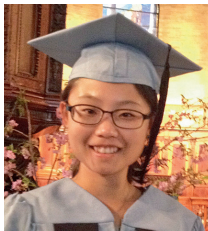


CITYIF规划云平台

CITYIF PLANNING CLOUD PLATFORM



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摘要

本文从筹划背景、设计理念、实践案例三个角度对CITYIF规划云平台项目进行了介绍，阐述了项目如何支持和策划线下活动，并利用互联网、地理信息系统、数据挖掘、社会感知等技术面向大众提供线上的应用服务。

关键词

CITYIF规划云平台；规划公众参与；互联网+

ABSTRACT

This article introduces the background and design concept of the CITYIF Planning Cloud Platform, shows practical cases based on the Cloud platform, and describes how can CITYIF support offline events and provide online application services through taking use of Internet, Geographic Information System, social perceptions, etc.

KEY WORDS

CITYIF Planning Cloud Platform; Public Participation Planning; Internet+

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1. CITYIF规划云平台的三大资源平台

1. CITYIF Planning Cloud Platform consists of three resource platforms.

1 项目背景

在新型城镇化的背景下，原有的宏大愿景式规划正在悄然改变，城市规划的关注重点从技术过程转向社会过程，大量扩张型规划在向存量型的微小更新转变，精英式规划也转向了协作式规划。

另一方面，信息技术的发展促进了大数据应用、社交网络和自媒体的兴起，让每一个微小的个体变得不容忽视。从微博、微信到云计算、云服务，这些技术革命带动着整个社会的变革。而这种变革体现出以下三个特征：微小元素的资源集成效应；互动与共享的生产生活方式；以及，信息与技术的扁平化传播和易扩展性。

北京市城市规划设计研究院的院长施卫良提出：“如果我们用‘微时代’来表征这个时期的社会特性，那么应对‘微时代’的规划应该是一种‘云规划’。这种规划更趋向于一个能提供集合的技术服务与交互式体

① CITYIF规划云平台网址：www.cityif.com。
② CITYIF规划云平台微信公众号：cityif。
③ CITYIF规划云平台新浪微博账号：@CITYIF。



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验，提供互动与共享的多专业协同，提供规划师与政府、市场及社会的沟通协作的云平台。”城市规划云平台的概念就此诞生。

