

ISSN 1732-4254 quarterly

BULLETIN OF GEOGRAPHY. SOCIO-ECONOMIC SERIES

journal homepages:
<https://apcz.umk.pl/BGSS/index>
<https://www.bulletinofgeography.umk.pl/>

Contested volumetric space: floor area uplift policy in Jakarta

Suryono Herlambang^{1, CDMR}, Wahyu K. Astuti^{2*, DFMR}, Regina Suryadjaja^{3, DM}

^{1,2,3}Universitas Tarumanagar, Urban Planning and Real Estate Development, Letjen S. Parman No. 1, Grogol Petamburan, West Jakarta, Indonesia; ¹e-mail: suryonoh@ft.untar.ac.id; ^{2*}e-mail: wahyua@ft.untar.ac.id (corresponding author); ³e-mail: reginas@ft.untar.ac.id

How to cite:

Herlambang, S., Astuti, W.K. & Suryadjaja, R. (2022). Contested volumetric space: floor area uplift policy in Jakarta. *Bulletin of Geography. Socio-economic Series*, 56(56): 101-112. DOI: <http://doi.org/10.12775/bgss-2022-0015>

Abstract. This paper illustrates how the extraction of land value into volumetric spaces (subterranean spaces, elevated infrastructures and high-rise buildings) is rendered possible through accumulation strategies embedded in spatial planning in Jakarta. In doing so, it carefully delves into the shift in Floor-Area Uplift (FAU) compensation policy and its relationship with the expansion of mass transportation system development. We analysed urban planning and high-rise building policy documents from 1975–2017 and modelled the allowable FAU based on those policies. We illustrate, first, the transformation of FAU discourse in urban policies and how its operability is facilitated in discretionary planning regimes. This paper then demonstrates the planning gain delivery and consequences produced through FAU compensation policy. We argued how volumetric urbanism in Jakarta had been produced and sustained through entrepreneurial motives. It continues to segregate the city both in local and urban contexts despite its positivist development goals.

Article details:

Received: 22 October 2021
Revised: 18 March 2022
Accepted: 15 May 2022

Key words:

Floor-Area Uplift (FAU),
volumetric urbanism,
Jakarta

Contents:

1. Introduction	102
2. Research materials and methods	103
3. Constructing volumetric space in Jakarta.	104
3.1. Phase 1: Regulatory uplift/density regulation	105
3.2. Phase 2: Facilitatory uplift/compensation regulation	106
4. Discussion	109
5. Conclusions.	110
Notes	111
Acknowledgements.	111
References	111

1. Introduction

Floor Area Ratio (FAR),¹ also known as Floor Space Index or Plot Ratio, is the ratio between a building's Gross Floor Area (GFA) and the land parcel on which it sits. FAR is controlled to achieve optimum density where existing infrastructure and utility providers avoid pressure on traffic, water and land. In controlling the density and suitability to the surrounding environment, every city has a different allowable FAR index, such as 10:1 in central New York, 12.6:1 in Singapore or 8:1 in Sydney – with different discretionary policies (Helen Day Urbanism, 2016). In calculations, different cities apply different standards; for instance, in Jakarta, parking space of less than 50% is discounted from GFA to encourage developers to allocate parking area inside of the building, while in Singapore, car park areas are not counted as GFA (Urban Redevelopment Authority, 2020). Generally, density regulation, including at least Floor Area Ratio (FAR), Building Coverage Ratio (BCR), and Basement Site Ratio (BSR), comes together with a zoning plan that delineates uses of land parcels. Therefore, the zoning plan becomes an essential tool for the permit process, and incentives and disincentives are embedded in it. One of the most popular incentives is planning gain, where a transaction between discretionary zoning regulation with development contribution occurs.

In many cities, planning gain policy is driven through Floor-Area Uplift (FAU) compensation. Landowners may propose an increase in FAR index by specific numbers and, in exchange, develop infrastructure, housing or parks as compensation for the uplift permit (see Chen, 2020; Urban Redevelopment Authority, 2020). It is mainly seen as a mutual benefit for the city to become more developed with infrastructures and facilities, and obviously, landowners for gaining extra space to be developed. Shatkin (2016), in his study on peri-urban Asia, implied that land monetisation involves not only corporate allies but also the recalibration of state power in urban land management. In Mumbai, for example, such efforts of generating value – Floor Area Uplift and Transfer Development Right mechanisms – have been chosen to finance infra-

structure development with the insufficient financial capacity of local government (Bertaud, 2011).

