

电子地图矢量数据获取方法研究

Methods of Vector Data Acquisition from Web Maps



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主要内容

- 一、国内数据研究现状
- 二、动态交通数据获取与应用
- 三、三维建筑数据获取与应用
- 四、百度地图截获器更新宣传
- 五、结语

1.1 现象 Phenomenon

重数据 轻方法

重描述 轻分析

重过程 轻结果

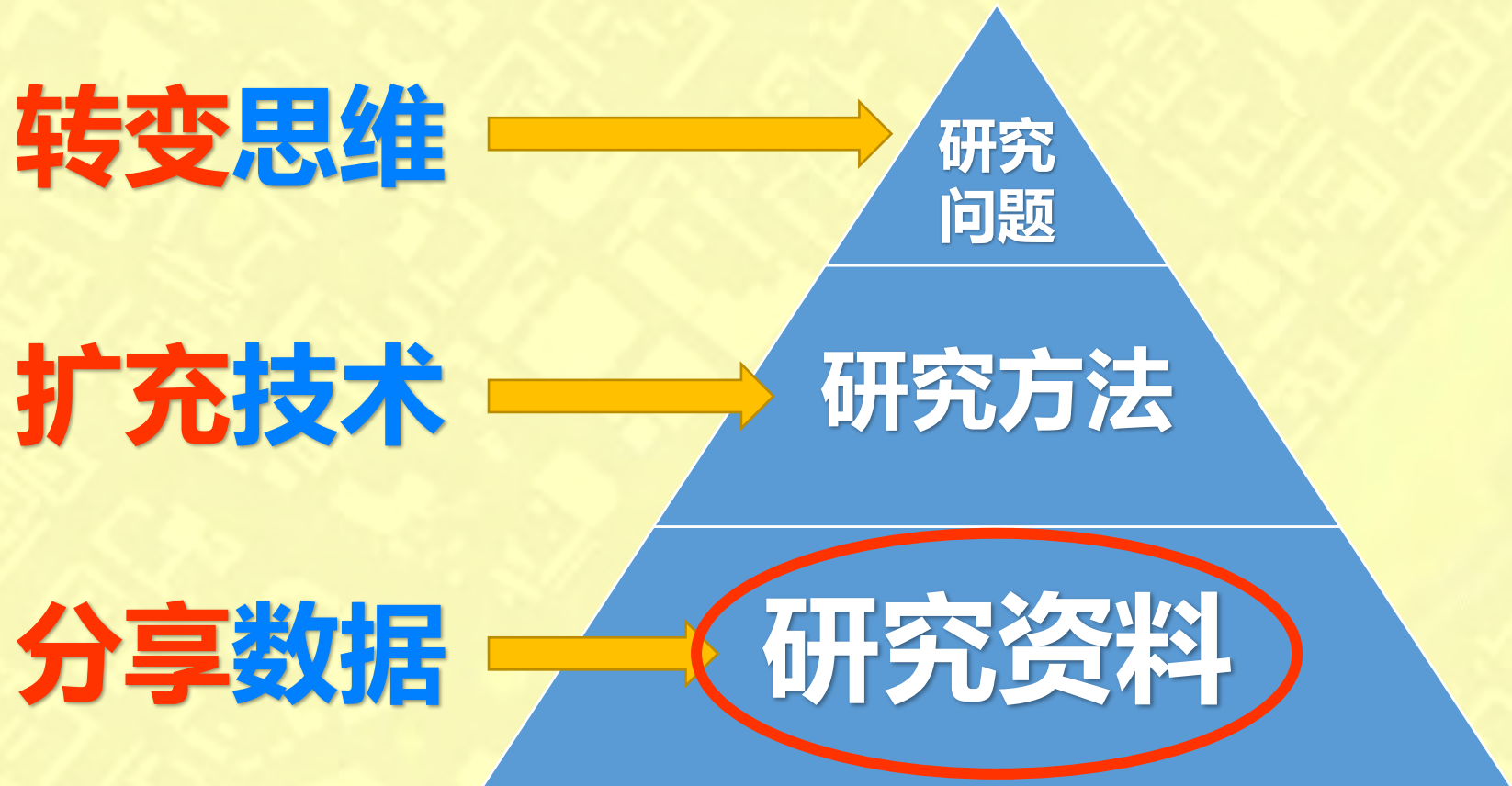
1.2 思考 Thinking

重数据 — 轻数据获取不易

重描述 — 轻思考深度不足

重过程 — 轻思维模式固化

1.3 行动 Actions



1.4 问题 Problems

如何获取动态交通数据？

如何获取三维建筑数据？

主要内容

一、国内数据研究现状

二、动态交通数据获取与应用

三、三维建筑数据获取与应用

四、百度地图截获器更新宣传

五、结语

2.1 数据源 Data Source

2.1.1 实时路况



百度地图实时路况图层



高德地图实时路况图层

2.1 数据源 Data Source

2.1.2 交通详情



2.2 方法（实时路况） Method 1

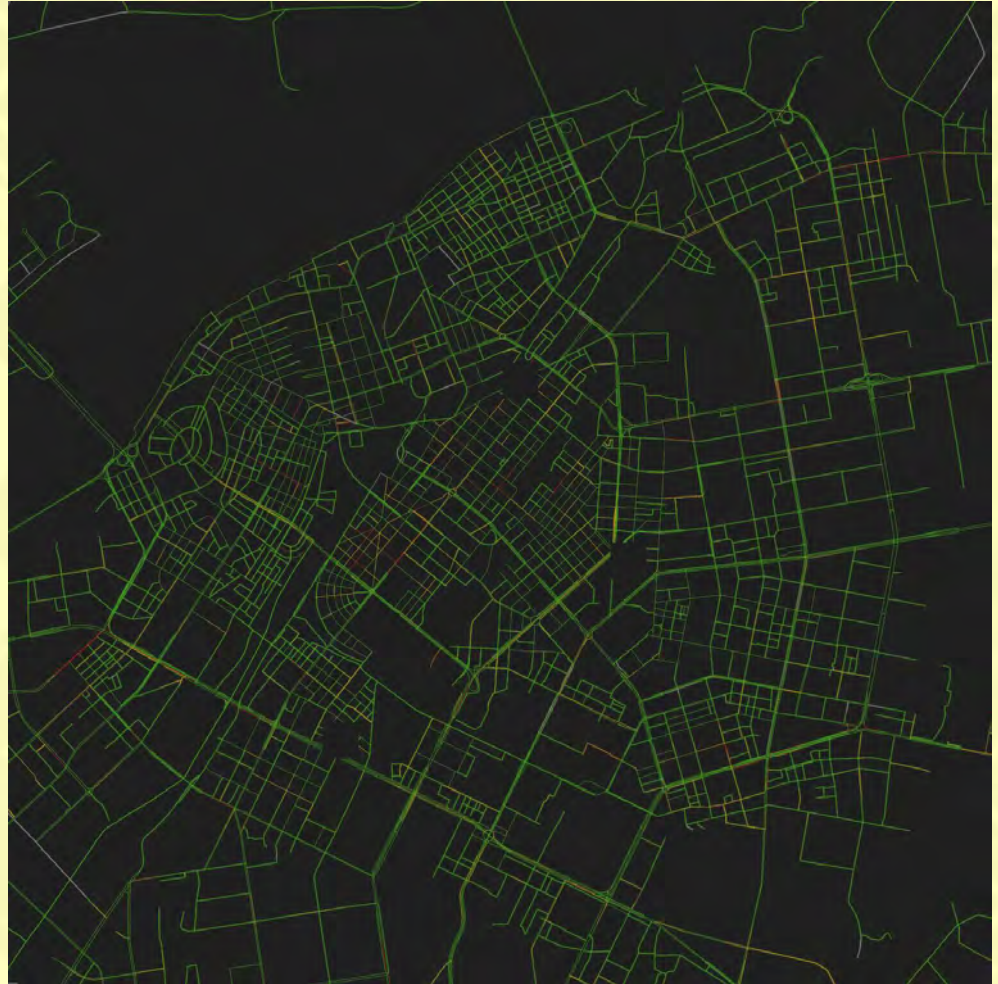
2.2.1 定时循环截图

工作日、节假日

间隔时间5分钟

连续24小时

约288张/天



2.2 方法（实时路况）Method 1

2.2.2 色彩分类

1、按照颜色将不同路况进行区分

高德地图实时交通状况色彩对照表

颜色名称	颜色含义	Red 值	Green 值	Blue 值
浅灰色	无数据	173	173	173
绿色	畅通 ↕	51 → 1	177	0
橙色		255 → 2	204	0
红色		222 → 3	0	0
暗红色	拥堵	140 → 4	14	14
深灰色	地图背景	32	32	32