2 设计理念

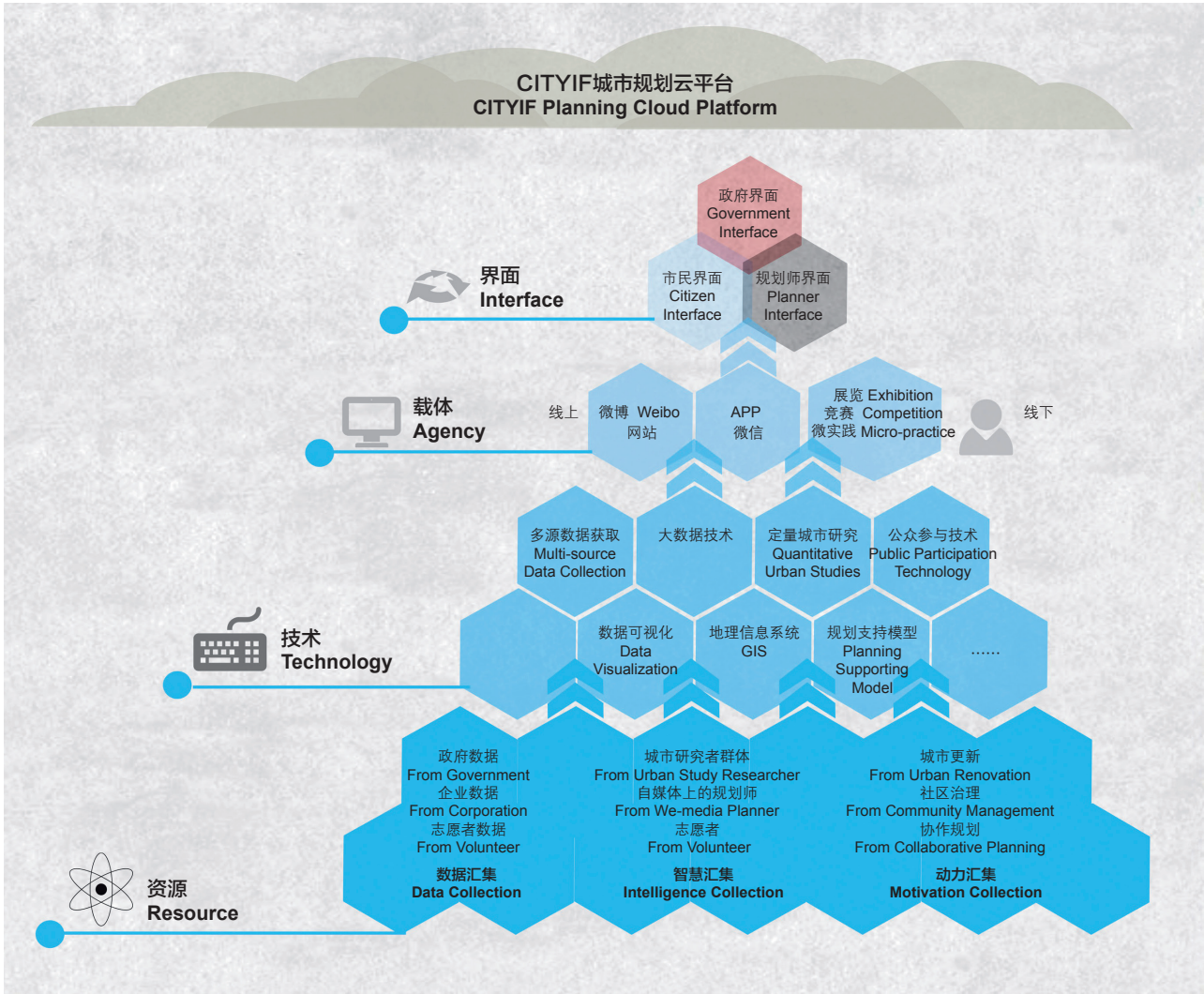
该平台由三类资源平台构成（图1）：第一类，用数据平台去获取、处理和挖掘大数据时代的丰富数据资源，并应用于城市规划和研究；第二类，用智慧平台去汇集规划师自组织群体的智慧；第三类，用动力平台去集合自下而上的社区治理的力量。

这三大平台汇集了数据、智慧和动力方面的基础资源，通过定量城市研究、地理信息系统、数据可视化等多种方式对这些基础资源进行技术处理整合；然后基于线上和线下的载体，如网站、微博、微信及展览等，向大众进行展示和传播；最终通过政府界面、规划师界面和市民界面，为不同的用户群体提供应用服务。我们将这一规划云平

台被命名为“CITYIF”，一方面代表着城市（CITY）未来的不确定性（IF），另一方面，IF也是Interface（界面）一词的缩写，代表着政府、规划师和市民这三个界面（图2）。

作为云平台的重要组成部分，CITYIF网站^①包含了7个板块：“首页”版块展示了当前开展的热点活动，以及面向社会提供的最新应用等；“事件”版块展示了CITYIF所组织或参与的会议、展览、竞赛等微实践活动；在“界面”版块中，政府、规划师和市民可以分别找到可供他们使用的应用服务；此外，“数据服务”、“系统服务”和“资源”版块提供了更多技术开放内容。

CITYIF新媒体平台包括CITYIF微信公众号^②和CITYIF微博^③，用以发布云平台的原创文章和活动信息。此外，微信公众号中嵌入了多个CITYIF应用链接——包括CITYIF网址及微实践活动等——成为了云平台的重要入口。为了扩大新媒体平台的传播能力，



