From Social Management to Mobilisation:

The Evolving Grid Management System in Shenzhen

JEAN CHRISTOPHER MITTELSTAEDT is a departmental lecturer in modern Chinese studies at the Faculty of Asian and Middle Eastern Studies at the University of Oxford. Faculty of Asian and Middle Eastern Studies, Pusey Lane, Oxford, OX1 2LE, United Kingdom (christopher.mittelstaedt@ames.ox.ac.uk).

ABSTRACT: This article examines the grid management system in Shenzhen. I argue that it is built on three pillars: data standardisation, community collaboration, and information centralisation. The standardisation of addresses and urban landscape elements means that responsibilities of information collection shift from grid members to outside actors. Gathered information is then centralised and analysed in grid management centres, which then distribute it to government agencies in the form of tasks. As a result, the grid can increasingly rely on and mobilise outside actors such as building supervisors, landlords, and property management agencies. This shifts the grid's function from directly managing the urban population to coordinating and deploying actors for grassroots governance and the Party-state's objectives.

KEYWORDS: grid management system, grassroots governance, social management, social governance, neighbourhood governance.

Introduction

On 27 August 2019, only a few months before the onslaught of Covid-19, an outbreak of dengue fever erupted in Shenzhen's Tongxinling community.[1] Since the patient had no travel history, the disease must have been locally transmitted. The authorities responded quickly: the Shenzhen Centre for Disease Control designated the patient's community as "high risk" and recommended the eradication of mosquitos in the residential compound. Acting on this, the Tongxinling Urban Community Work Station, the local sanitation office, the district's disease control office, law enforcement, and other agencies joined forces to formulate a plan. A local company was tasked with eradicating mosquitos. Led by grid members (*wanggeyuan* 網格員) who mobilised relevant property management agencies, they visited more than 800 apartments, publicised disease prevention knowledge, and explained the necessity for spraying the area. The work was completed in the afternoon of 28 August.

This tiny vignette highlights the grid management system's (GMS) shift from social management to mobilisation in China's local governance apparatus. Under the idea of "joint governance" (*gongtong zhili* 共同治理) first pioneered by Zhou Yongkang 周永康 in early 2011, then adopted by Hu Jintao 胡錦濤, and shortened to "co-governance" (*gongzhi* 共治) under Xi Jinping 習近平, grids are the "basic supervision and management unit of digital city management," covering a small area of "around 10,000 m^2" in cities, and using mapping and geocoding to gather information on the urban landscape and leverage outside actors.[2]

The example above involved the successful deployment of three mechanisms. First, it required a massive amount of information on urban elements such as structures and the citizens living in this area. As such, accurate information is paramount to its functioning. Second, grid members collaborated with different actors, including local bureaus and agencies, higher-level departments, property management, and citizens to fulfil the task. The navigation of what Tang calls the "intermediate governance space" between the Party-state and society presumes stable hierarchies and existing patterns of collaboration (2019). Finally, information for this operation had to be centralised, integrated, and distributed to the different actors. Consequently, this enabled the GMS to rapidly mobilise and leverage sub-grid actors to fulfil a task.

1. "通新嶺社區發現登革熱病患: 網格員積極參與消殺行動!" (*Tongxinling shequ faxian dengge rebinghuan: Wanggeyuan jiji canyu xiaosha xingdong!*, Tongxinling community found a dengue fever patient: Grid members actively participated in the spraying operation!), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 30 August 2019, https://mp.weixin.qq.com/s/vLF2bC7_LjOSgJebaMzoQQ (accessed on 23 January 2023).
2. "數字化城市管理信息系統第一部分: 單元網格" (*Shuzihua chengshi guanli xinxi xitong diyi bufen: Danyuan wangge*, Digital urban system information system part one: Grids), *Huishuo xinxi* (惠碩信息), 31 December 2013, http://huishuoinfo.com/NationalStandards/fourteen.html (accessed on 23 January 2023).

This article examines these mechanisms of Shenzhen's GMS and how they embed sub-grid actors in the system and make them deployable to support the Party-state's objectives. It shows how data standardisation, community collaboration, and information centralisation provided the foundation for this system. Data standardisation simplified the gathering of information. Consequently, other non-grid actors could be involved in collecting data on Shenzhen's urban landscape and its population. Over time, standardisation also shifted the role of grid members from gathering new information towards verifying existing information. The shift from "gathering data" towards "verifying data" is therefore a proxy for the second pillar of Shenzhen's grid management system: community collaboration. Gradually, the grid relied on building supervisors, landlords, and property management agencies for collecting data and instead focused its efforts on coordinating them. Finally, housed at the subdistrict level, grid management centres (*wanggehua guanli zhongxin* 網格化管理中心) centralise information and build platforms to transform data into concrete tasks. These three pillars allowed Shenzhen's GMS to increasingly embed local actors within its system, consolidating these linkages through training, symposiums, and legal means to render them easily deployable. This is a far cry from its initial inception in 2006, when Shenzhen became the first jurisdiction in China to implement the system citywide, rendering it distinctly unique.[3] However, its version of GMS did not differ much from previous models in Beijing and Zhoushan, and it succumbed to isomorphic pressures (Mittelstaedt 2022). Thus, as Lin shows, it relied on patrol teams to gather information on the urban environment and was construed as a top-down extension of the existing bureaucracy promising more efficient management and service delivery, with minimal community involvement (Lin 2013). Only developments that took place from around 2015 positioned Shenzhen's GMS as unique by nudging it towards increased integration with sub-grid-level actors. Rather than focusing on GMS's policing and service provision functions, how citizens respond to it, and its relationship with higher levels of administration, this article therefore examines Shenzhen's GMS as part of China's evolving social governance infrastructure at the "ultra-local" level (Read 2012).

This focus is different from the current literature on the GMS, which can be divided into two bodies. The first is mainly concerned with the grid system's functions, including public security and service provision. As part of this, the GMS is often conceptualised as a top-down system carrying coercive functions. Wu, for example, argues that grid management "will only lead to a model of a contemporary police state."[4] Similarly, Sheena Chestnut Greitens demonstrates that the GMS "carries coercive functions."[5] Minxin Pei sees the GMS as extending "surveillance capabilities further into Chinese society" and therefore as a tool of social control.[6] Among Chinese scholars, Zhou Liangen strikes a similar tone, arguing that GMS is a stability maintenance innovation (2013). Its security implications are highlighted even where service provision dimensions are acknowledged. For example, Pieter Velghe understands the GMS as unifying information and communication technologies with "traditional street-level policing, social services, and both cooperative and coercive forms of management" (2019: 86). Tong Xing argues that the grid system is a new way to conceptualise grassroots service provision (2012). I tread a middle path, suggesting that policy uncertainties regarding which model of GMS to emulate resulted in isomorphic pressures that ultimately collapsed service provision into security. Hence, while localities vary in how they implement GMS, they mostly mirror higher levels of bureaucracy (Mittelstaedt 2022). However, this literature cluster lacks a focus on the infrastructure and mechanisms that underlie GMS.