2、提取图片中的Red通道/波段（Band），进行重分类

2.2 方法（实时路况）Method 1

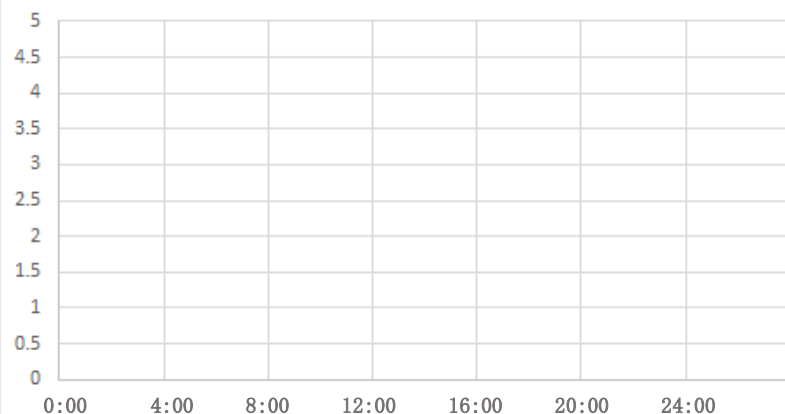
2.2.3 属性传递

- 1、栅格转矢量【ArcScan】
- 2、多段线拆分直线【在折点处分割线】
- 3、提取直线中点【要素折点转点】
- 4、用中点提取栅格数值【多值提取至点】
- 5、直线与中点进行属性连接
- 6、统计、空间表达.....

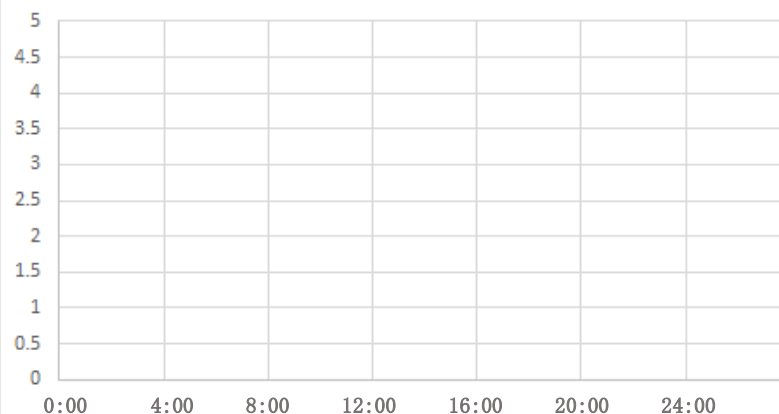
2.2 方法（实时路况）Method 1

2.2.4 初步成果：路段拥堵状况时变曲线

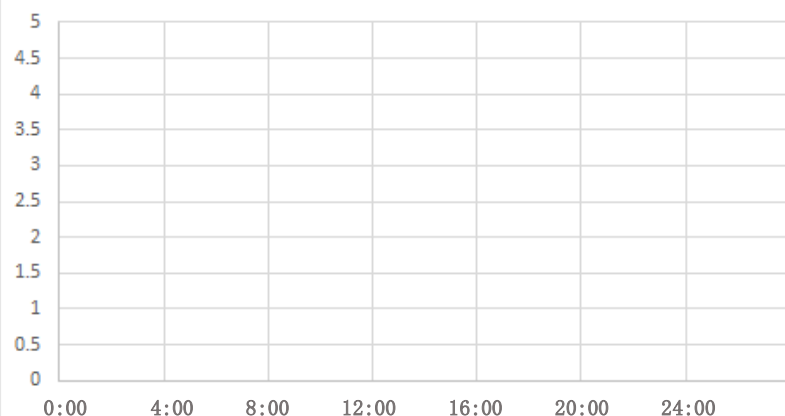
路段拥堵水平（24小时）类型A



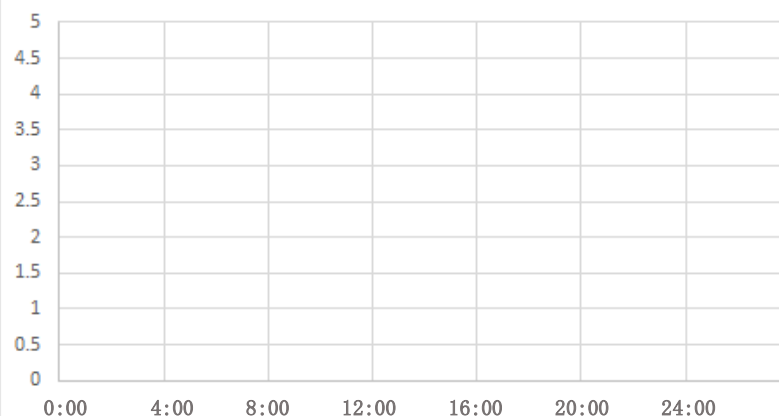
路段拥堵水平（24小时）类型B



路段拥堵水平（24小时）类型C



路段拥堵水平（24小时）类型D



2.2 方法（实时路况）Method 1

2.2.5 初步成果：12小时平均拥堵水平排序

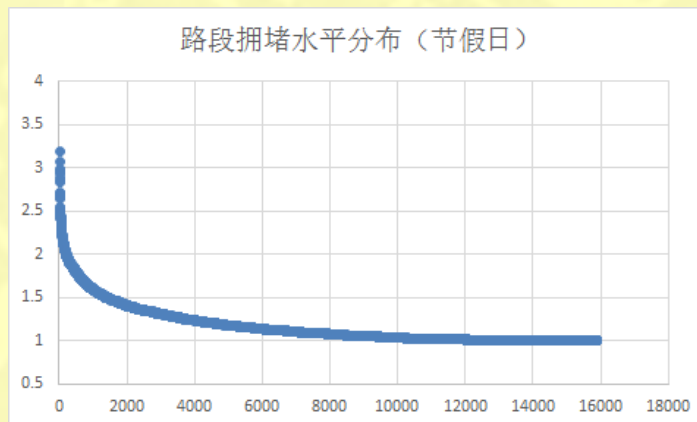
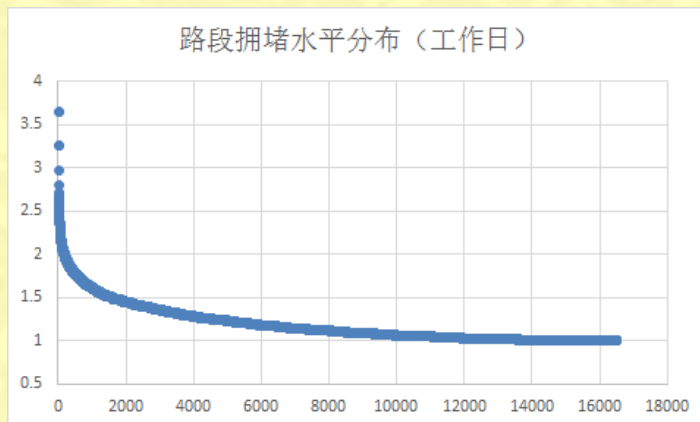


表 3 哈尔滨二环内日间 12 小时路段拥堵分级数量统计

拥堵水平	工作日		节假日	
	路段数量	占比	路段数量	占比
3.5 – 4.0	2	0.01%	0	0.00%
3.0 – 3.5	2	0.01%	2	0.01%
2.5 – 3.0	16	0.09%	28	0.16%
2.0 – 2.5	167	0.98%	176	1.03%
1.5 – 2.0	1375	8.05%	1188	6.95%
1.0 – 1.5	15526	90.86%	15694	91.84%

