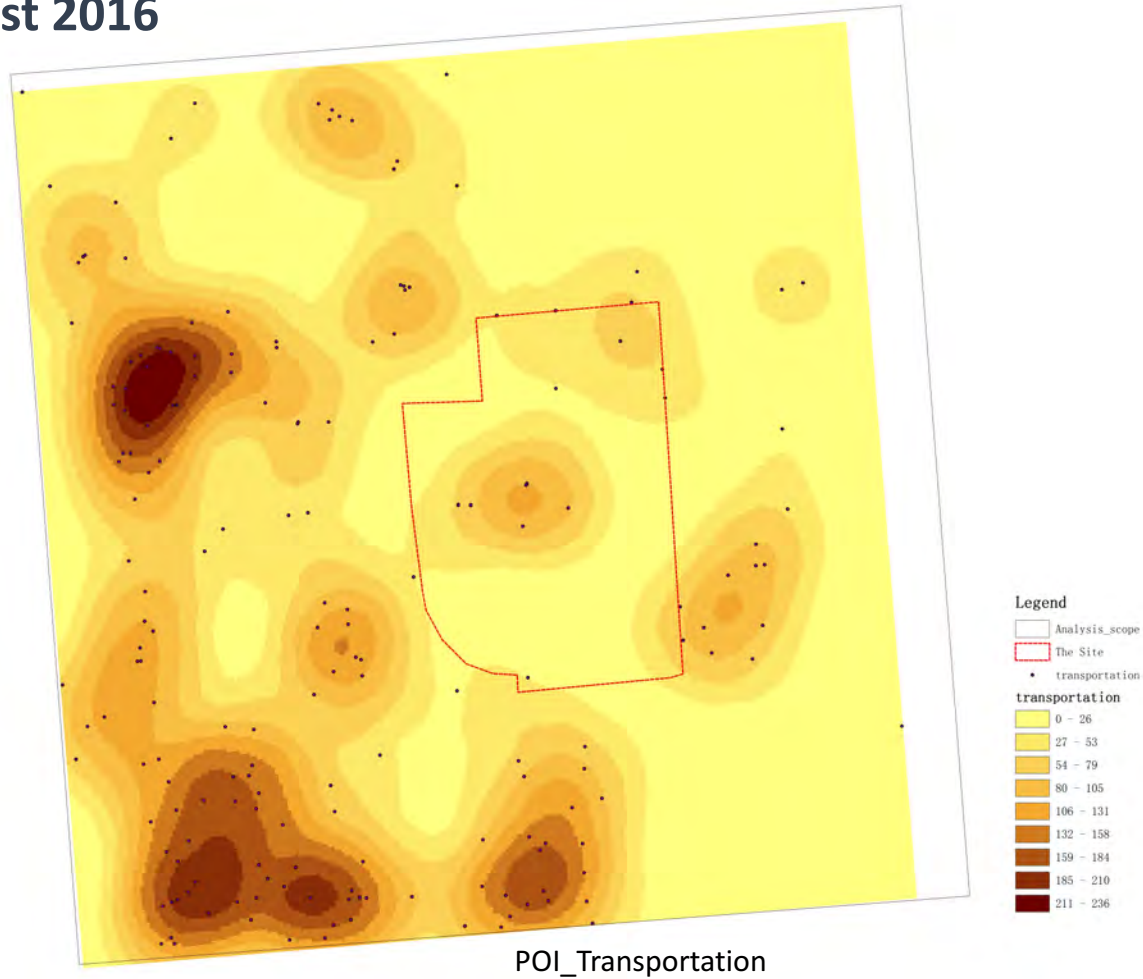


POI_Sports_and_leisure



POI_Tourist_attraction

7. POI2016gaode Point of Interest 2016



8. Road2016gaode Road 2016

File Type: Polyline
Amount: 969

Key Fields : Name, Grade, Length

Meanings: Road information

Key Elements:

OBJECTID	Name	ctype	Shape_length
1	酒仙桥中	市区二级	11.191372



Road2016 Type

9. StreetViewPicture_point

Street view pictures

File Type: Point

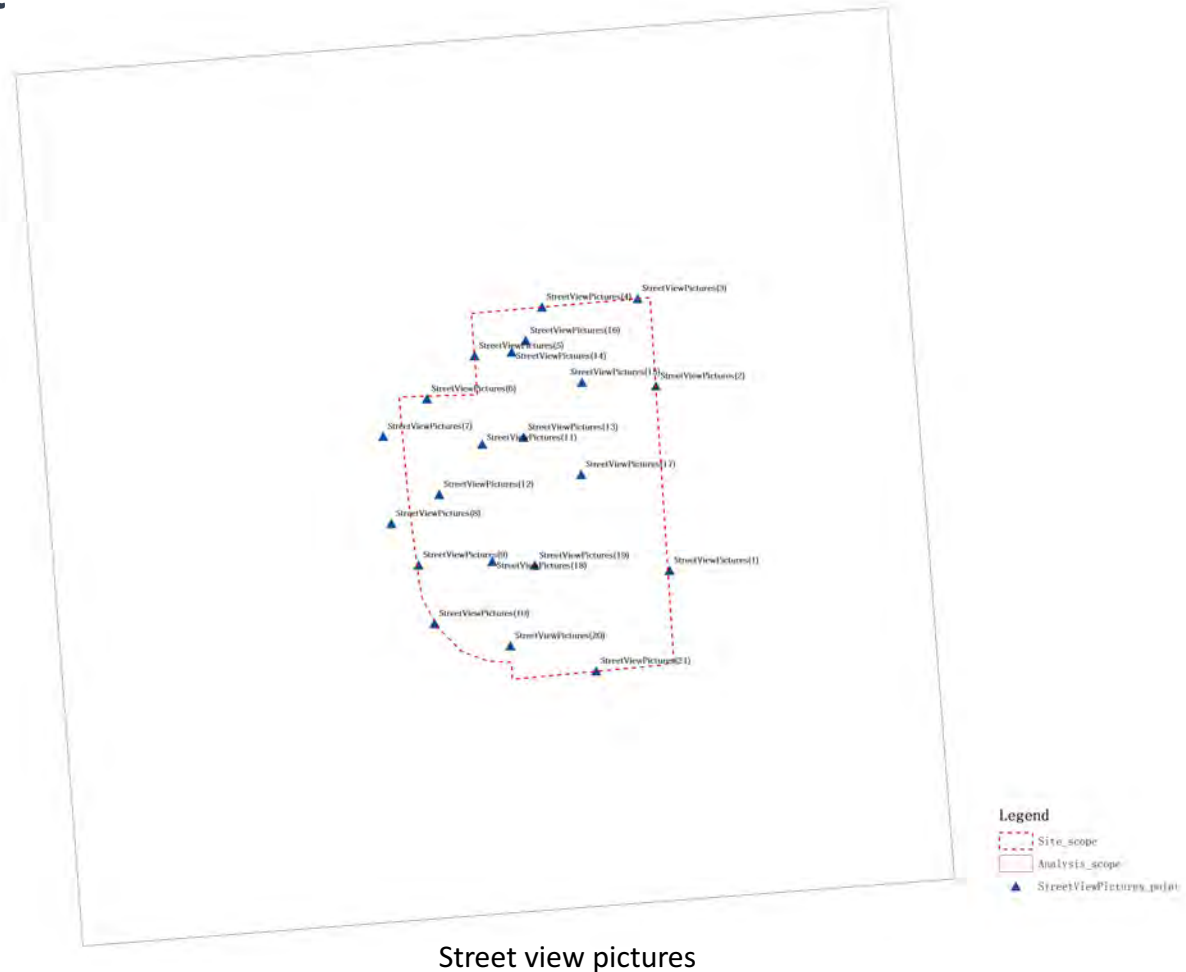
Amount: 21

Key Fields : Location, Picture number

Meanings: In keeping with file 'StreetViewPictures'

Key Elements:

OBJECTID	StreetViewPictures
1	StreetViewPictures(1)