A second body of literature is more concerned with the GMS infrastructure, which entails the gathering and integration of information, its pooling in grid management centres, and the roles of other non-grid actors who serve as informants. Tang specifically highlights the grid system's reliance on outside actors, including residents' committees, property management, the Party branch, and senior residents to obtain "first-hand information" (2020: 47). However, she mainly focuses on how this setup enables "bottom-up participation in neighbourhood affairs" and mediation of conflicts by acting as a "platform for deliberation" and "a potential space for the participation of multiple interest groups." Similarly, Zhu Ganwei argues that GMS centralises information and brings in social organisations and other actors to provide services (2012). Other scholars focus on other parts of the grid's infrastructure. Analysing grid data in Shanghai, Wang, Jin, and Fan show that the vast majority of information (79%) is collected by grid members "with specially designed mobile devices" and supplemented by calls through a hotline (21%).[7] However, they are mainly interested in what this reveals about urban governance priorities rather than the gathering itself and other actors' role in it. In their illuminating article, Chen Huirong and Sheena Chestnut Greitens focus on the grid as local governance infrastructure. The grid they examined received 90% of its information from grassroots informants, including residential community workers and street patrols, and 10% via citizen calls or social media. This includes 446 outside-system employees such as cleaners and 238 officials. However, they are overall more interested in how information is integrated and made useable for everyday governance needs (Chen and Greitens 2022). Lastly, while Sun and Yu maintain that grids are built on information gathering and classification, they neglect to examine precisely how information is collected and what role outside actors play (2015). Hence, while all scholars acknowledge that information and non-grid actors are critical to the functioning of the grid, how it is being collated and how outside actors are linked to the GMS is largely underexplored.

This article seeks to close this gap by focusing on the data standardisation, community collaboration, and centralisation

3. "深圳市首次對城市進行空間網格劃分" (*Shenzhen shi shouci dui chengshi jinxing kongjian wangge huafen*, Shenzhen carries out spatial grid division for the first time), *Xinlang* (新浪), 28 July 2006, http://news.sina.com.cn/c/2006-07-28/20539596185s.shtml (accessed on 23 January 2023).
4. Wu Qiang, "Urban Grid Management and Police State in China: A Brief Overview," *China Change*, 12 August 2014, https://chinachange.org/2013/08/08/the-urban-grid-management-and-police-state-in-china-a-brief-overview (accessed on 23 January 2023).
5. Sheena Chestnut Greitens, "Domestic Security in China under Xi Jinping," *China Leadership Monitor*, 1 March 2019, https://www.prcleader.org/_files/ugd/10535f_3956a9f198fa43f99ed6f8c5e89889f6.pdf (accessed on 23 January 2023).
6. Minxin Pei, "Grid Management: China's Latest Institutional Tool of Social Control," *China Leadership Monitor*, 1 March 2021, https://www.prcleader.org/pei-grid-management (accessed on 23 January 2023).
7. Yongkun Wang, Yaohui Jin, and Bo Fan, "What Has Been Revealed by Urban Grid Data of Shanghai," Working paper (China Institute for Urban Governance, Shanghai Jiaotong University), 22 May 2018, https://arxiv.org/abs/1805.08570 (accessed on 23 January 2023).

that underlie data collection in Shenzhen. These mechanisms in turn have allowed the GMS to embed and deploy non-grid staff to strengthen urban social governance. Grid members no longer predominantly gather data but rather are responsible for verifying received information. In turn, this shifts their role from administering their jurisdictions to coordinating and mobilising non-grid actors. Shenzhen was chosen because it is both an early adopter and a technologically advanced city with a highly mobile population. Therefore, the grid system here needs to be particularly dynamic and integrated (Lin 2013). However, while representing a unique case, analysing Shenzhen can help us understand the forefront of grassroots governance in China.

This article is based on 3,904 articles obtained from Shenzhen's official Urban Community Grid Management (*Shenzhen shequ wangge guanli* 深圳社區網格管理) WeChat account run by the Shenzhen Office for the Integrated Management of the Floating Population and Housing (*Shenzhen shi liudong renkou he chuzu wu zonghe guanli bangongshi* 深圳市流動人口和出租屋綜合管理辦公室) from December 2015, when it started operating, until the end of September 2021. While this is an official account, it can nonetheless show what mechanisms were developed and how actors relate to and are embedded within the system. Similarly, fluctuations over time can be an indicator of how official priorities changed and what actors the GMS relied on during different periods and especially during crises. New posts containing case studies and statistical data are published almost every day. Thus, the number of articles published steadily increased, from 122 in 2016 to 1,275 articles in 2020. This increase shows the dramatic escalation in the importance of GMS in Shenzhen. Laws and local regulations complement this resource. Below, I outline the Shenzhen grid system and detail its position with respect to the broader administrative apparatus. Then I move on to examine three mechanisms that serve as the foundation of Shenzhen's GMS: data standardisation, community collaboration, and centralisation. Finally, I look at how different actors are linked to the system. I end with conclusions.

Shenzhen's grid management system

Urban governments in China face the problem of obtaining accurate information on its highly mobile population and changing urban landscape. To some extent, this is a consequence of sheer scale. For example, with a population exceeding one million, each of Shenzhen Luohu District's ten subdistrict offices caters to more than 100,000 people (Table 1). Such arrangements make it challenging to deliver proper services or impose control over the population. Residents' committees extend the offices further down to the grassroots. However, even Luohu's 112 residents' committees on average care for more than 9,400 people each – and this does not even account for the substantial floating population such as migrant workers. Unsurprisingly then, the residents' committees are widely seen as insufficient (Liu 2015).

The GMS was a response to this problem of how to exact more targeted governance and was designed as the lowest level of administration. Its logic is straightforward: the closer you are to the people, the better you can survey the urban landscape and preempt potential problems. Consequently, Luohu District's 112 residents' committees are subdivided into 1,135 grids, each responsible for an average of 1,008 people. Other districts have even lower numbers. Pingshan District clocks in at 739 people per grid, while Guangming District has the fewest, with each grid overseeing 632 people. Likewise, looking at Shenzhen's totals, 17.6 million people are under the jurisdiction of only 74 subdistrict offices, 815 residents' committees, and 18,673 grids. Thus, on average, each of Shenzhen's grids has jurisdiction over 940 people.