2.2 方法（实时路况）Method 1

2.2.6 初步成果：12小时平均拥堵水平空间分布

工作日
Weekday

图例

工作日

路段平均拥堵水平（12小时）

- 1.0 - 1.1
- 1.2 - 1.3
- 1.4 - 1.5
- 1.6 - 1.9
- 2.0 - 3.7



2.2 方法（实时路况）Method 1

2.2.6 初步成果：12小时平均拥堵水平空间分布

**节假日
Weekend**

图例

节假日

路段平均拥堵水平（12小时）

- 1.0 - 1.1
- 1.2 - 1.3
- 1.4 - 1.6
- 1.7 - 2.0
- 2.1 - 3.2



2.3 方法（交通详情）Method 2

2.3.1 提取后台数据超链接（URL）

开发者工具 - 北京市 城市实时交通详情 - <http://report.amap.com/detail.do?city=110000>

查看器 控制台 调试器 样式编辑器 性能 内存 网络 存储

所有 HTML CSS JS XHR 字体 图像 媒体 Flash WS 其他 禁用缓存 过滤 URL

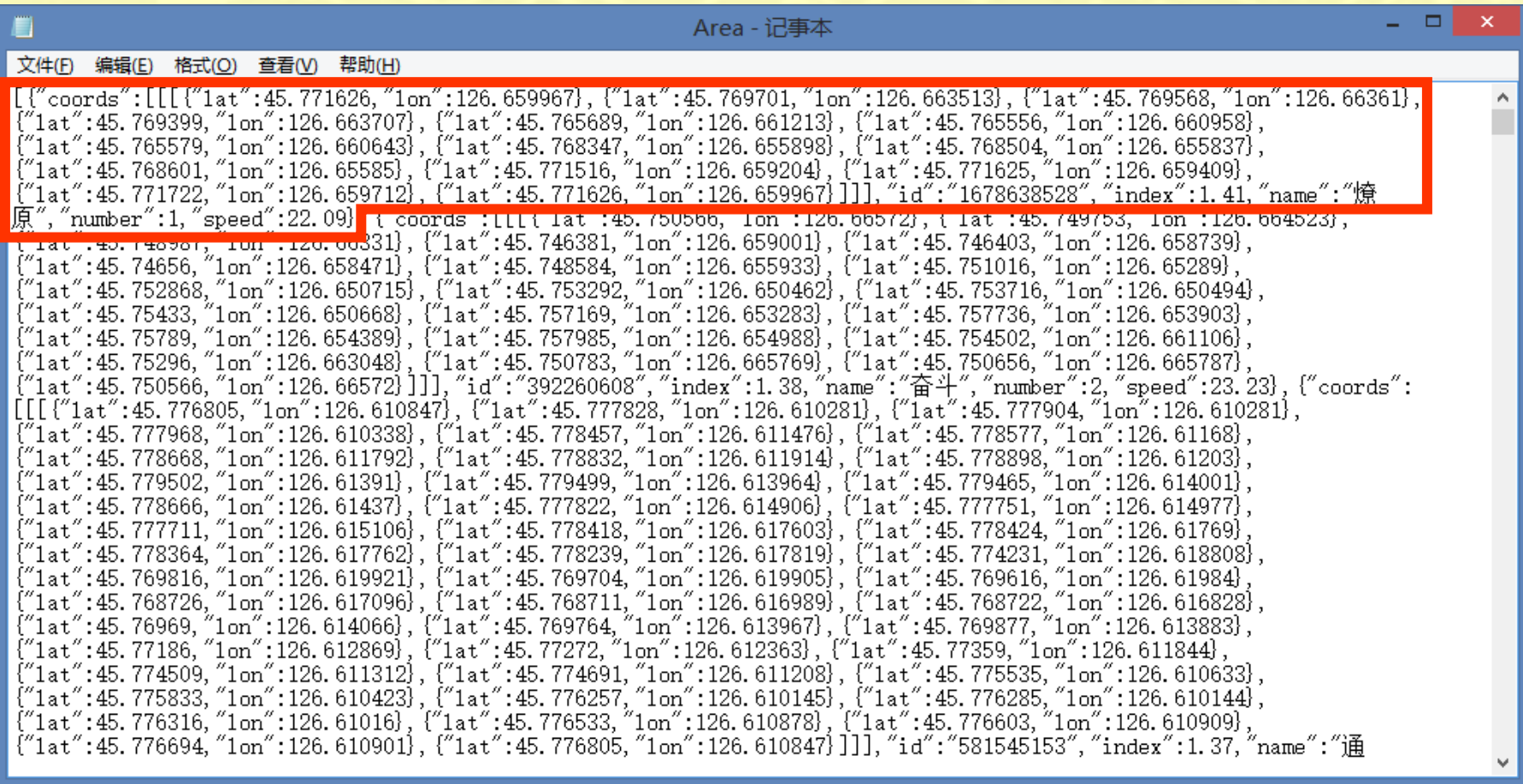
状态	方法	文件	域名	原因	类型	传输	大小	0 毫秒	5.12 秒	10.24 秒	15.36 秒
● 200	GET	cityHourly.do?cityCode=110000	report.amap.com	xhr	html	170 字节	485 字节	→ 44 ms			
● 200	GET	cityHourly.do?cityCode=110000	report.amap.com	xhr	html	170 字节	485 字节	→ 40 ms			
● 200	GET	cityDaily.do?cityCode=110000	report.amap.com	xhr	html	95 字节	150 字节	→ 42 ms			
● 200	GET	cityDaily.do?cityCode=110000	report.amap.com	xhr	html	95 字节	150 字节	→ 41 ms			
● 200	GET	districtRank.do?linksType=1&cityC...	report.amap.com	xhr	html	20.66 KB	119.59 KB	→ 101 ms			
● 200	GET	districtRank.do?linksType=3&cityC...	report.amap.com	xhr	html	2.21 KB	10.16 KB	→ 43 ms			
● 200	GET	roadRank.do?roadType=0&timeTy...	report.amap.com	xhr	html	6.55 KB	38.69 KB		→ 51 ms		
● 200	GET	roadRank.do?roadType=1&timeTy...	report.amap.com	xhr	html	13.25 KB	80.90 KB			→ 105 ms	
● 200	GET	roadRank.do?roadType=2&timeTy...	report.amap.com	xhr	html	6.55 KB	38.69 KB			→ 58 ms	
● 200	GET	roadRank.do?roadType=0&timeTy...	report.amap.com	xhr	html	6.55 KB	38.69 KB			→ 52 ms	
● 200	GET	cityDailyQuarterly.do?cityCode=11...	report.amap.com	xhr	html	440 字节	1.62 KB				→ 52 ms
● 200	GET	cityMergedHourly.do?cityCode=11...	report.amap.com	xhr	html	172 字节	342 字节				→ 80 ms