CITYIF与国内多个规划相关的自媒体展开合作，建立了城市规划微信公众号联盟。

3 实践案例

(1) 城市界面展
2014年9月25日至10月19日，北京市城市规划设计研究院结合北京国际设计周位于大栅栏新街展区的展区，举办了“城市界面”展览（图3）。该展览的命名取意城乡规划云平台CITYIF，是云平台开展的第一个微实践活动。展览高度契合CITYIF的“界面”含义，以北京市从古至今、从点（门）到线（街道）到面（城市）的要素为素材设计了多种

可供市民和规划师参与的环节形式，包括展出居住在前门地区的市民画作、微信与微博互动、照片墙、扎针地图、线上导览系统等（图4）。

(2) 街道环境改善设计竞赛
“诗意地行走！——街道环境改善设计竞赛”是由北京市规划委员会、北京市城市规划设计研究院联合发起，清华大学等6所在京高校共同参与的，针对北京的4条道路开展的街道环境改善方案设计竞赛活动。作为此次竞赛活动的公众参与平台和宣传平台，CITYIF开发了公众参与网络地理信息系统（WebGIS）（图5），通过互动式地图向公

众展示各个方案，并收集公众对方案的反馈意见。活动期间，在志愿者的组织下，参观展览的公众通过用不同颜色的图钉“扎针”的方式绘制了“北京城市步行道环境评价”地图（图6），共收集了1 561个正负面评价点。

基于这些评价点，云平台开发了在线的“扎针地图”，使公众可以超越展览活动的时空限制，对北京的街道步行环境进行持续评价（图7）。CITYIF团队对所有扎针点进行了空间调查，对每一个点都抓取了8个角度的街景照片；通过视觉判断各点的实际步行环境，归结出设施占道、停车占道、可达性、魅力空间、视线遮挡、步行尺度、绿化

2. CITYIF规划云平台的框架结构
2. Structure of CITYIF Planning Cloud Platform

- 3.4. 城市界面展之线上导览系统截图示意
- 3.4. Screenshot of the online guide of the City Interface Exhibition



景观、地面铺装、无障碍性等9项评估步行环境的指标（图8）。其次，每个点根据其9项指标分数绘制了雷达图。最后，团队将每个点的评分结果、公众评价、街景照片和雷达图进行在线发布，以方便公众查阅。为了让评价可持续进行，CITYIF正在开发在线“扎针”功能，并试图将之嵌入微信平台，从而实现动态评估。扎针地图的成果也将被应用于北京市步行与自行车交通系统规划当中。

(3) 长辛店老镇复兴计划
长辛店是地处北京西南的一个有着千年历史的老镇，拥有深厚的文化底蕴，同时也面临着市政设施、公共服务设施缺乏，街道环境无序等诸多问题。长辛店复兴计划的“DI众设计活动”——其中“DI”是“Destination Imagination”的缩写，即“目的地想象”——旨在通过号召10余家设计单位自愿提出改造方案，为长辛店老镇寻找复兴之路。

在该项目中，CITYIF团队为老镇制作了“心情地图”：团队首先对涉及长辛店的微博和贴吧、天涯社区等社交网络和网站新闻内容进行了收集，包括8 221条微博消息、3 220条论坛讨论、600余则网页新闻，共计300余万字的基础数据，随后对这些数据进行了语义分析，提取了关键词。由此，我们可以感知老镇居民最关注的话题，例如拆迁安置、基础设施改善、交通发展等。通过语义情感分析，我们可以得到老镇每一个兴趣点的情绪是积极还是消极（图9）。不同于以往“请公众来”的参与方式，在该“心情地图”的制作过程中，规划师是通过信息技术“到公众那里去”主动获取他们对城市空间和设施的评价，是一次“公众自动参与”的尝试，亦是对“感知即参与”观点的实证，其有望成为未来规划公众参与的一种常态。