10.Weibo_POI_Checkins

Weibo checkins information

File Type: Point

Amount: 1391

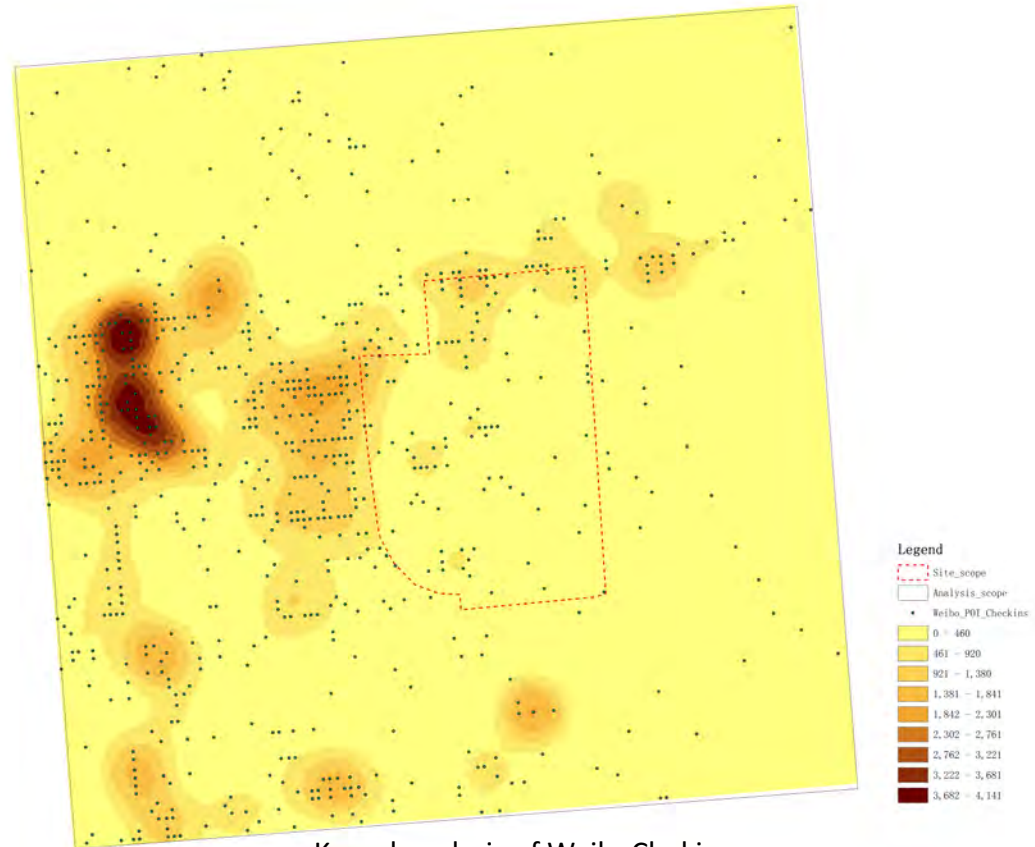
Key Fields : Checkin number, Type, User number

Meanings: Checkins information

Key Elements:

OBJECTID	poiid	city	province	categorys	category_name
1	B2094757D068A7F4489B	10	11	260	其他

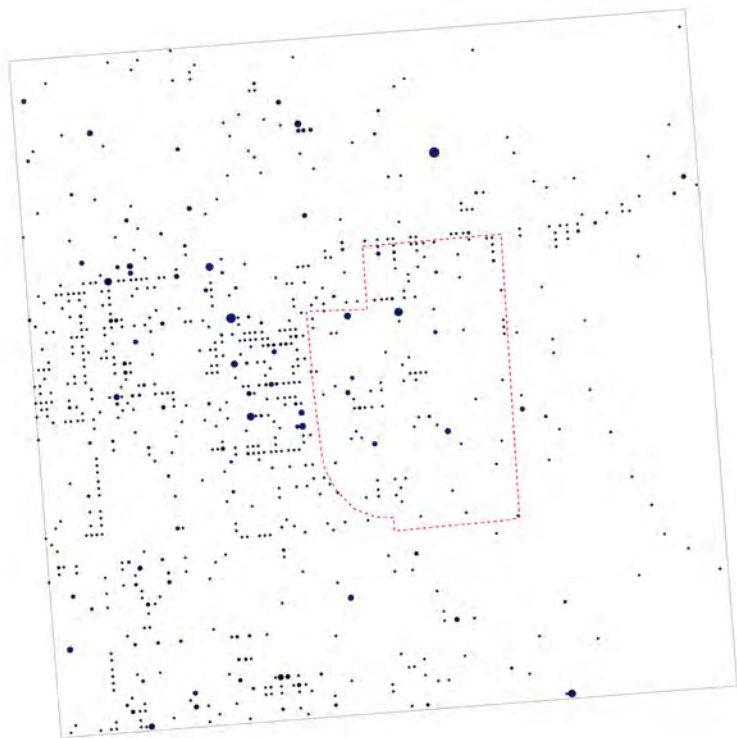
checkin_num	photo_num	checkin_user_num	title	address
559	172	402	大山子	北京朝阳区京密路大山子路口