12 个请求 已传输 329.92 KB / 56.88 KB 完成：14.20 秒

按F12调出浏览器的“开发者工具”探测URL

2.3 方法（交通详情）Method 2

2.3.2 数据格式解读



```
Area - 记事本
文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

[{"coords":[[{"lat":45.771626,"lon":126.659967}, {"lat":45.769701,"lon":126.663513}, {"lat":45.769568,"lon":126.66361}, {"lat":45.769399,"lon":126.663707}, {"lat":45.765689,"lon":126.661213}, {"lat":45.765556,"lon":126.660958}, {"lat":45.765579,"lon":126.660643}, {"lat":45.768347,"lon":126.655898}, {"lat":45.768504,"lon":126.655837}, {"lat":45.768601,"lon":126.65585}, {"lat":45.771516,"lon":126.659204}, {"lat":45.771625,"lon":126.659409}, {"lat":45.771722,"lon":126.659712}, {"lat":45.771626,"lon":126.659967}]], "id": "1678638528", "index": 1.41, "name": "燎原", "number": 1, "speed": 22.09}, {"coords":[[{"lat":45.750566,"lon":126.66572}, {"lat":45.749753,"lon":126.664523}, {"lat":45.746381,"lon":126.659001}, {"lat":45.746403,"lon":126.658739}, {"lat":45.74656,"lon":126.658471}, {"lat":45.748584,"lon":126.655933}, {"lat":45.751016,"lon":126.65289}, {"lat":45.752868,"lon":126.650715}, {"lat":45.753292,"lon":126.650462}, {"lat":45.753716,"lon":126.650494}, {"lat":45.75433,"lon":126.650668}, {"lat":45.757169,"lon":126.653283}, {"lat":45.757736,"lon":126.653903}, {"lat":45.75789,"lon":126.654389}, {"lat":45.757985,"lon":126.654988}, {"lat":45.754502,"lon":126.661106}, {"lat":45.75296,"lon":126.663048}, {"lat":45.750783,"lon":126.665769}, {"lat":45.750656,"lon":126.665787}, {"lat":45.750566,"lon":126.66572}]], "id": "392260608", "index": 1.38, "name": "奋斗", "number": 2, "speed": 23.23}, {"coords":[[{"lat":45.776805,"lon":126.610847}, {"lat":45.777828,"lon":126.610281}, {"lat":45.777904,"lon":126.610281}, {"lat":45.777968,"lon":126.610338}, {"lat":45.778457,"lon":126.611476}, {"lat":45.778577,"lon":126.61168}, {"lat":45.778668,"lon":126.611792}, {"lat":45.778832,"lon":126.611914}, {"lat":45.778898,"lon":126.61203}, {"lat":45.779502,"lon":126.61391}, {"lat":45.779499,"lon":126.613964}, {"lat":45.779465,"lon":126.614001}, {"lat":45.778666,"lon":126.61437}, {"lat":45.777822,"lon":126.614906}, {"lat":45.777751,"lon":126.614977}, {"lat":45.777711,"lon":126.615106}, {"lat":45.778418,"lon":126.617603}, {"lat":45.778424,"lon":126.61769}, {"lat":45.778364,"lon":126.617762}, {"lat":45.778239,"lon":126.617819}, {"lat":45.774231,"lon":126.618808}, {"lat":45.769816,"lon":126.619921}, {"lat":45.769704,"lon":126.619905}, {"lat":45.769616,"lon":126.61984}, {"lat":45.768726,"lon":126.617096}, {"lat":45.768711,"lon":126.616989}, {"lat":45.768722,"lon":126.616828}, {"lat":45.76969,"lon":126.614066}, {"lat":45.769764,"lon":126.613967}, {"lat":45.769877,"lon":126.613883}, {"lat":45.77186,"lon":126.612869}, {"lat":45.77272,"lon":126.612363}, {"lat":45.77359,"lon":126.611844}, {"lat":45.774509,"lon":126.611312}, {"lat":45.774691,"lon":126.611208}, {"lat":45.775535,"lon":126.610633}, {"lat":45.775833,"lon":126.610423}, {"lat":45.776257,"lon":126.610145}, {"lat":45.776285,"lon":126.610144}, {"lat":45.776316,"lon":126.61016}, {"lat":45.776533,"lon":126.610878}, {"lat":45.776603,"lon":126.610909}, {"lat":45.776694,"lon":126.610901}, {"lat":45.776805,"lon":126.610847}]], "id": "581545153", "index": 1.37, "name": "通"}]