(4) 地铁调价影响分析
在北京市发布公交票价调整听证的两个方案后，CITYIF启动了地铁调价影响分析应用项目，综合运用了多源数据获取、数据分析、大数据处理、WebGIS与数据可视化技术等多种技术，开发了一个直观的价格查询工具，使公众可以明确知道票价调整后自己的出行成本（图10）。此项目不仅可以更加清晰直观地为政府有关部门提供政策对不同区域市民的影响，同时更是一个面向市民的政策方案对比应用，可直接服务于所有访问本应用的市民。

(5) 徐霞客计划
“徐霞客计划”是一个中国国土范围内的、以平方公里为单位网格尺度的微观数据平台（图11）。CITYIF通过提供技术、指南和工具，协助大规模微观数据持有者（包括国内的主要规划院和项目组成员，以及志愿者）将其数据上传到以平方公里为单位网格尺度的徐霞客平台上，并将数据汇总起来，进而形成一个“众包”的中国基础开放数据平台，并希望能够为定量城市和区域研究工作提供全面而透明的数据支持。

4 结语

CITYIF规划云平台从2014年9月底上线以来，支持和策划了多项线下活动，并利用互联网、地理信息系统、数据挖掘、社会感知等技术，提供了14项线上应用服务，获得了一定的影响力。这些探索和实践是北京市城市规划设计研究院对“互联互通、共享共治、众筹众创”的互联网精神的响应，是应对规划转型、实现协同共治的战略举措。CITYIF也期待更广泛的社会合作，希望能够集自下而上的社会之力，与公众同规划。LAF



1 Background

In the context of new urbanization in China, the visionary planning approach is not so widely applied any more, with shifts of the focus of urban planning from technical process to social process, from massive city sprawl to inventory, small-scale urban renovation, from elitist planning to collaborative planning.

Meanwhile, the development of information technology has facilitated the growth of big data application, social networks and we-media. Consequently, no individual, regardless of how minuscule, can be ignored. The technical revolution, ranging from Weibo and WeChat to Cloud computing and Cloud services, has been driving a transformation sweeping the entire society. Three trends have been

highlighted in this transformation: the accumulative effect of micro factors; a mode of production and lifestyle based on interaction and sharing; and finally, the flattened spread and easy expansibility of information and technology.

Weiliang Shi, President of Beijing Municipal Institute of City Planning and Design (BICP), stated, “If we characterize the contemporary social nature as ‘micro-era’, urban planning, correspondingly, should be a type of ‘Cloud Planning’ platform which is advantageous in providing a set of technical services and interactive experiences, facilitating multi-disciplinary collaboration with interaction and knowledge sharing, and establishing effective communication and collaboration between planners and government, clients, as well as the

public.” This gave birth to the concept of urban planning Cloud platform.

2 Design Concept

This Cloud platform consists of three kinds of resource platform (Fig. 1): First, a data platform, by which vast amount of data can be mined, processed and analyzed, to support urban planning and research. Second, an intelligence platform, which is a collective intelligent tank contributed by self-organized planner groups. Third, a motivation platform, where gathers the bottom-up strength of community management.

These three platforms collect basic resources, integrate them through technical methods such as quantitative city research, Geographical Information System and data visualization, and

5. 诗意地行走公众参与 WebGIS系统截图示意
6. 公众参与扎针地图

5. Screenshot of the WebGIS system of Walking in Poetry
6. Public participation to the Pinning Map

- ① Website of CITYIF Planning Cloud Platform: www.cityif.com.
- ② WeChat account of CITYIF Planning Cloud Platform: cityif.
- ③ Weibo account of CITYIF Planning Cloud Platform: @ CITYIF.

communicate to the public through the online and offline agencies, for instance, website, Weibo, WeChat, exhibitions, etc. Application services for different users are provided separately through government interface, planner interface, and citizen interface. CITYIF, the name of this planning Cloud platform, represents the uncertainty (if) of the city. Meanwhile, as the abbreviation for the word “Interface”, “IF” represents the three interfaces for government, planner and citizen as well (Fig. 2).