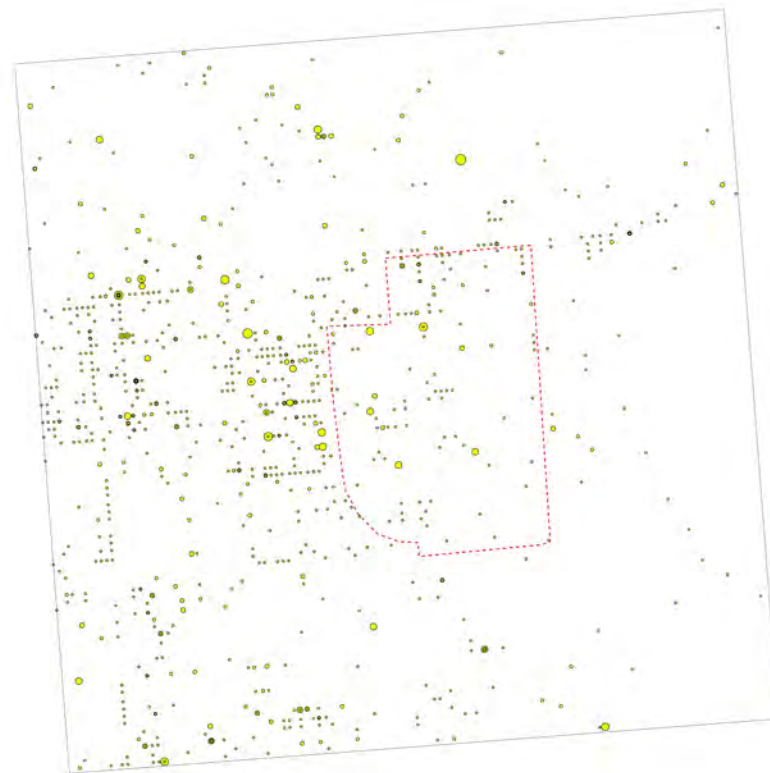
Kernel analysis of WeiboCheckins

10.Weibo_POI_Checkins

Weibo checkins information



Checkin_num

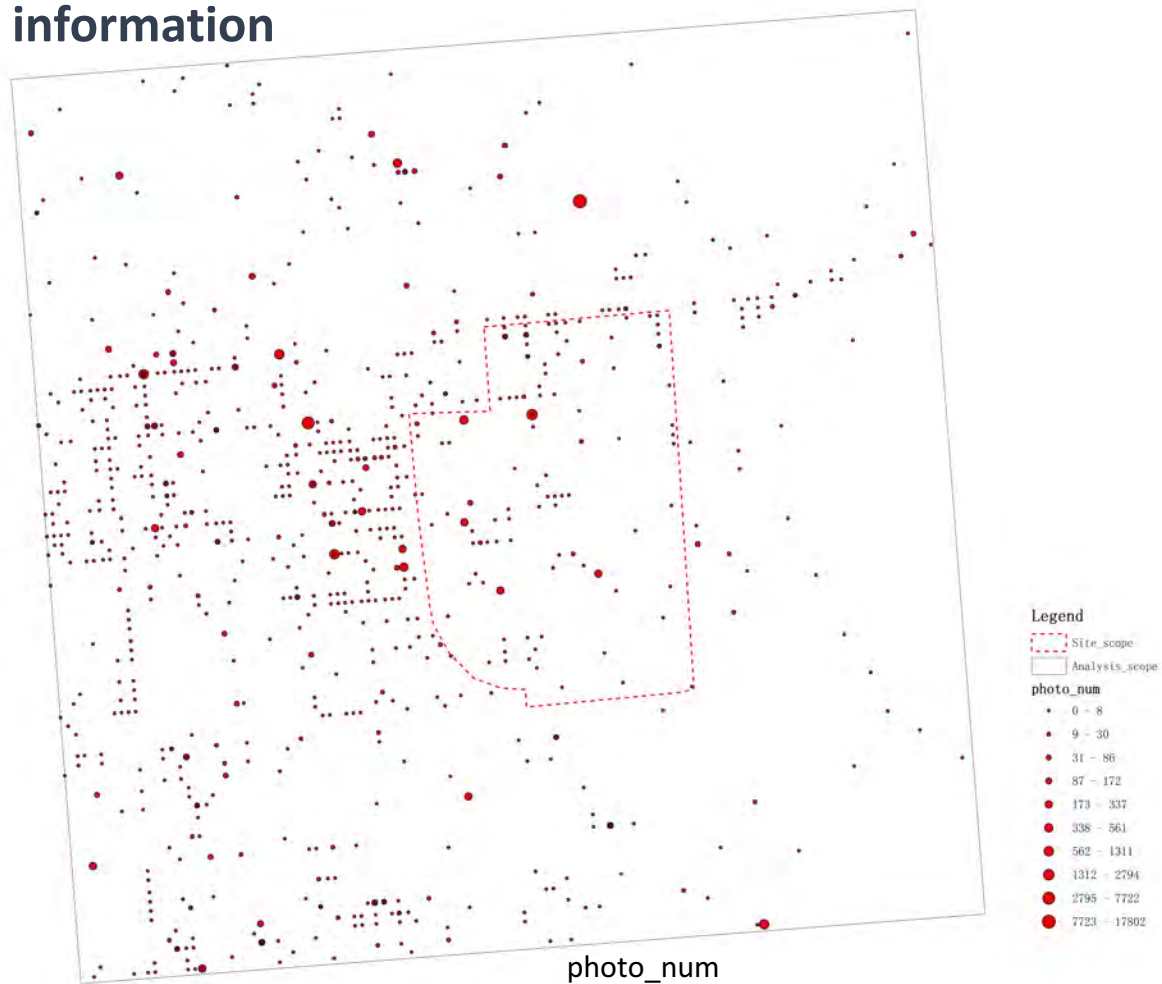


checkin_user_num



10.Weibo_POI_Checkins

Weibo checkins information



W

11. Weibo2014_07_10 Location of Weibo sharing

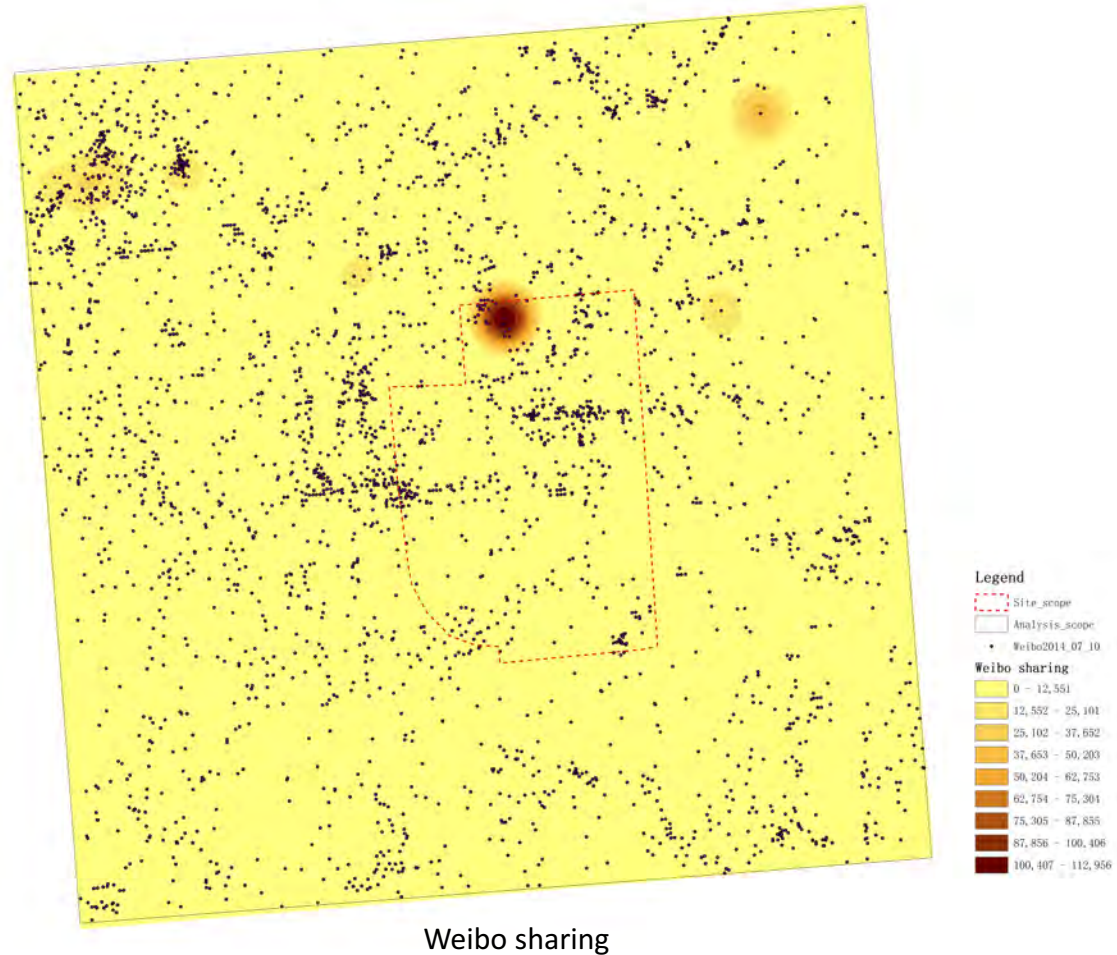
File Type: Point
Amount: 7913

Key Fields : Location, Time, User ID

Meanings: Location of Weibo sharing

Key Elements:

OBJECT	mID	MCreat_DT	uID
1	3.759389e+015	2014/9/27 12:20:18	1001789111



Building Analysis

DATA

Buildings

POSSIBLE ANALYSIS

Situation of buildings: floor number, plot ratio, and the density of the buildings

The average floor number, plot ratio and the density of the buildings help us to decide the related index of our site.

Transportation Analysis

Tools: Buffer

DATA

BusStations2014
Road2009/2014 Road2016gaode

POSSIBLE ANALYSIS

**The location and service scope of
bus station;**
**Road information: name, width,
grade, length of road**

The location and service scope of bus station help us to consider sharing bikes as the tool of last mile.

The road information can help us to analyze traffic accessibility, convenience and walkability.