Table 1. Breakdown of Shenzhen's administrative system

District	Population (2019)	Number of urban subdistrict offices (*jiedao banshichu* 街道辦事處)	Number of residents' committees (*jumin weiyuanhui* 居民委員會)	Number of grids (*wangge* 網格)	Population per grid
Luohu District	1,143,801	10	112	1,135	1,008
Futian District	1,553,225	10	115	1,547	1,004
Nanshan District	1,795,826	8	107	915	1,963
Bao'an District	4,476,554	10	140	3,897	1,148
Longgang District	3,979,037	11	119	3,823	1,040
Yantian District	214,225	4	23	287	746
Longhua District	2,528,872	6	108	>3,000	843
Pingshan District	551,333	6	30	746	739
Guangming District	1,095,289	6	31	1,732	632
Dapeng New District	156,236	3	25	233	671
Total	17,560,061	74	815	18,673[8]	940 (average per grid)

Sources: author.

8. The sum of individual districts' grids amounts to 17,315 instead of the 18,673 cited here. This is for several reasons. First, given the relative novelty of the GMS, the number of grids is constantly in flux. Second, numbers of grids in districts are from different years.

Grids are continuously added and rearranged and are therefore highly variable. While Shenzhen had 8,764 grids in 2007, this number had risen to 16,417 in January 2016 and reached 17,000 by the end of 2016. By March 2019, it again rose to 18,673 grids, which puts the average number of people per grid at 940. Gridding decisions are made at the district level. For example, in 2016, Futian District had 1,226 grids, which had risen to 1,547 by autumn 2018, before reaching 1,646 grids in March 2021. Relative to the number of subdistrict offices or residents' committees, the grid system is still heavily volatile and adapts to local governance needs and fluctuating population numbers, with permanent residents often making up only a fraction of the population. Bao'an District's Xin'an Subdistrict has a permanent population of 410,000, but an actual population of 725,000. With 481 grids, this translates into 852 and 1,507 people per grid, respectively. While this is not far from Shenzhen's official ideal of 1,000-1,500 people per grid and represents an extension of the existing governance system, the GMS is still far from touching the grassroots. Consequently, since 2015, Shenzhen has increasingly relied on sub-grid actors to gather and provide information to the authorities.

This involved three mechanisms. Standardisation of data is the foundation for involving outside actors. Elements, people, and events are categorised and form the bedrock of the GMS. However, this only works if standardised codes are assigned, including location, description of the issue, category, priority, and timestamps, among others. Standardisation in turn makes it possible to shift data gathering responsibilities to non-grid actors at lower levels. Actors such as building supervisors, landlords, and property management agencies supply the vast bulk of data to grid management centres at the subdistrict level where they are centralised. Centres in turn share information amongst the police, housing authorities, urban management, other functional departments, and higher authorities and turn it into specific tasks. The three mechanisms of standardisation, collaboration, and centralisation therefore make possible the increasing involvement of non-grid actors, who shoulder major responsibilities in gathering information and social governance more broadly. Furthermore, they reconfigure the role of grid members, who coordinate these relationships. I examine these aspects below.

Standardisation, community collaboration, and centralisation

Standardisation entailed a citywide survey of the urban landscape, compiling basic information on residents, and eventually unifying location codes. This was particularly critical during the early days of the GMS. It was only in 2006 that Shenzhen established a unified coding system for housing. Reflecting a lack of urgency and central ambiguity, implementation of this system was slow. It was only ten years later in 2016 that 647,500 buildings and 11,275,200 apartments had received a unique 15-digit code. Moreover, information from 18,102,000 people as well as 540,000 legal persons had been collected. The main responsibility for this task fell on the grid's shoulders. In the third and fourth quarters of 2016, 42.5% and 32.4% of articles respectively focused on "data gathering" (*xinxi caiji* 信息採集), signalling that information collection was a priority (Figure 1). In the years thereafter this number receded. Once people and structures had been codified, tasks gradually shifted from data gathering to "data verification" (*xinxi heshi* 信息核實), where existing data is being checked rather than newly compiled.[9] This level of standardisation, however, was understood as insufficient since it was incapable of linking specific locations to people, businesses, residential housing, or events.

Consequently, grid members were deployed for another round of information collection. The second round started in early 2018 when the Shenzhen political and legal affairs commission published regulations to standardise locations. By March 2019, more than 11.6 million structures had received standardised "ID cards."[10] Indeed, as Figure 1 shows, from January 2018 until the end of September, data gathering picked up pace again, showing the importance of grid members to collecting authoritative data on locations, structures, and residents. This round of standardisation was far more advanced than previously and unified all existing information in special and easily manageable dossiers that the grid and the authorities could access.

The number of grid members heavily fluctuated in the two rounds of standardisation. While Shenzhen had 16,000 grid members at the end of 2015, this number had increased to 18,000 by January 2018, before dropping to 16,000 by the time Covid-19 emerged in December 2019. Given the perceived success in standardising data, collection fell to its lowest point during the initial coronavirus outbreak in early 2020. Structures could now be linked to people and events, and information could be submitted easily using online forms. This led to a changing dynamic between the GMS and other actors: building supervisors, homeowners, and landlords became more important for information gathering and reporting, while grid members coordinated with them and verified received data. Standardisation and the changing role of grid members therefore laid the foundation for increasing collaboration between the grid and other actors.

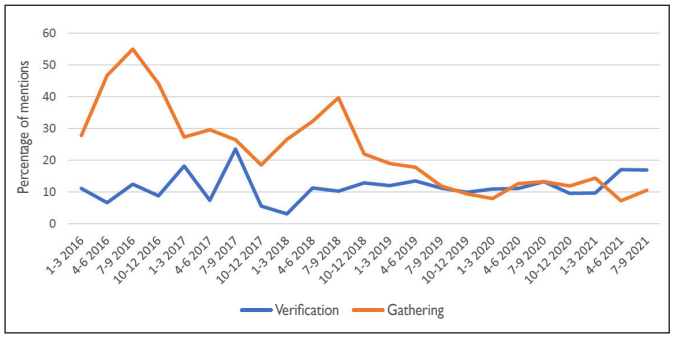
While patterns of collaboration between grid members and outside actors were conceptualised early on, they only became a particular priority during the Covid-19 pandemic. In 2016, some functions such as registering tenants were already understood as "community-" rather than "government-led."[11] The shift was also visible on the regulatory front. Article 8 of the "Shenzhen Special Economic Zone Residence Permit Regulations" stipulates that it is the legal obligation of the landlord and building supervisor to declare the household