The official website of CITYIF^① is an important part of the Cloud platform that contains seven sections: “Home” section exhibits current activities and the latest applications; “Events” section posts the news of conferences, exhibitions, competitions related with CITYIF; “Interfaces” section provides the application download service for government, planners and citizens. More open technical information can be found in the “Data Services”, “System Services” and “Resources” sections.

CITYIF’s new media platform includes its official WeChat^② and Weibo^③, through which original articles and events information can be timely released to the audience. Furthermore, application links are provided by the WeChat platform, allowing users easily access to CITYIF’s website and many practical activities that has become a gateway of the Cloud platform. CITYIF also has established solid collaborations with many planning we-media in China, and founded an urban planning alliance

on the WeChat platform to gain more influence of its new media platforms.

3 Practices

(1) City Interface Exhibition

From 25 September to 19 October, 2014, the exhibition “City Interface” was held by BICP at Dashilar Community, Beijing, in the annual Beijing Design Week (Fig. 3). The exhibition was named after the CITYIF Planning Cloud Platform. As the first micro-practice by the Cloud platform, the exhibition perfectly embodied the “Interface” spirit of CITYIF by allowing planners and citizens to participate diverse activities that cover various elements of Beijing, ranging from ancient times to contemporary, in different levels and

scales from point (door), line (street), to surface (city). Paintings by the drawlers who live in the Qianmen area, an old Peking neighborhood, were presented in the exhibition. Visitors were also invited to participate events on WeChat and Weibo platform, Photo Wall, Pinning Map, online navigation system and other activities (Fig. 4).