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2.3 方法（交通详情）Method 2

2.3.3 数据转换【Python】

TransformText.py - C:\Datum\BDMC_Project\BDMC_0.53Beta\TransformT... - □ ×

File Edit Format Run Options Windows Help

Area - 记事本

文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

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[{"coords": [[[{"lat": 45.771626, "lon": 126.659967}, {"lat": 45.769701, "lon": 126.663513}, {"lat": 45.769568, "lon": 126.66361}, {"lat": 45.769399, "lon": 126.663707}, {"lat": 45.765689, "lon": 126.661213}, {"lat": 45.765556, "lon": 126.660958}, {"lat": 45.765579, "lon": 126.660643}, {"lat": 45.768347, "lon": 126.655898}, {"lat": 45.768504, "lon": 126.655837}, {"lat": 45.768601, "lon": 126.65585}, {"lat": 45.771516, "lon": 126.659204}, {"lat": 45.771625, "lon": 126.659409}, {"lat": 45.771722, "lon": 126.659712}, {"lat": 45.771626, "lon": 126.659967}]]], "id": "1678638528", "index": 1.41, "name": "燎原", "number": 1, "speed": 22.09}, {"coords": [[[{"lat": 45.750566, "lon": 126.66572}, {"lat": 45.749753, "lon": 126.664523}, {"lat": 45.748987, "lon": 126.66331}, {"lat": 45.746381, "lon": 126.659001}, {"lat": 45.746403, "lon": 126.658739}, {"lat": 45.74656, "lon": 126.658471}, {"lat": 45.748584, "lon": 126.655933}, {"lat": 45.751016, "lon": 126.65289}, {"lat": 45.752868, "lon": 126.650715}, {"lat": 45.753292, "lon": 126.650462}, {"lat": 45.753716, "lon": 126.650494}, {"lat": 45.75433, "lon": 126.650668}, {"lat": 45.757169, "lon": 126.653283}, {"lat": 45.757736, "lon": 126.653903}, {"lat": 45.75789, "lon": 126.654389}, {"lat": 45.757985, "lon": 126.654988}, {"lat": 45.754502, "lon": 126.661106}, {"lat": 45.75296, "lon": 126.663048}, {"lat": 45.750783, "lon": 126.665769}, {"lat": 45.750656, "lon": 126.665787}, {"lat": 45.750566, "lon": 126.66572}]]], "id": "392260608", "index": 1.38, "name": "奋斗", "number": 2, "speed": 23.23}, {"coords": [[[{"lat": 45.777828, "lon": 126.610281}, {"lat": 45.777904, "lon": 126.610281}, {"lat": 45.777968, "lon": 126.610338}, {"lat": 45.778457, "lon": 126.611476}, {"lat": 45.778577, "lon": 126.61168}, {"lat": 45.778668, "lon": 126.611792}, {"lat": 45.778832, "lon": 126.611914}, {"lat": 45.778898, "lon": 126.61203}, {"lat": 45.779502, "lon": 126.61391}, {"lat": 45.779499, "lon": 126.613964}, {"lat": 45.779465, "lon": 126.614001}, {"lat": 45.778666, "lon": 126.61437}, {"lat": 45.777822, "lon": 126.614906}, {"lat": 45.777751, "lon": 126.614977}, {"lat": 45.777711, "lon": 126.615106}, {"lat": 45.778418, "lon": 126.617603}, {"lat": 45.778424, "lon": 126.61769}, {"lat": 45.778364, "lon": 126.617762}, {"lat": 45.778239, "lon": 126.617819}, {"lat": 45.774231, "lon": 126.618808}, {"lat": 