9. "南山區舉行綜管業務培訓周開班儀式, 區領導到會動員, 強調堅定不移地落實社區網格化管理改革!" (*Nanshan qu juxing zongguan yewu peixun zhou kaiban yishi, qu lingdao daohui dongyuan, qiangdiao jianding buyi de luoshi shequ wanggehua guanli gaige!*, Nanshan District held the opening ceremony of the comprehensive management and business training week, which district leaders attended to mobilise attendants, emphasising the unswerving implementation of community grid management reform!), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 13 March 2019, https://mp.weixin.qq.com/s/fHHMESwXZ6xgA5Z5SX9HYw (accessed on 23 January 2023).
10. "每一棟房屋都有'身份證!' 深圳33個政府部門數據全打通!" (*Mei yidong fangwu dou you "shenfenzheng!" Shenzhen 33 ge zhengfu bumen shuju quan datong!*, Every house has an "ID card!" All data of 33 government departments in Shenzhen are available!), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 8 March 2019, https://mp.weixin.qq.com/s/MW7nnWxvPYbZb4o5VRm52w (accessed on 23 January 2023).
11. "服務新深圳人共建美好家" (*Fuwu xin Shenzhen ren gongjian meihao jia*, Serving the new Shenzhen people and building a beautiful home together), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 4 January 2016, https://mp.weixin.qq.com/s/-5M7W-5bcXlYpjSW4tjiyA (accessed on 23 January 2023).

registration (*huji* 戶籍) of tenants. Furthermore, Article 37 mandates that all information from all departments regarding non-Shenzhen citizens is centralised. This includes data from both sub-grid actors and functional agents such as the police and housing authorities. Linkages amongst different actors including residents' committees, landlords, property management companies, and tenants therefore had a legal basis. They became particularly important during the Covid-19 outbreak in early 2020, when the GMS primarily relied on other actors for accurate data and focused on verifying existing information. Thus, in February 2020, grids leveraged existing fine-grained resident information to identify "persons of interest" such as the elderly or people with disabilities.[12] As a result, in the first quarter of 2020, the GMS for the first time was no longer primarily concerned with information collection, which dropped to 9.4%. Rather, it deployed sub-grid actors to take over these responsibilities and moved towards a coordination function. Again, during the second quarter of 2021, a renewed Covid-19 outbreak in Southern China saw the role of GMS shift towards verification rather than compilation of data. The Covid-19 pandemic therefore consolidated the long-term trend of linking the GMS with outside actors.

At the same time, the Covid-19 crisis also resulted in new ways of linking sub-grid actors to the system. For example, in Bao'an District, residential building information provides the foundation for "trust dossiers" (*xinyong dang'an* 信用檔案). These files include basic information about tenants, fire protection, and rectification efforts, which is provided by owners and building supervisors. Rental buildings are rated on a five-star scale using evaluation standards such as safety and liveability, management norms, honesty and trustworthiness, and sanitation. More stars mean fewer inspections by grid members and the privilege of using the "green channel" when conducting business with the local housing authorities. This supposedly incentivises sub-grid actors to "declare and manage building information" while shoring up relations between grid members, building supervisors, owners, and tenants.[13] It also establishes a priority system in which the GMS focuses on particularly problematic areas, while everyday administration is outsourced to sub-grid actors, with grid members conducting occasional verification inspections. Started in 2016, the trend towards involving other actors for data compilation has not only alleviated grid members' workloads, but has also shifted their tasks. Rather than being responsible for executing local policies themselves, their coordinating role means they can increasingly leverage sub-grid actors to support Party-state objectives.

Figure 1. Gathering and verification of information



Source: author.

However, even the most accurate information is worthless without the ability to centralise, integrate, and distribute it (Chen and Greitens 2022). The development of information "systems" and "platforms" is the third pillar of Shenzhen's GMS. It was only in 2014 that Shenzhen launched the "net-weaving project" to blanket the city and enable information-sharing amongst functional departments. Regulations establish a "unified public information database" for government services for "management and application" and mandate the centralisation of data gathered for sharing amongst "relevant departments." Data gathering is followed by centralisation in grid management centres, where data are analysed and distributed. For example, a subdistrict in Bao'an District formed 529 grids and 67 specialised grids for "safety supervision," "fire safety," and "traffic." These are tied together at a grid management centre and supported by various platforms, including an "event distribution command platform," a "personal digital assistant tracking and monitoring platform" for use in the field, an "emergency intercom coordination platform," and platforms for the migrant population and building supervisors. These platforms are linked with safety supervision, public security, transportation authorities, and traffic police to achieve "information sharing, unified command, unified allocation [of tasks], and unified deployment."[14] Information supplied by grid members, sub-grid actors, and functional departments is therefore centralised, analysed, and redistributed to departments in the form of tasks. This breaks down the barriers between departments and clarifies responsibilities, while keeping and resolving issues at or below the subdistrict.

However, these mechanisms do not always run smoothly. Lax supervision and compliance amongst outside actors and poor-quality data mean that grid members are often deployed to reenter incorrect information. For example, in early 2020, data on residents was shown to be incomplete or redundant, requiring laborious efforts to upload contact sheets, insert information, and verify personal information. In a subdistrict of Shenzhen's Longhua District, 21,567 pieces of personal information had to be investigated and verified by 12 February 2020. Likewise, changing regulations and technologies require constant training. In July 2019, Bao'an District's Xixiang Street held training to explain how to standardise and correctly log events. Cases such as these demonstrate the frailty of linkages between grids, grid members, and other actors, the difficulty of keeping tabs on a mobile population, and local barriers to information-sharing that point to structural shackles that hamper the grid's response (Song

12. "堅守疫情防控第一線: 筍崗網格當先鋒" (*Jianshou yiqing fangkong diyixian: Sungang wangge dang xianfeng*, Stick to the front line of epidemic prevention and control, and take Sungang grid as a model), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 6 February 2020, https://mp.weixin.qq.com/s/JyYyqPByS_a8O2xEVG71Aw (accessed on 23 January 2023).
13. "寶安區首創'誠信+出租屋'工作模式: 入選全國市域社會治理創新優秀案例" (*Bao'an qu shouchuang "chengxin + chuzuwu" gongzuo moshi: Ruxuan quanguo shiyu shehui zhili chuangxin youxiu anli*, Bao'an District pioneered the "integrity + rental house" work model, and was selected as an outstanding case of national municipal social governance innovation), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 14 April 2021, https://mp.weixin.qq.com/s/948VD458gVRJC-fmBP4Grg (accessed on 23 January 2023).
14. "福永探索智慧網格巡查辦理新模式" (*Fuyong tansuo zhihui wangge xuncha banli xin moshi*, Fuyong explores a new mode of smart grid inspection and management), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 13 April 2016, https://mp.weixin.qq.com/s/GUK-sFH6wl8ULvP77l6GgQ (accessed on 23 January 2023).

et al. 2020). However, for the authorities the advantages outweigh the shortcomings, and the Party-state has continued to advance the system.