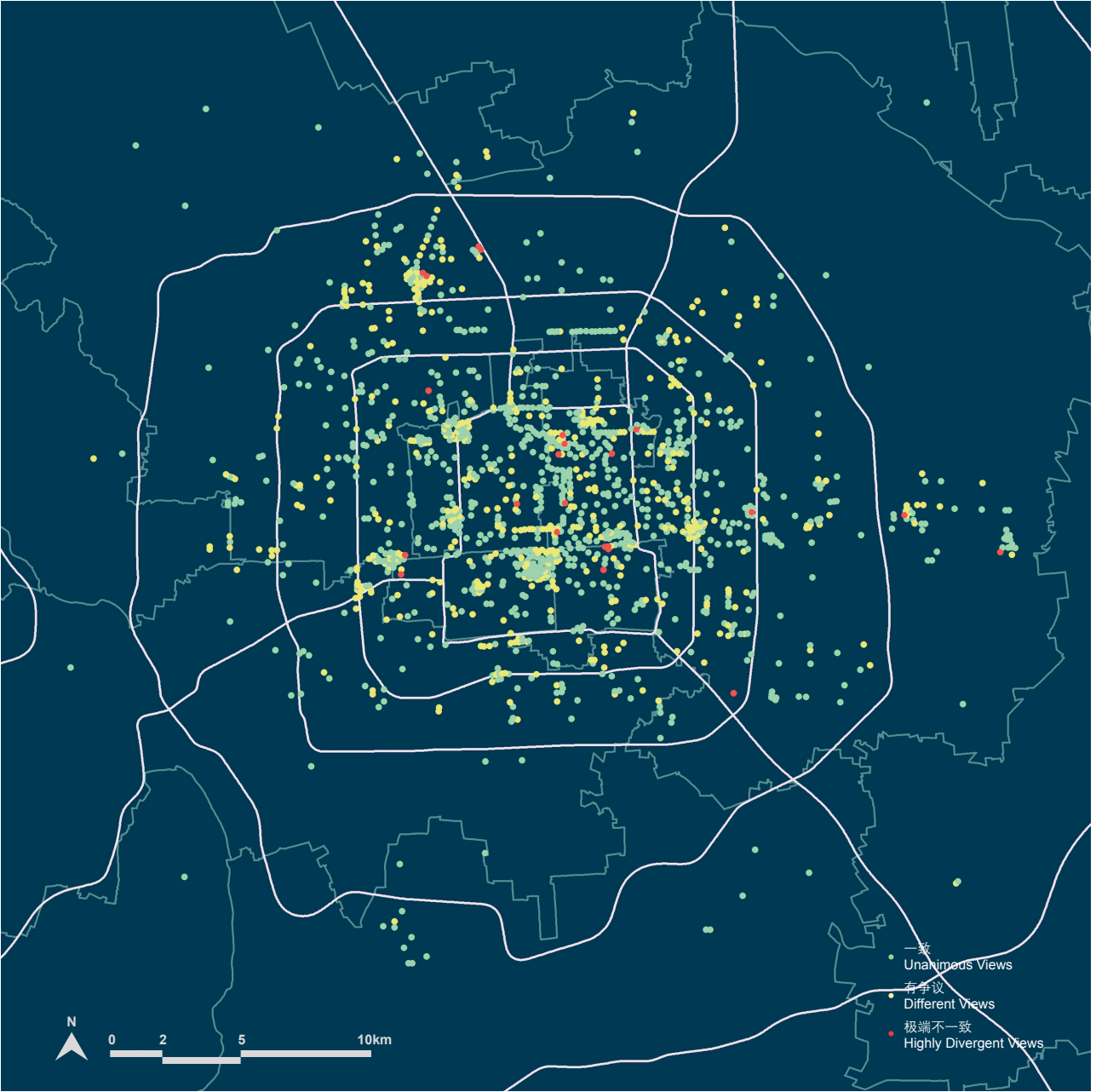
(2) Streetscape Design Competition

The “Walking in Poetry — Streetscape Design Competition” was sponsored by Beijing Municipal Commission of Urban Planning with BICP, and invited six universities in Beijing, ncluding Tsinghua University, to explore solutions to improve the streetscape of four streets in the city. As the social engagement access and media platform of the competition,



CITYIF developed the WebGIS system (Fig. 5), by which users can review each design proposal through interactive maps, and leave their comments. A synchronous exhibition was held that invited visitors to evaluate various streetscapes by pinning marks in different colors. 1,561 marks with positive or negative comments were collected, and finally, a map of “Environmental Evaluation of Sidewalk in Beijing” was formed (Fig. 6).

Based on these evaluations and comments, CITYIF has developed an online “Pinning Map”, through which users can evaluate the walking environment in Beijing beyond the duration of the exhibition (Fig. 7). The CITYIF team investigated every location marked in the map, and took photos of the streetscape from eight different views individually. In the process of visual judgments of actual walking environment, nine evaluation aspects have been summed up, including road occupation by facilities, road occupation by parking, accessibility, attraction, visual block, pedestrian comfort level, landscape / greenery level, pavement, and barrier free access (Fig. 8). Then, a radar chart of each streetscape was generated based on the nine indicators. The evaluation results, public comments, streetscape photos, and radar charts have been released online. To establish an on-going evaluation platform, CITYIF has been developing the service supporting online “pinning”, and attempting to embed it into the WeChat platform