45.769816, "lon": 126.619921}, {"lat": 45.769704, "lon": 126.619905}, {"lat": 45.769616, "lon": 126.61984}, {"lat": 45.768726, "lon": 126.617096}, {"lat": 45.768711, "lon": 126.616989}, {"lat": 45.768722, "lon": 126.616828}, {"lat": 45.76969, "lon": 126.614066}, {"lat": 45.769764, "lon": 126.613967}, {"lat": 45.769877, "lon": 126.613883}, {"lat": 45.77186, "lon": 126.612869}, {"lat": 45.77272, "lon": 126.612363}, {"lat": 45.77359, "lon": 126.611844}, {"lat": 45.774509, "lon": 126.611312}, {"lat": 45.774691, "lon": 126.61208}, {"lat": 45.775535, "lon": 126.610633}, {"lat": 45.775833, "lon": 126.610423}, {"lat": 45.776257, "lon": 126.610145}, {"lat": 45.776285, "lon": 126.610144}, {"lat": 45.776316, "lon": 126.61016}, {"lat": 45.776533, "lon": 126.610878}, {"lat": 45.776603, "lon": 126.610909}, {"lat": 45.776694, "lon": 126.610901}]]], "id": "392260608", "index": 1.38, "name": "奋斗", "number": 2, "speed": 23.23}]]], "id": "392260608", "index": 1.38, "name": "奋斗", "number": 2, "speed": 23.23}
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Result - 记事本

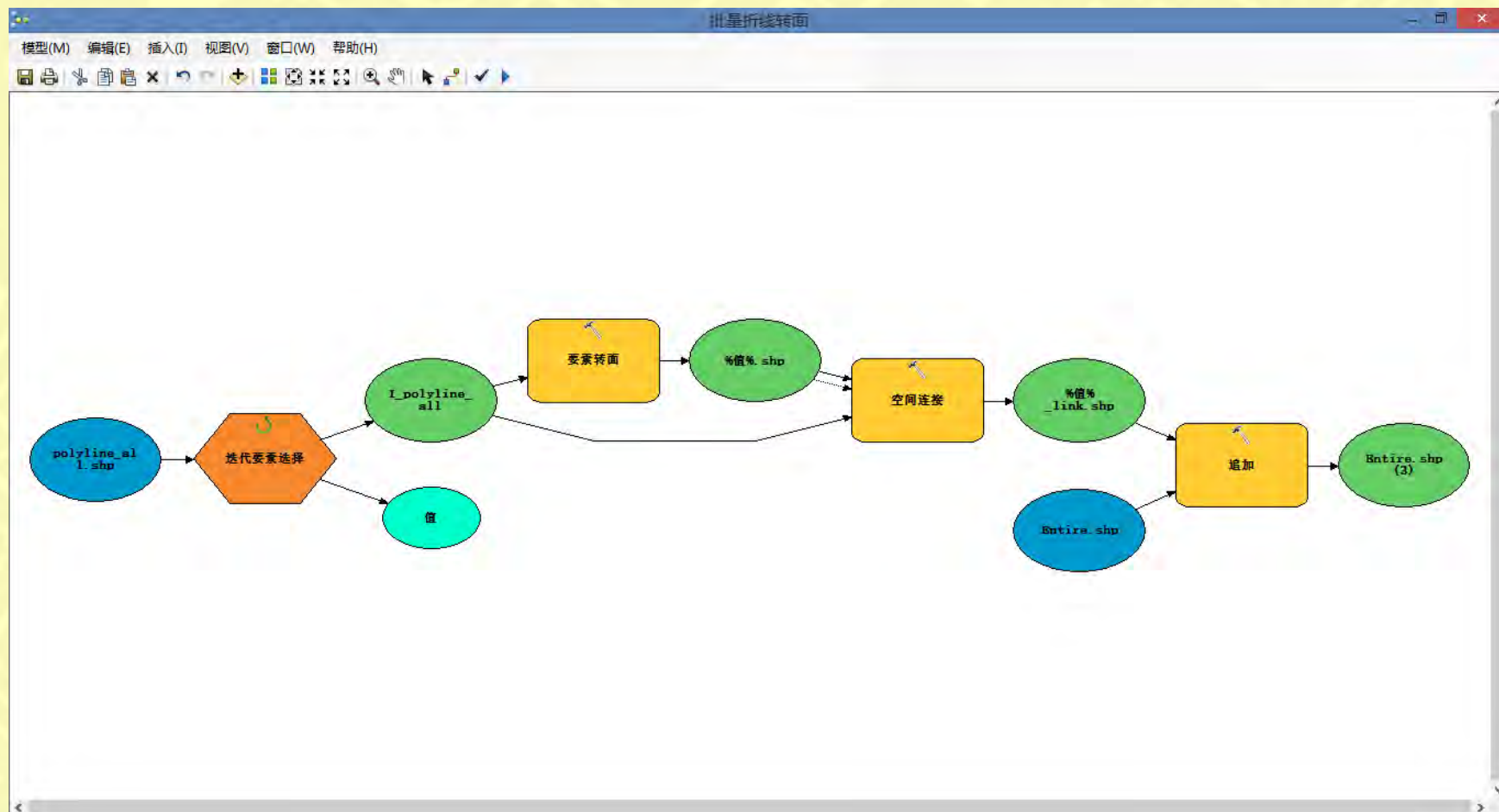
文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

1	45.725884	126.707487	3224541068	7.22	果园	1	6.29
2	45.728051	126.707281	3224541068	7.22	果园	1	6.29
3	45.731041	126.706483	3224541068	7.22	果园	1	6.29
4	45.732163	126.706437	3224541068	7.22	果园	1	6.29
5	45.733191	126.706384	3224541068	7.22	果园	1	6.29
6	45.733295	126.706403	3224541068	7.22	果园	1	6.29
7	45.733358	126.706432	3224541068	7.22	果园	1	6.29
8	45.733419	126.706502	3224541068	7.22	果园	1	6.29
9	45.73372	126.708179	3224541068	7.22	果园	1	6.29
10	45.734033	126.709844	3224541068	7.22	果园	1	6.29
11	45.734203	126.711209	3224541068	7.22	果园	1	6.29
12	45.734268	126.711542	3224541068	7.22	果园	1	6.29
13	45.734305	126.711779	3224541068	7.22	果园	1	6.29
14	45.734306	126.71185	3224541068	7.22	果园	1	6.29
15	45.734303	126.711905	3224541068	7.22	果园	1	6.29
16	45.734257	126.712237	3224541068	7.22	果园	1	6.29
17	45.734213	126.712553	3224541068	7.22	果园	1	6.29
18	45.734171	126.712854	3224541068	7.22	果园	1	6.29
19	45.734115	126.713266	3224541068	7.22	果园	1	6.29
20	45.734077	126.713542	3224541068	7.22	果园	1	6.29
21	45.734059	126.713672	3224541068	7.22	果园	1	6.29
22	45.734042	126.713793	3224541068	7.22	果园	1	6.29
23	45.734004	126.714091	3224541068	7.22	果园	1	6.29
24	45.734004	126.714091	3224541068	7.22	果园	1	6.29
25	45.733963	126.714409	3224541068	7.22	果园	1	6.29
26	45.733926	126.714705	3224541068	7.22	果园	1	6.29
27	45.733867	126.715135	3224541068	7.22	果园	1	6.29
28	45.733707	126.716271	3224541068	7.22	果园	1	6.29
29	45.733676	126.716413	3224541068	7.22	果园	1	6.29
30	45.733628	126.716461	3224541068	7.22	果园	1	6.29
31	45.733554	126.716468	3224541068	7.22	果园	1	6.29
32	45.731201	126.715899	3224541068	7.22	果园	1	6.29
33	45.726137	126.715107	3224541068	7.22	果园	1	6.29
34	45.724155	126.714575	3224541068	7.22	果园	1	6.29
35	45.724103	126.714534	3224541068	7.22	果园	1	6.29
36	45.724084	126.714473	3224541068	7.22	果园	1	6.29