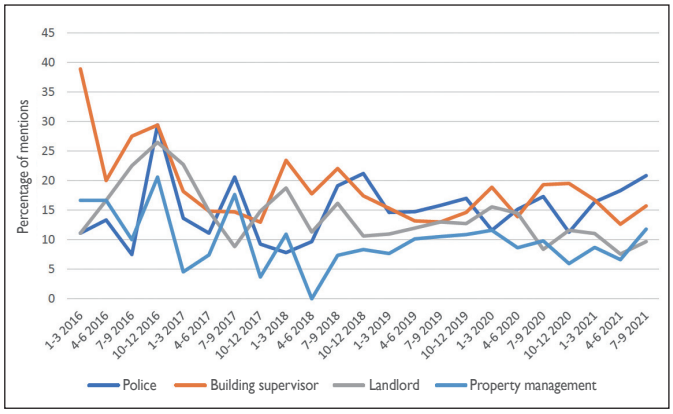
Overall, the three mechanisms of standardisation, collaboration, and centralisation are mutually reinforcing. Standardisation made possible greater collaboration with lower-level actors and the centralisation of information and allocation of tasks. Consequently, GMS can increasingly rely on sub-grid actors. Here, the Covid-19 outbreak in early 2020 provided a stimulus for consolidating these links by solidifying the GMS's coordinative function.

Linking actors to the GMS

The Covid-19 outbreak in early 2020 strengthened the grid's links with other actors by putting it in charge of grassroots mobilisation. The watershed moment came in early February 2020. On 9 February, the Central Political and Legal Affairs Committee in Beijing published a manual for grid members battling the virus based on best practices from various provinces.[15] It stipulated the importance of digital methods such as apps, QR codes, and WeChat, and provided a standardised form for collecting citizen's information. Critically, the manual also stipulated whom grid members should mobilise. With the caveat that it depended on the "actual situation," grid members could mobilise "police officers, property management, homeowner's committees, village teams, Party members, volunteers, and others." A few days later, an official notice further clarified their tasks. It highlighted the coordinating function of grids in epidemic control and clarified that grid members must "verify information, publicise policies, and assist management and control,"[16] all in concert with other agents. Thus, property management, residents, and volunteers should form grid work small groups under the leadership of grid members. This arrangement put the GMS in a powerful position, while further consolidating their modus operandi to one of active coordination with sub-grid actors.

For GMS, the most important actors responsible for the "intermediate governance space" (Tang 2019) are the police, building supervisors, landlords, and property management. This was especially pronounced during the early phase of the Covid-19 pandemic in the first quarter of 2020. Mentions of property management, landlords, and building supervisors all went up significantly, while police became less important (Figure 2). "Property management" reached its highest level since July-September 2018 quarter and "landlord" since the July-September 2017 quarter. Mentions of building supervisors also reached the highest level since the end of 2018. At the same time, the data show that they developed independently from each other but started converging by 2019. Their interlocking became possible after the 2019 establishment of ID cards for structures and the promulgation of new sets of regulations clarifying their relationships. Thus, in early 2020 they became important actors during the outbreak and then retreated in importance together in the second quarter. While their role in the GMS is critical, the police remain important, becoming the single most important actor again by the second quarter of 2021. Below, I look at how they are linked to the grid system.

Figure 2. Importance of various actors in the grid system



Source: author.

Police and the grid

As grid members do not have law enforcement powers, police continue to play an important role in the grid's everyday operation. As Figure 2 shows, mentions of "police officer" fell drastically during the pandemic, rebounding thereafter and reaching 18% in the second quarter of 2021. In Shenzhen, modes of collaboration between grid members and police officers were manifold. In May 2017, the Xixiang Subdistrict grid conducted a drill for volunteer police to strengthen fire prevention and antitheft capabilities. Involving grid members and a wide range of auxiliaries set the stage for mobilisation while also forming coordination mechanisms. In 2018, Yuanshan Subdistrict set up a "prevention and control comprehensive governance" mechanism. This included three WeChat groups: "grid police officer plus grid member," "urban community police plus grid station," and "police station plus grid management centre."[17] The mechanism then categorised an issue's importance using a traffic light system. After the Covid-19 pandemic broke out, groups morphed into the "epidemic prevention and control command platform." The platform was then used to verify and compare information, manage nucleic acid sampling, deploy personnel, dispatch tasks, concentrate grid members, conduct telephone interviews, verify information from landlords, and manage on-site verification. Other areas in Shenzhen underwent similar experiences.

One-way collaboration between grid members and police officers is institutionalised as the "three-in-one-combination" (*sanwei yiti* 三位一體) consisting of grid member, police officer, and a third person.

15. "網格員戰'疫'備查手冊" (*Wanggeyuan zhan "yi" beicha shouce*, Grid member reference manual for the "epidemic" war), *Zhongguo Chang'an wang* (中國長安網), 9 February 2020, www.chinapeace.gov.cn/chinapeace/zcjc/2020-02/09/content_12322382.shtml (accessed on 23 January 2023).
16. "中央政法委: 進一步發揮基層綜治中心和網格員在疫情防控中的作用" (*Zhongyang zhengfawei: Jin yibu fahui jiceng zongzhi zhongxin he wanggeyuan zai yiqing fangkong zhong de zuoyong*, Central Political and Legal Affairs Commission: Let grassroots comprehensive management centres and grid members play further roles in epidemic prevention and control), *Jiancha ribao* (檢察日報), 20 February 2020, http://newspaper.jcrb.com/2020/20200220/20200220_001/20200220_001_4.htm (accessed on 23 January 2023).
17. "園山街道'警網共建'出實招70名違規業主被處罰!" (*Yuanshan jiedao "jingwang gongjian" chu shizhao 70 ming weigui yezhu bei chufa!*, "Police network co-construction" in Yuanshan Street moved and 70 owners who violated regulations were punished!), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 6 December 2018, https://mp.weixin.qq.com/s/t-U8EB1qjGYoiI-UzYcvlw (accessed on 23 January 2023).

In one example, a grid member and a police officer were paired up with a building supervisor to improve oversight. During the Covid-19 outbreak in February 2020, the supervisor was then swapped for a health worker under the principle of "tracking people, registering them, visiting them and keeping them under observation, and in case of abnormalities seeking medical help."[18] The coordination capability of the grid member was therefore combined with medical knowledge and coercive capacity. However, depending on need, grid members and police officers can also team up with firemen or property management companies.