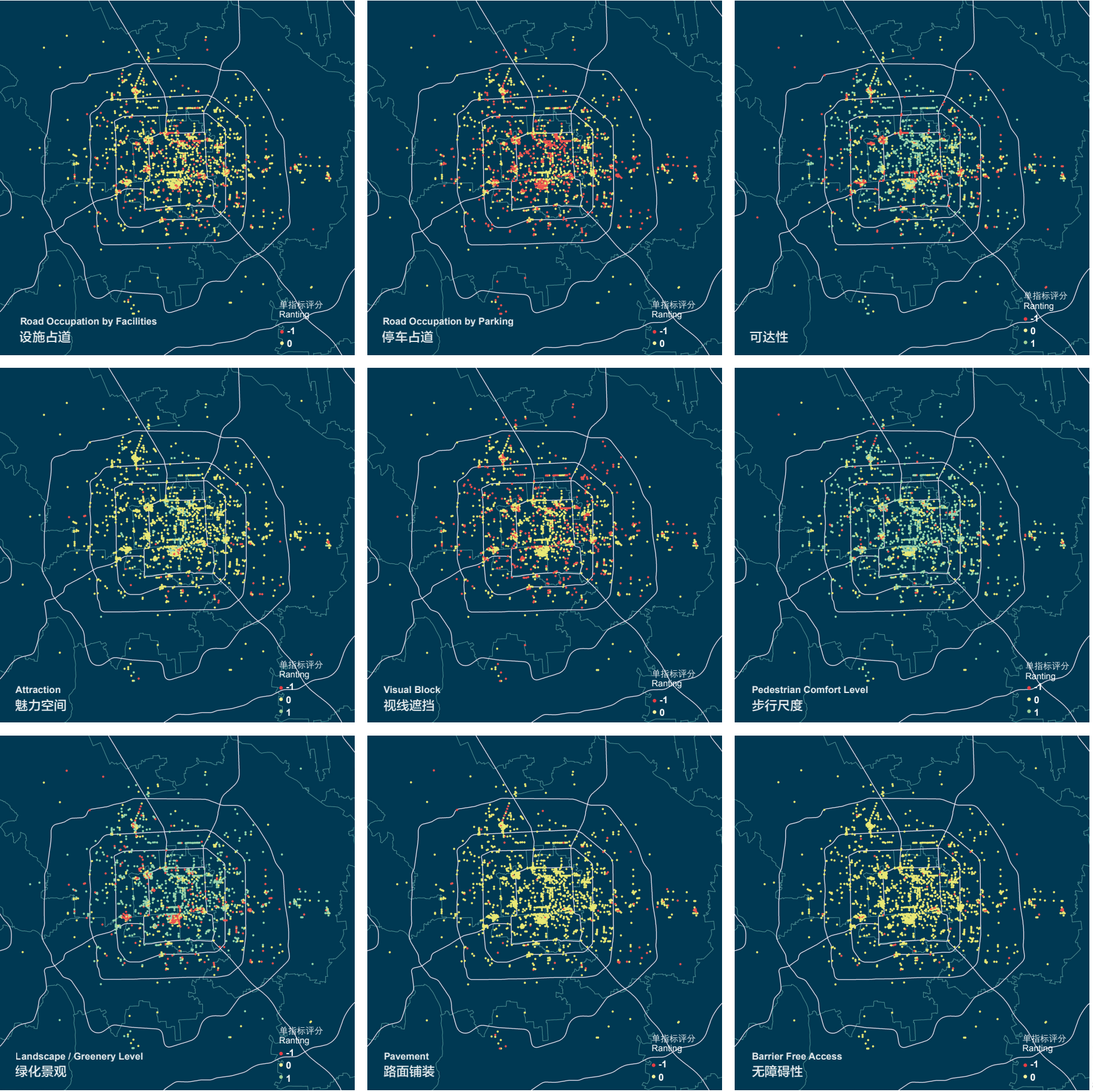


to realize dynamic evaluation. The evaluation results will be considered in the future pedestrian and bicycle system planning of Beijing City.

(3) Changxindian Old Town Revitalization Plan

Changxindian, located in southwest of Beijing, is an old town with thousand years of history and rich cultural

- 7. 扎针地图数据公众参与质量对比结果示意。
- 8. 扎针地图数据评价结果分指标示意图
- 7. Results of the Pinning Map evaluated by the public.
- 8. Individual evaluation results of the Pinning Map





heritage. Nowadays it is facing with many problems such as the shortage of municipal facilities and public services, and disorder in its street environments. The “DI Public Design Activity” (“DI” is the abbreviation of “Destination Imagination”) of Changxindian Old Town Revitalization Plan aimed at exploring a way to revive the old town by calling for proposals from more than ten design institutions.