37	45.724439	126.71174	3224541068	7.22	果园	1	6.29
38	45.724969	126.707938	3224541068	7.22	果园	1	6.29
39	45.725024	126.70771	3224541068	7.22	果园	1	6.29
40	45.725119	126.707618	3224541068	7.22	果园	1	6.29
41	45.725249	126.707552	3224541068	7.22	果园	1	6.29
42	45.725884	126.707487	3224541068	7.22	果园	1	6.29

Ln: 1 Col: 0

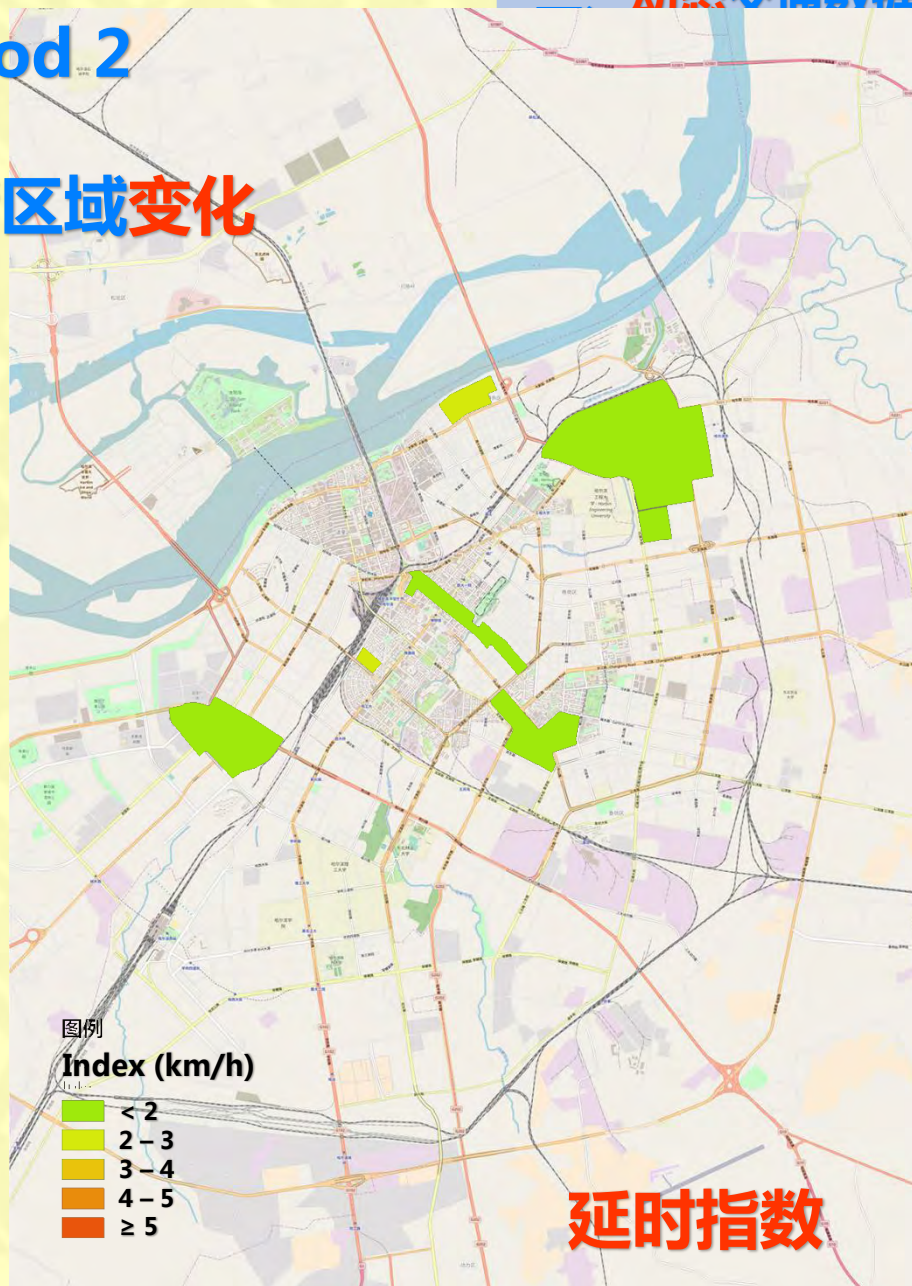
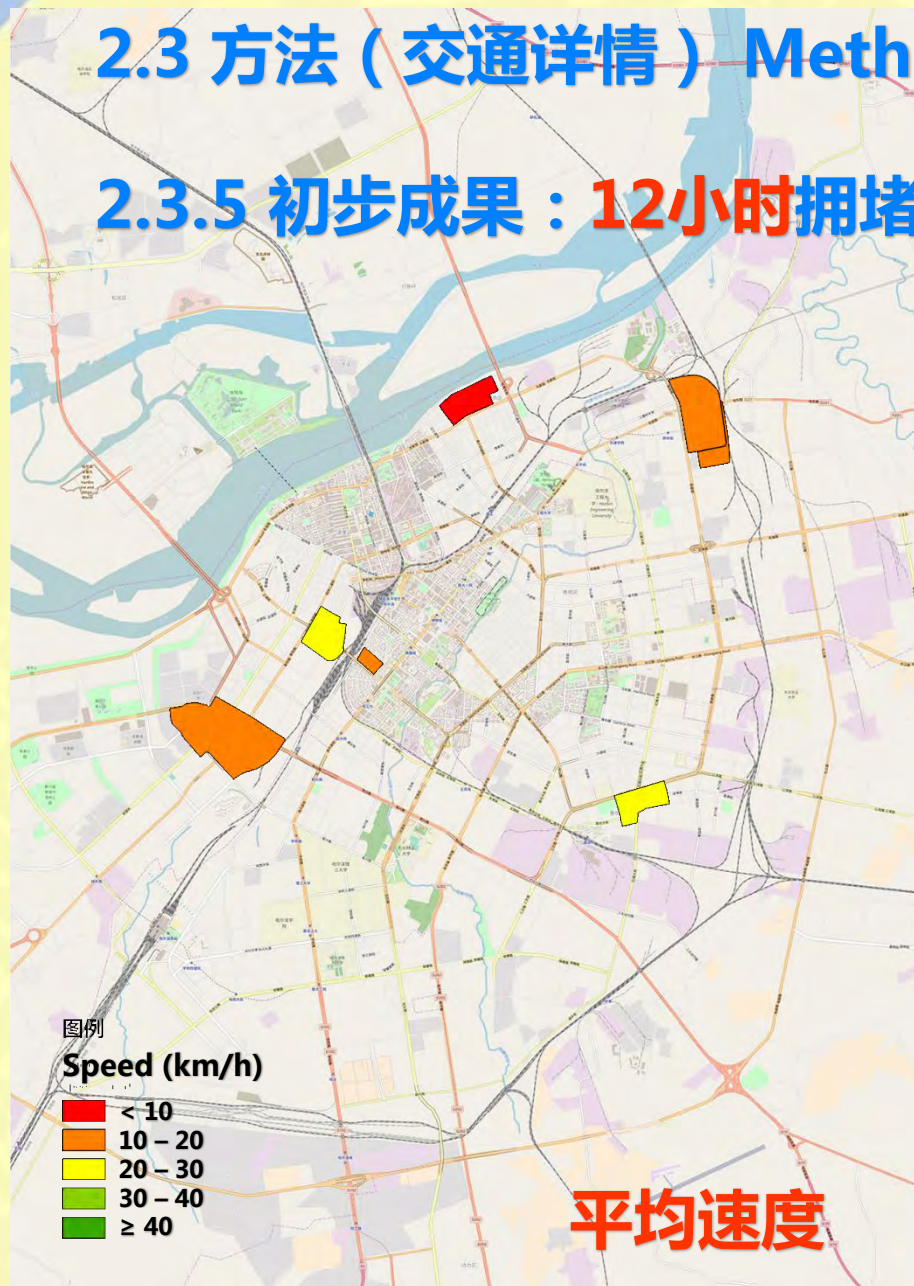
2.3 方法（交通详情） Method 2

2.3.4 属性传递



2.3 方法（交通详情）Method 2

2.3.5 初步成果：12小时拥堵区域变化



主要内容

- 一、国内数据研究现状
- 二、动态交通数据获取与应用
- 三、三维建筑数据获取与应用
- 四、百度地图截获器更新宣传
- 五、结语

3.1 数据源 Data Source

三维建筑物

开放数据 | 建筑 | 年 | 位置 | 形态



- 建筑物是城市物质空间最为基本和重要的构成要素，对城市规划与设计起到核心的支持作用
- 来自高德地图 (www.gaode.com) 和OSM地图 (www.openstreetmap.org) 等
 - OSM地图上中国城市的建筑物质量一般（非常少的建筑物）

清华大学研究生课程《大数据与城市规划》，龙瀛, ylong@tsinghua.edu.cn 62



资料来源：龙瀛. 城市大数据类型与典型数据介绍[EB/OL].
北京城市实验室BCL公众号. [2017-10-17].

3.1 数据源 Data Source

3.1.1 数据源质量与功能对比

电子地图建筑物数据对照表

	百度地图	高德地图	OSM
数据覆盖率	高	高	低
数据完整性	中	高	低
坐标系	BD09	GCS02	WGS84
获取方式	无API	无API	直接下载
数据加密	否	是	—

3.1 数据源 Data Source

3.1.2 部分数据抽查时间与结果

2017.03.20——西安，百度无数据，高德有数据

2017.03.25——长沙，百度无数据，高德有数据

2017.03.27——乌鲁木齐，百度无数据，高德有数据

2017.05.17——贵阳，百度无数据，高德有数据

2017.05.01——西安，百度已覆盖

2017.11.24——上述其余三市，百度已覆盖

2017.11.24——盘锦，百度有数据，高德无数据

3.1 数据源 Data Source

3.1.3 百度地图新变化

百度地图2017年2月23日将PC端升级为WebGL技术引擎，PC端实现**三维建筑物加载**，相关数据已**写入地图瓦**



图片来源：<http://map.baidu.com/?force=webgl>

3.2 方法 Method

3.2.1 提取矢量瓦片数据超链接 (URL)

开发者工具 - 百度地图 - http://map.baidu.com/?force=webgl

查看器 控制台 调试器 { } 样式编辑器 性能 内存 网络 存储

所有 HTML CSS JS XHR 字体 图像 媒体 Flash WS 其他 禁用缓存 过滤 URL

状态	方法	文件	域名	原因	类型	传输	大小	0 毫秒	1.37 分钟	2.73 分钟
200	GET	/?newmap=1&qt=cen&b=126760...	map.baidu.com	JS script	js	772 字节	1.87 KB			→ 62 ms
200	GET	/?newmap=1&qt=cen&b=126770...	map.baidu.com	JS script	js	772 字节	1.87 KB			→ 47 ms
200	GET	/pvd/?qt=tile&x=3096&y=624&z...	online1.map.bdim...	xhr	js	12.46 KB	37.31 KB			→ 16 ms
200	GET	/pvd/?qt=tile&x=3095&y=624&z...	online4.map.bdim...	xhr	js	7.11 KB	21.58 KB			→ 48 ms
200	GET	/pvd/?qt=tile&x=3097&y=624&z...	online2.map.bdim...	xhr	js	11.41 KB	29.75 KB			→ 16 ms
200	GET	/pvd/?qt=tile&x=3096&y=625&z...	online2.map.bdim...	xhr	js	12.87 KB	37.52 KB			→ 68 ms
200	GET	/?newmap=1&qt=cen&b=126780...	map.baidu.com	JS script	js	771 字节	1.87 KB			→ 63 ms
200	GET	/?newmap=1&qt=cen&b=126780...	map.baidu.com	JS script	js	772 字节	1.87 KB			→ 218 ms
200	GET	/pvd/?qt=tile&x=3098&y=624&z...	online3.map.bdim...	xhr	js	8.10 KB	21.00 KB			→ 31 ms
200	GET	/pvd/?qt=tile&x=3095&y=625&z...	online1.map.bdim...	xhr	js	10.56 KB	35.54 KB			→ 110 ms
200	GET	/pvd/?qt=tile&x=3097&y=625&z...	online3.map.bdim...	xhr	js	14.49 KB	36.58 KB			→ 203 ms
200	GET	/pvd/?qt=tile&x=3098&y=625&z...	online4.map.bdim...	xhr	js	12.45 KB	32.34 KB			→ 141 ms
200	GET	/?newmap=1&qt=cen&b=126830...	map.baidu.com	JS script	js	772 字节	1.87 KB			→ 31 ms
200	GET	/?newmap=1&qt=cen&b=126830...	map.baidu.com	JS script	js	773 字节	1.87 KB			→ 47 ms