Building supervisors and the grid

Building supervisors are an integral part of local governance and the grid system and were described as "nerve tips" during Covid-19 prevention efforts.[19] At the end of 2015, Shenzhen boasted 140,000 building supervisors. This number increased to 150,000 by January 2018 and reached 184,000 by December 2019. Due to their enormous number, they can, in Benjamin Read's words, contribute to the state's "micro-level knowledge of society" and its "capacity to intervene" (2012). However, not every structure has a building supervisor. Indeed, in March 2019, Shenzhen had 658,100 structures and 11,680,696 apartments. Each building supervisor on average was therefore responsible for 3.6 buildings or 63.5 apartments. For example, Dalang Subdistrict has 5,700 inhabitants distributed throughout 118 residential buildings. However, it has only 112 building supervisors. As for Shenzhen's 18,673 grid members, this ratio is even worse: they are responsible for 41 buildings or 730 apartments on average. Having fewer grid members than grids makes it highly challenging for individual grid members to take care of their jurisdictions. Thus, the GMS relies on building supervisors for accurate information.

Building supervisors are tightly integrated into the grid system in terms of both hierarchy and responsibilities. While in some cases, building supervisors are permanent nonworking residents such as retirees, housewives, or unemployed people, who ensure that the "building runs smoothly" (Audin 2017), this does not mean they can take their task lightly. In Shenzhen's Guangming District, the positions and functions of its 10,277 building supervisors are regulated in the 2015 "Building Supervisor Management Methods." Accordingly, each building with three or more floors or more than 30 people must have a building supervisor, who must register with the grid management centre (Article 13). Building supervisors "carry out management on behalf of the owner" (Article 3). They assist public security and grid management agencies and must obey directions from the police, the director of the urban community's housing committee, and grid members (Article 9). Furthermore, Article 18 stipulates that building supervisors must regularly inspect facilities and report potentially dangerous or suspicious activities to the police or grid members. Apart from reporting, their responsibilities include registering information on tenants with the grid management centre, inspecting video surveillance, fire prevention, and antitheft facilities, assisting in conflict resolution, popularising laws and regulations, educating tenants to prevent illegal activities such as cults, gambling, pornography, and drug abuse, and assisting in other tasks assigned by the community. To police this, each building supervisor is assigned a digital dossier that includes information on what buildings they manage, and details on 22 indicators such as security, fire protection, and environment and sanitation.[20]

The GMS therefore keeps a tight grip on building supervisors. This is also evident from how personnel are integrated. A vertical 1+1+3 system combines one specialised urban community worker, one grid member, and three building supervisors. This system integrates the subdistrict where the grid management centre is housed with the neighbourhood one level below, the grid, and the individual building supervisors at the very bottom. At the same time, information is gathered and compiled at the grid level and centralised at the grid management centre for sharing. Critically, grid members sit down with building supervisors at least once a week to check their performance and collect information and reports (Article 28). In addition, police and grid members conduct a quarterly meeting with each building supervisor. This translates into a situation wherein grid members' responsibilities are shifted to and shared with building supervisors, who become critical for achieving a local environment without "accidents and disputes."[21]

This setup makes them easily deployable to support Party-state objectives. For example, they were instrumental during the once-in-a-decade national census at the end of 2020. However, their importance was particularly important during the Covid-19 pandemic. In Longhua District, grid members made building supervisors responsible for epidemic prevention and control, including sanitising their buildings, registering people, and measuring their temperatures.[22] During a renewed Covid-19 outbreak at the end of June 2021, around 1,000 building supervisors in Bao'an District were paired up with medical workers, grid members, and urban community workers to test the entire population of 350,000. To ensure that nobody was missed, building supervisors released information about testing through the tenants' WeChat group and used loudspeakers. In other areas, they also assisted in persuading people to get their vaccine.

18. "勞動最光榮! 龍華區網格中心榮獲'五一勞動獎狀'" (*Laodong zui guangrong! Longhua qu wangge zhongxin ronghuo "wuyi laodong jiangzhuang,"* Labor is the most glorious! Longhua grid centre won "May First Labor Award"), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 6 May 2020, https://mp.weixin.qq.com/s/sjOc71nlkU3bzS-lvZCReQ (accessed on 23 January 2023).
19. "福城街道網格中心'升級'疫情防控措施: 夯實'網格+樓棟'包乾責任制" (*Fucheng jiedao wangge zhongxin "shengji" yiqing fangkong cuoshi: Hangshi "wangge + loudong" baogan zerenzhi*, Fucheng Street grid centre "upgrades" epidemic prevention and control measures to consolidate the "grid + building supervisor" responsibility system), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 27 January 2021, https://mp.weixin.qq.com/s/VCAx-owrqsGMOADeOWCb8g (accessed 23 January 2023).
20. "'南方日報'盤點深圳社區網格管理工作: 看看各區有什麼亮點!" (*"Nanfang ribao" pandian Shenzhen shequ wangge guanli gongzuo: Kankan gequ you shenme liangdian!*, *Nanfang Daily* takes stock of Shenzhen community grid management work to see what highlights there are in each district!), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 18 December 2018, https://mp.weixin.qq.com/s/zQzE-_m5nRBJxvvGYRKj0w (accessed on 23 January 2023).
21. "深圳評選首屆百優網格員, 百優樓長" (*Shenzhen pingxuan shoujie baiyou wanggeyuan, baiyou louzhang*, Shenzhen selects the first one hundred excellent grid members and building directors), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 14 January 2016, https://mp.weixin.qq.com/s/iOnGnVuxKgLg8gajJIFqSA (accessed on 23 January 2023).
22. "福城街道組織樓長簽訂疫情防控承諾書: 攜手築牢社區'防疫牆'" (*Fucheng jiedao zuzhi louzhang qianding yiqing fangkong chengnuo shu: Xieshou zhulao shequ "fangyi qiang,"* The head of the Fucheng Subdistrict organisation signed a letter of commitment for epidemic prevention and control, and joined hands to build the community's "anti-epidemic wall"), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 24 June 2021, https://mp.weixin.qq.com/s/xjDUO1j9cmBEeBVmvx43Lw (accessed on 23 January 2023).

The involvement of building supervisors was hailed as making a push from "other management" to "self-management" and encouraging the participation of non-state actors in grassroots governance.[23] This is only partly true. From the GMS's perspective, they are engaging their own community, but are also embedded in the formal administrative hierarchy. Self-management thus leads to "deep state penetration into grassroots society," as Chung noted, with building supervisors becoming an indispensable part of social governance under the GMS (Chung 2018: 22).

Landlords and the grid

Another part of the governance setup under the GMS is the "landlord," who is usually the first information-gatherer new residents encounter. Often owning the property, landlords are responsible for what happens there. Their role is carefully outlined. According to the Shenzhen "Residence Permit Regulations," the lessor has the duty to proactively report the residential registration information (*juzhu dengji xinxi* 居住登記信息) of non-Shenzhen-registered tenants to the public security organ or other relevant agency (Article 7 and 8). Moreover, Article 16 stipulates that if the lessor finds that the tenant engages in illegal activities such as gambling, prostitution, selling illegal publications, or harbouring criminals, amongst others, the landlord has a duty to report it to a public security agency. This presents a regulatory incentive for landlords to keep a close eye on their properties.