CITYIF team proposed a “Mood Map” for the town: the team collected information about Changxindian from Weibo, Post Bar, Tianya Forum and other social media — 8,221 items from Weibo, 3,220 items from online forums, and over 600 items from website, with more than 3 million words of basic data in total. Then, semantic analyses on the data were conducted to extract key words which are

helpful to inform us the most common concerns among the local residents, such as resettlement, infrastructure improvement, transportation development. By emotional semantic analysis, residents’ mood toward every interesting point was showed, positive or negative (Fig. 9). Rather than adopting conventional way of social engagement that invites people to participate, the “Mood Map” was generated by planner engagement in which process the planners came into local people’s daily life to collect their comments on urban space and facilities with the help of information technology. It can be considered as a pilot project of “automated social engagement”, providing evidence on the argument that “perception is participation”. It also has the promise to become a norm for future

public participated planning.

(4) Analysis on the Impact of Metro Pricing Adjustment

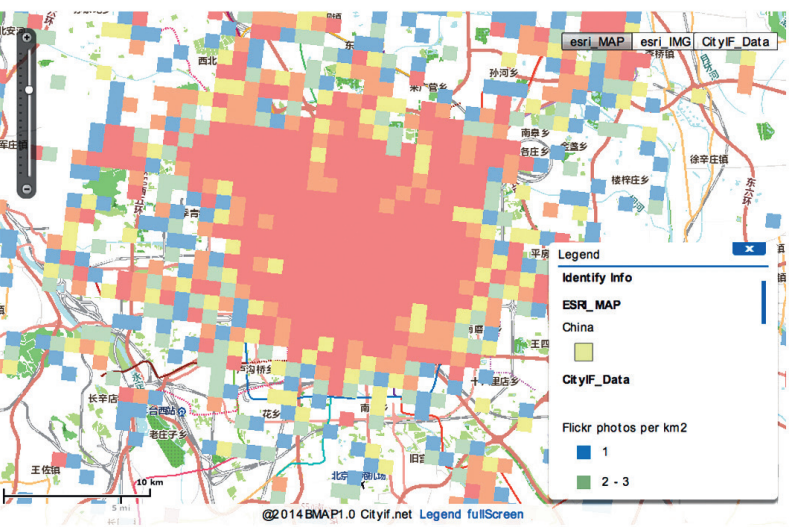
After Beijing City held the hearing for two plans of public transportation pricing adjustment, CITYIF initiated a project to analyze the impact of metro pricing adjustment on the users. Multi-source data collection, data analysis, big data processing, WebGIS, data visualization and other technologies were applied to develop an intuitive price query tool by which the users can easily know their trip costs after the pricing adjustment (Fig. 10). This project not only allows related government departments to clearly be aware of the impact of new policy on citizens in different areas, it is also a user-faced application to compare policy changes — all the users can be directly, quickly served.

(5) SinoGrids

The SinoGrids Project is a micro-scale data platform of the entire territory of China with the unit grid of every square kilometer (Fig. 11). By providing support in technology, guidance and tools, CITYIF assists a large number of data holders (including team members at main planning institutes in China, and relevant volunteers) to upload their data to the SinoGrids platform, to form a crowd-sourced, open resource in China. It is expected to provide a comprehensive and transparent data support for quantitative urban and regional studies.

4 Conclusions

Since the launch in the end of September 2014, CITYIF Planning Cloud Platform has supported and planned many offline activities. By utilizing the technologies of Internet, GIS, data mining, social perception, 14 online application services have been developed, receiving a wide influence and reputation in related fields in China. Responding to the BICP’s internet spirit as “interoperation, sharing, and collaboration”, the exploration and practice by CITYIF address the transformation issue in urban planning to realize collaborative management. CITYIF looks forward to a wider range of social collaborations, striving to gather the bottom-up strength of the whole society to make it happen that urban planning can be developed together with the public. **LAF**



9. 长辛店心情地图截图示意
10. 北京地铁调价查询工具截图示意
11. 徐霞客计划工具平台截图示意

9. Screenshot of the “Mood Map” in Changxindian Old Town Revitalization Plan
10. Screenshot of Beijing Metro Price Query Tool
11. Screenshot of the SinoGrids