200	GET	/pvd/?qt=tile&x=24773&y=4999...	online1.map.bdim...	xhr	js	12.19 KB	25.38 KB			→ 15 ms
200	GET	/pvd/?qt=tile&x=24772&y=4999...	online4.map.bdim...	xhr	js	15.73 KB	33.85 KB			→ 31 ms
200	GET	/pvd/?qt=tile&x=24774&y=4999...	online2.map.bdim...	xhr	js	12.66 KB	24.61 KB			→ 31 ms
200	GET	/pvd/?qt=tile&x=24773&y=4998...	online4.map.bdim...	xhr	js	16.54 KB	35.71 KB			→ 59 ms
200	GET	/pvd/?qt=tile&x=24775&y=4999...	online3.map.bdim...	xhr	js	11.91 KB	23.60 KB			→ 78 ms
200	GET	/pvd/?qt=tile&x=24772&y=4998...	online3.map.bdim...	xhr	js	15.10 KB	33.88 KB			→ 120 ms
200	GET	/pvd/?qt=tile&x=24774&y=4998...	online1.map.bdim...	xhr	js	9.84 KB	19.66 KB			→ 16 ms
200	GET	/pvd/?qt=tile&x=24775&y=4998...	online2.map.bdim...	xhr	js	12.17 KB	24.64 KB			→ 31 ms

97 个请求 已传输 5.11 MB / 644.00 KB 完成 : 2.95 分钟 DOMContentLoaded: 3.42 秒 load: 3.61 秒

3.2 方法 Method

3.2.2 数据格式解读

pvd_3 - 记事本

文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

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3.2 方法 Method

3.2.3 数据转换

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文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

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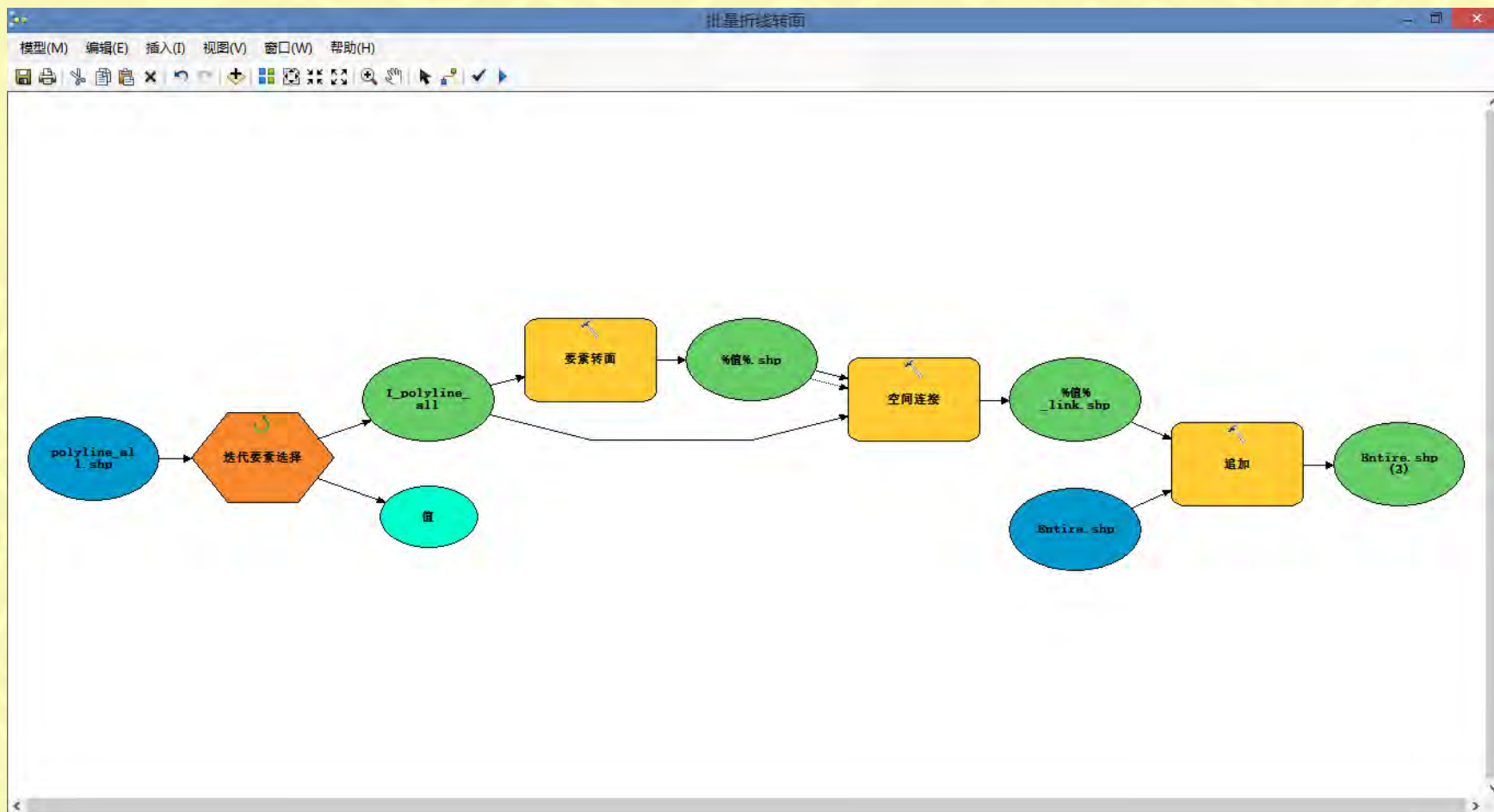
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BLD_20171121035623 - 记事本
文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

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3 63415236 12810190 47.90 1 6930eda706fc4141bf4ac8970c1acd81
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6 63415937 12808234 41.00 4 35d454003a19443baa682fcbbfb27559
7 63415898 12808233 41.00 4 35d454003a19443baa682fcbbfb27559
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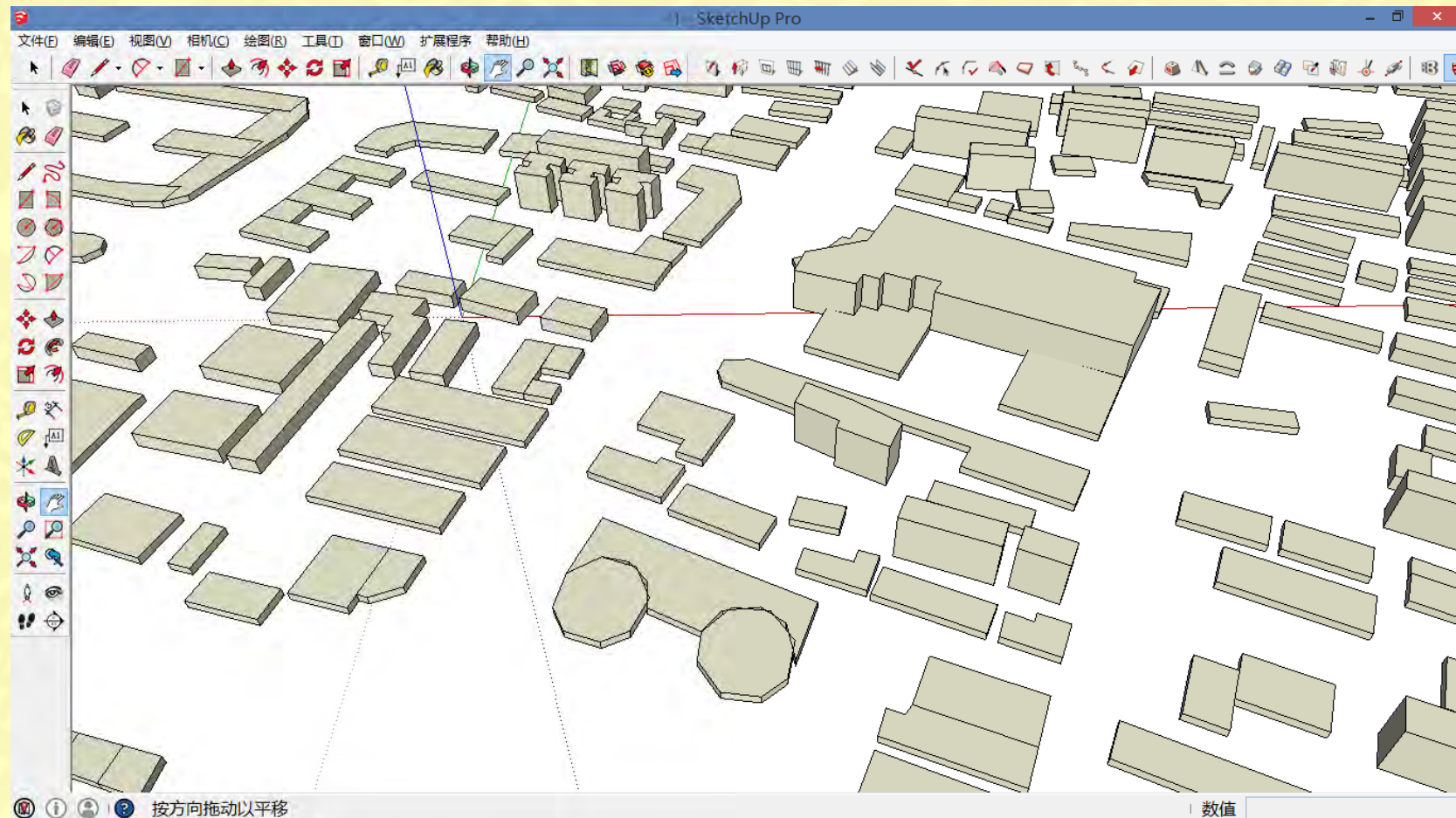

3.2 方法 Method

3.2.4 属性传递



3.2 方法 Method

3.2.5 初步成果：构建三维模型



3.2 方法 Method

3.2.6 初步成果：天际线分析



3.2 方法 Method

3.2.7 引用示例：高度秩序分析

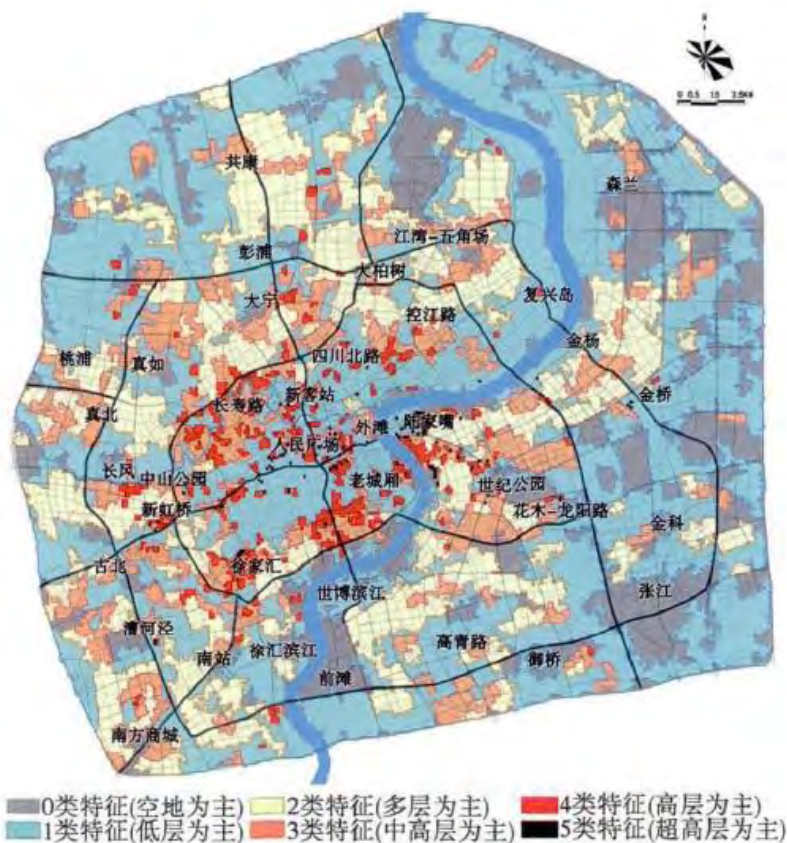


图6 上海中心城区建筑高度聚合计算图
Fig.6 The calculation chart of Shanghai's central area

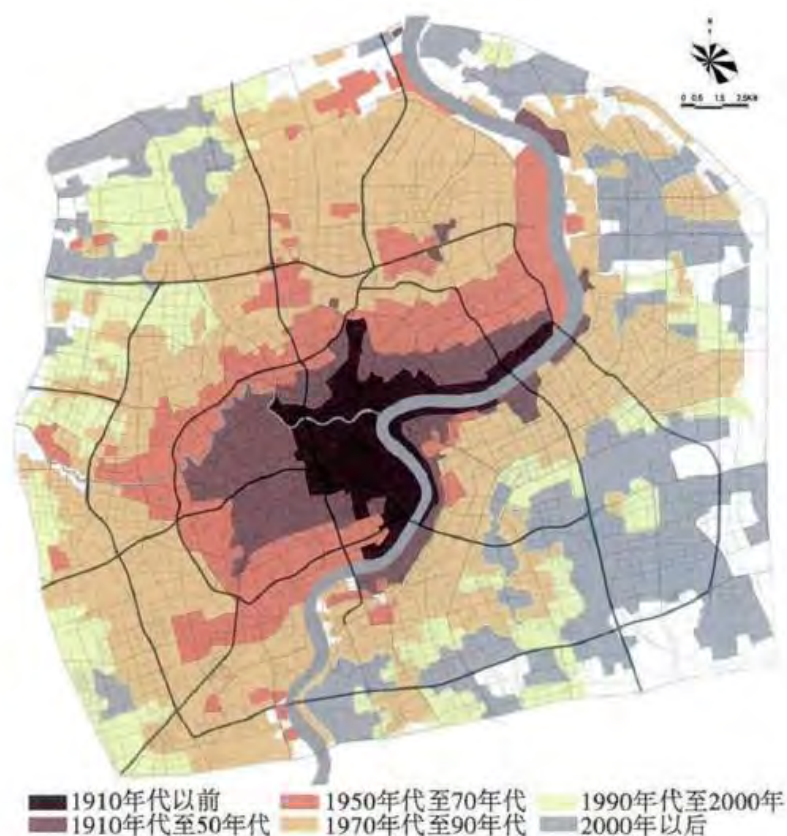


图7 上海中心城区空间发展历程示意图
Fig.7 The process of spatial development in Shanghai's central area

图片来源：周俭,俞静,陈雨露,陆天赞. 上海总体城市设计中的城市高度秩序研究[J].
城市规划学刊,2017,(02):61-68.

3.3 对比 Compare



高德地图瓦片处理结果



百度地图瓦片处理结果

主要内容

- 一、国内数据研究现状
- 二、动态交通数据获取与应用
- 三、三维建筑数据获取与应用
- 四、百度地图截获器更新宣传**
- 五、结语

百度地图截获器的进化 Evolution

百度地图截获器 1.0 Beta

架构重做：从‘屏幕截取’到‘瓦片拼接’

操作调整：从‘中心点+窗口尺寸’到‘自定义范围’

效能提高：从‘8000×8000’到‘20480×20480’

兼容性提高：从‘火狐浏览器’到任意浏览器

双模式并行：‘下载瓦片+拼接’或‘内存缓存+拼接’

其他功能变动：

暂时去掉测试中的百度街景导航图层、实时路况图层

暂时去掉自定义模板

增加了百度地图矢量建筑物折点的获取功能

主要内容

- 一、国内数据研究现状
- 二、动态交通数据获取与应用
- 三、三维建筑数据获取与应用
- 四、百度地图截获器更新宣传
- 五、结语**

好的“研究” Good Research

关于研究

获得新知识的探索过程

好的“研究” Good Research

关于好研究

获得有用的新知识的研究

好的“研究” Good Research

关于好的“研究”

（对大建筑学科而言）

获得有用、且可用、最好还易用的知识的“研究”

换言之，具有针对性、能解决问题、可以被推广

“研究” 目的 Aim

降低壁垒，提高效率，改善生活

仅以此研究献给：

每一位，努力学习的学生

每一位，辛勤工作的规划师

每一位，刻苦钻研的学者

每一位，不远千里相聚于此的你

汇报完毕 谢谢



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