In reality, landlords' responsibilities go much further. For example, in late December 2018, Longgang District sent out officers to investigate a case of prostitution in a residential building.[24] They found that the landlord, Mr Zhou, "failed to perform his duties after the house was rented out" and did not "conduct daily patrols, safety inspections, and fire safety" inspections. According to the police, this was because Zhou "did not ask questions after the house was rented out." When interrogated, Zhou admitted his "dereliction of duty." The punishment was severe. Subsection two of article 43 stipulates that the police can restrict the building's use if criminal activities are discovered. Hence, Zhou's building was sealed off for half a year. Here, the landlord's obligations go much further than registering the tenant and include regular checks. In another case, in response to two fires caused by the illegal charging of electric vehicles, police told house owners and landlords to "implement main responsibility and strengthen safety management."[25] Landlords therefore have significant caring and monitoring responsibilities, and the related information is centralised in a "public information database" and "government affairs service system" for management and use (Article 36) and shared among departments (Article 37). GMS inspections and verifications alongside sanctions therefore put enormous pressure on landlords to comply with regulations.

Under the GMS and its grid members, building supervisors and landlords often work in tandem. The first article noting a response to the coronavirus dates from 29 January 2020. A subdistrict in Guangming District issued a letter to landlords and building supervisors to "take action" and "shoulder social responsibilities."[26] It reminded them to not "rent at will" but to inquire about the health of the potential tenant; further, it required them to monitor people returning to Shenzhen after the Spring Festival "in real time" and inform grid members at once. Finally, they should also properly clean and disinfect buildings. In another example, 2,400 landlords and building supervisors were mobilised to build a community epidemic prevention and control network. Grid members provided "epidemic prevention" courses for them, teaching investigation skills and how to scan codes and register people returning to Shenzhen from epidemic hotspots. Grid members emphasised the importance of dealing with people returning after the Spring Festival. They stressed that "all landlords and building supervisors must take action" and look after the people they were responsible for. Every building must have a person to "measure the temperature and register" people. In case of any abnormalities, grid members must be contacted immediately. In both examples, landlords and building supervisors were directly responsible for supplying information, while grid members mobilised actors and coordinated a response.

Landlords therefore extend the grid's reach to individual apartments, and alongside building supervisors are critical to urban governance. Both are tied to the vertical hierarchy and guided by grid members and other authorities and provide the bulk of intelligence that feeds into the grid system. Like building supervisors, they are deployable to intervene in times of need. Here again, grid members take a backseat, focusing on the verification of incoming information and monitoring rather than gathering information.

Property management and the grid

Property management companies are another important actor GMS can mobilise. In contrast to building supervisors, property management companies are tied to specific residential (and often gated) compounds that privatise and segregate residential spaces (Tomba 2008). Traditionally, they have been locked into an often antagonistic relationship with homeowners (Merle 2014), handling issues within residential compounds and providing services and basic security (Heberer 2009). While under the 2008 "Shenzhen Rental Housing Provisions," property management was obliged to register and provide basic information about people living in their residential compounds (Article 28), this responsibility fell to the landlord after the provisions were amended in 2019. Even so, they command resources and clout within communities, rendering them important in the daily governance of the community.

23. "龍華區出台實施方案: 全力推進樓長制實體化運作" (*Longhua qu chutai shishi fang'an: Quanli tuijin louzhangzhi shitihua yunzuo*, Longhua District issued an implementation plan to fully promote the operation of the building director system), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 7 April 2020, https://mp.weixin.qq.com/s/PSD8gpfOTqA0JNAK2eBjgw (accessed on 23 January 2023).
24. "一業主整棟樓被警方停租半年！原因竟然是…" (*Yi yezhu zhengdonglou bei jingfang tingzu bannian! Yuanyin jingran shi…*, An entire building was suspended by the police for half a year! The reason turned out to be...), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 17 January 2019, https://mp.weixin.qq.com/s/t4cpRtPUAw_SbX9_tx7Anw (accessed on 23 January 2023).
25. "福田街道召開'2.10'火災事故警示會, 嚴禁電動自行車進樓入戶!" (*Futian jiedao zhaokai "2.10" huozai shigu jingshihui, yanjin diandong zixingche jinlou ruhu!*, The "2.10" fire accident warning meeting was held in Futian Street, electric bicycles are forbidden to enter the building), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 19 February 2019, https://mp.weixin.qq.com/s/dVyh-prR3mZhzxkM6OJvRA (accessed on 23 January 2023).
26. "公明網格中心致信轄區出租屋業主, 樓長: 提醒搞好疫情防控" (*Gongming wangge zhongxin zhixin xiaqu chuzuwu yezhu, louzhang: Tixing gaohao yiqing fangkong*, Gongming grid centre sent letters to the landlords and owners of rental houses in the jurisdiction, reminding them to do a good job in epidemic prevention and control), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 30 January 2020, https://mp.weixin.qq.com/s/xGDvy7Edn-XlO1C-RJtR-w (accessed on 23 January 2023).

As such, property management assists other actors. While technically reporting to the municipal housing and construction department that supervises, manages, and guides property management, they also support local actors. For example, in May 2019, a grid management centre coordinated with police, security personnel, and property management to investigate a suspicious neighbourhood, finding flammable materials including high-power electric boxes and cutting machines.[27] While grid members quickly uploaded information onto the electronic system, property management supported the investigation.

This positions property management agencies as vital actors when crises erupt, as became evident during the Covid-19 outbreak. At the end of January, meetings to mobilise property management companies took place.[28] They then formed an epidemic control framework with a unified dispatch and command system. Property management was tasked with registering vehicles and people entering and exiting the residential communities, disinfection work, disposal of medical waste, and posting information for residents. Further, they supervised the 14-day-long home quarantine of people returning from Hubei by visiting their homes, tracking their health and living needs, and providing daily necessities. Lastly, they compiled daily epidemic prevention and control reports. This provided a blueprint for the relationship between grid members and property management companies. The impact and importance of property management companies heavily depend on their resources and their relationship with homeowners and other actors within the residential community. As such, while they are essential actors that must be mobilised, their influence does not extend outside of their communities.

Conclusion

Standardisation, collaboration with outside actors, and centralisation are the foundation of Shenzhen's GMS and make possible the embedding and rapid deployment of outside actors for Party-state objectives. The Covid-19 outbreaks throughout 2020 and 2021 accelerated this trend. Building supervisors, landlords, and property management agencies provided the bulk of information and intelligence on people. As a result, the GMS focuses more on managing and coordinating sub-grid actors.