Function Distribution Analysis

Tools: Kernel Density Analysis or Point Density Analysis

DATA

**POI2009/2014 POI2016gaode
Firm2009jn**

POSSIBLE ANALYSIS

**The function distribution of
Business, office, education,
landscape, etc**

The function distribution can help us know the core areas of different functions.

Vitality Analysis

Tools: Kernel Density Analysis, Point Density Analysis or Grid Analysis

DATA

Dianping2014jped
Weibo_POI_Checkins1127jp
Weibo2014_07_10

POSSIBLE ANALYSIS

Business situation: store type, business time, average price, stars, commentary, and specific scoring; Location of Weibo checkins and sharing

These information help us to know the distribution of vitality , the consumption situation and public satisfaction.

Spatial Quality Analysis

DATA

LandTransaction
StreetViewPictures_point

POSSIBLE ANALYSIS

Land price;
Spatial quality: evaluate the street
from its attraction, safety, comfort
and history

Land price and score of street can help us to select the location of the entrance and exit, determine the design style and take some measure to street renovation.

Spatial quality Analysis

Score for street view pictures

Reference

Index	Scoring basis	Yes	No
Pedestrian space	Whether there is a barrier or green belt in a motorway?	1	0
Buildings	Whether the wall is continuous and pleasant, or with plants (for buildings with a wall) ?	1	0
	Whether the building interface is continuous (for buildings without a wall)?	1	0
	Whether the facade of the building embodies the elements of the historic street and is compatible with the environment?	1	0
Bicycle space	Whether there is some space for bicycle parking?	1	0
	Whether the parking space is combined with the greening?	1	0
Small open space	Whether there is an open space and effectively combined with the building?	0.5-1	0

Spatial quality Analysis

Score for street view pictures

Reference

Index	Scoring basis	Yes	No
Urban space node	Whether there is an important and marked city space node?	0.5-1	0
Public pedestrian traffic in the neighborhood	Whether the pedestrian space is marked by the features of privacy?	1	0
	Whether there is a clear exit?	1	0
Street hygiene	Whether the street is neat and free of garbage?	1	0
Street landscape	Whether the street lamps and furniture reflect some culture or history?	1	0
Motor vehicle parking	Whether there is a car park along the street?	-1	0



The end