The findings indicate that while the Party-state extends itself further into the grassroots, it also limits its reach. Rather than developing a sprawling administrative bureaucracy at the local level, it relies on outside actors. What these actors have in common is being part of the "ultra-local" state and in many cases part of community itself (Read 2012). Regulations then tie these actors to the grid. This creates a more flexible and sophisticated system that concentrates capacity and power at the subdistrict level. At the same time, it creates capacity for intervention and mobilisation at the grassroots level, where grid members and outside actors can be rapidly deployed to implement policies, conduct campaigns, or take action in times of crisis.

However, the GMS's effectiveness depends on the availability of local resources and expertise. As Pei noted, funding is the "greatest difficulty"[29] for developing GMS, with rich areas charging forward and poorer areas falling behind. Likewise, the availability of educated manpower and capacity for organisation depends on the local Party-state. Finally, the concrete functions of the GMS also depend on the geographical and demographic nature of the locality. As a rich urban area with a well-educated population and part of China's high-tech cluster, Shenzhen is an extreme outlier in the development of GMS in China. While basic mechanisms are similar, it can be expected that GMS development throughout China exhibits significant differences. The Shenzhen case therefore shows that GMS is not geared towards becoming a unified and nationwide system of social governance but rather remains explicitly local.

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27. "四季花城發現兩處'三合一'場所, 執法人員責令限期整改!" (*Siji huacheng faxian liangchu "sanheyi" changsuo, zhifa renyuan zeling xianqi zhenggai!*, Four Seasons Flower City found two "three in one" places, law enforcement officers gave them a time limit for rectification!), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 23 May 2019, https://mp.weixin.qq.com/s/HVihriOK5mNLlq-oLakhVQ (accessed on 23 January 2023).
28. "園山網格中心為物業小區量身定制防控方案" (*Yuanshan wangge zhongxin wei wuye xiaoqu liangshen dingzhi fangkong fang'an*, Yuanshan grid centre customised prevention and control plan for the property management enterprises and residential compounds), *Shenzhen shequ wangge guanli* (深圳社區網格管理), 3 February 2020, https://mp.weixin.qq.com/s/76SI2jJ56Y1xvUn0MfA7Dg (accessed on 22 September 2020).
29. Minxin Pei, "Grid Management: China's Latest Institutional Tool of Social Control," op. cit.

References

AUDIN, Judith. 2017. "Civic Duty, Moral Responsibility, and Reciprocity: An Ethnographic Study on Resident-volunteers in the Neighbourhoods of Beijing." *China Perspectives* 111: 47-56.

CHEN, Huirong, and Sheena Chestnut GREITENS. 2022. "Information Capacity and Social Order: The Local Politics of Information Integration in China." *Governance* 35(2): 497-523.

CHUNG, Yousun. 2018. "Continuity and Change in Chinese Grassroots Governance: Shanghai's Local Administrative System." *Issues & Studies* 54(4): 1-27.

HEBERER, Thomas. 2009. "Evolvement of Citizenship in Urban China or Authoritarian Communitarianism? Neighborhood Development, Community Participation, and Autonomy." *Journal of Contemporary China* 18(61): 491-515.

LIN, Wen. 2013. "Digitizing the Dragon Head, Geo-coding the Urban Landscape: GIS and the Transformation of China's Urban Governance." *Urban Geography* 34(7): 901-22.

LIU, An 劉安. 2015. "網格化管理: 城市基層社會治理體制的運行邏輯與實踐特徵. 基於N市Q區的個案研究" (*Wanggehua guanli: Chengshi jiceng shehui zhili tizhi de yunxing luoji yu shijian tezheng. Jiyu N shi Q qu de ge'an yanjiu*, Grid management: Its operational logic and practical features in urban grassroots society's governance. A case study based on the Q District of N City). *Jianghai xuekan* (江海學刊) 2: 99-107.

MERLE, Aurore. 2014. "Homeowners of Beijing, Unite! The Construction of a Collective Mobilisation." *China Perspectives* 98: 7-15.

MITTELSTAEDT, Jean Christopher. 2022. "The Grid Management System in Contemporary China: Grass-roots Governance in Social Surveillance and Service Provision." *China Information* 36(1): 3-22.

READ, Benjamin L. 2012. *Roots of the State: Neighborhood Organization and Social Networks in Beijing and Taipei*. Stanford: Stanford University Press.

SONG, Yao, Tianyang LIU, Xiangyang WANG, and Tianru GUAN. 2020. "Fragmented Restrictions, Fractured Resonances: Grassroots Responses to Covid-19 in China." *Critical Asian Studies* 52(4): 494-511.

SUN, Boying 孫柏瑛, and YU Yangming 于揚銘. 2015. "網格化管理模式再審視" (*Wanggehua guanli moshi zai shenshi*, Review of grid management in grassroots social governance). *Nanjing shehui kexue* (南京社會科學) 4: 65-71.

TANG, Beibei. 2019. "Intermediary Governance Space in Relocation Neighbourhoods." *China Perspectives* 117: 57-65.

———. 2020. "Grid Governance in China's Urban Middle-class Neighbourhoods." *The China Quarterly* 241: 43-61.

TOMBA, Luigi. 2008. "Making Neighbourhoods: The Government of Social Change in China's Cities." *China Perspectives* 76: 48-61.

TONG, Xing 童星. 2012. "社會管理的組織創新: 從'網格連心, 服務為先'的'仙林模式'談起" (*Shehui guanli de zuzhi chuangxin: Cong "wangge lianxin, fuwu weixian" de "xianlin moshi" tanqi*, Organisational innovation of social management: From the "Xianlin model" of "grids connect, service comes first"). *Jiangsu xingzheng xueyuan xuebao* (江蘇行政學院學報) 61(1): 53-6.

VELGHE, Pieter. 2019. "'Reading China': The Internet of Things, Surveillance, and Social Management in the PRC." *China Perspectives* 116: 85-9.

ZHOU, Liangen 周連根. 2013. "網格化管理: 我國基層維穩的新探索" (*Wanggehua guanli: Woguo jiceng weiwen de xin tansuo*, Grid management: A new exploration of grassroots stability maintenance in China). *Zhongzhou xuekan* (中州學刊) 6: 83-5.

ZHU, Ganwei 竺乾威. 2012. "公共服務的流程再造: 從'無縫隙政府'到'網格化管理'" (*Gonggong fuwu de liucheng zaizao: Cong "wufengxi zhengfu" dao "wanggehua guanli,"* Reengineering the process of public services: From "seamless government" to "grid management"). *Gonggong xingzheng pinglun* (公共行政評論) 2: 1-21.