Meanwhile, recent large-scale infrastructure projects in Jakarta, including the north–south-bound MRT, LRT and the intra-city elevated loop line, are being pushed through by Presidential Decree 56/2018. Consequently, the local planning document needs revising to accommodate the acceleration of national strategic projects. Under this regime of acceleration, The Ministry of Agrarian Affairs and Spatial Planning also subsequently issued standardisation of Transit-Oriented Development (TOD) to promote regeneration of high-density and mixed-use transit areas by incentivising development – among others, through an FAU mechanism. Therefore, state entrepreneurialism is imbricated in the production of volumetric space, which drives the extraction of subterranean and elevated space in forms of transportation infrastructure and high-rise buildings. With a development acceleration agenda, policy experimentation in the city becomes important to levy cash and re-invest it in modern infrastructure as a prerequisite to compete as a world-class city. Hence, FAU compensation policy has become a profound rationality for vertical sprawl and a significant source of non-budgetary infrastructure funds for local government (Crook et al., 2016). FAU policy enables the acceleration of development by not requiring that complicated bureaucracy and rigid budget plans be adhered to. Such effort collides with the rescaling of the state intervening infrastructures and real-estate projects to foster economic development and land monetisation in Jakarta, increasing accessibility and investment in mass transportation (see Shatkin, 2019). Adding to that, the complexity of the land acquisition process with the risk of having to evict people and compensate for the displacement have been among the drivers of vertical space extraction in Jakarta (Liong et al., 2020).

Under Governor “Ahok” Basuki Tjahaja Purnama, the FAU policy compensation was highly praised for bringing an image of modernity, including solid local leadership, modern infrastructure technology and public rental flats to relocate the urban poor from the slums. It accelerated the development of strategic infrastructure. It also fulfilled the middle-class dream of the “aesthetic sublime” of the highway (see Flyvberg, 2014) and housing “betterment” for the urban poor. The regulation has been

revised three times since 2015, signalling a continuous negotiation of the regulation between local government and developers. By 2019, 13 developers had signed a contract with the DKI Jakarta government for FAU. Infrastructure such as the Semanggi “Cloverleaf” flyover, rental flats and a park in Daan Mogot, rental flats in Pulo Gebang, rehabilitation of governmental offices, sport arenas, a pedestrian way and an Old Town revitalisation were developed (Pemerintah Provinsi DKI Jakarta, 2019).

This article, therefore, continues to delve into the entanglement of planning and urban entrepreneurialism, which gives nuance to the narrative and production of volumetric space, mainly through the lens of FAU compensation policy in Jakarta. The promise of accessibility and land value increase by constructing new transit hubs has propelled new projects of intensive use and high-density TOD, which then becomes a rationale for private developers to propose an FAU. The city’s detailed spatial planning and zoning regulation (RDTR-PZ²) provides the grounds for the uplift. The extraction of volumetric space is inescapable from the two-dimensional planning map, which acts as a technology that controls population and space by categorising land use and density: it controls where densification should be, what function it should fulfil, and for whom. It also assists the operability of the FAU compensation policy, as it sets the density guidelines and delineates which land can and cannot be charged with the FAU policy.

This paper is structured on two main arguments: first, it carefully examines the shift in FAU narratives over time and how it affects volumetric space-making in Jakarta. This paper will then analyse the neoliberal logic behind the delivery of FAU compensation and argue how it continues to reinforce segregation of the wealthy and the poor in the city, rather than bringing spatial justice as it was presumed to. This paper concludes by reflecting on the politicised volumetric space and its further implication to the city.

2. Research materials and methods

In this article, we collected and analysed policy documents on high-rise building in Jakarta in 1975–2017 and urban planning documents published in

2005 and 2014. As each document indicates the extent of allowable FAU, we subsequently produced maps and three-dimensional simulations of FAU in Jakarta. Policy mapping and discourse analysis constitute the main methodology used in this article, and one additional interview was made with the Integrated Permit Office (BPTSP) at the Provincial Government of DKI Jakarta about the FAU permit to complement the discourse analysis.

Subsequently, we dialogued our findings with theories on volumetric space production and planning control under an urban entrepreneurial regime. Recent works on volumetric urbanism have questioned the “horizontal regime” of seeing and researching cities that tends to overshadow the ways cities are probed today (Graham & Hewitt, 2013; Harris, 2015; Hewitt & Graham, 2015). Sloterdijk’s seminal work on the sphere (see also Klauser & Pedrozo, 2015) and the current development of studies on infrastructural agency, particularly that of security and gaze, emphasise that the volumetric approach to urban research has been dominated by the production and occupation of aerial territory (Adey, 2010; Elden, 2013). Scholarship has discussed the making of new territoriality through reclamation and ground extraction in securing the volumetric sphere (McNeill, 2019) to “Google Earth urbanism” of landmarking the aerial view (Jackson & Della Dora, 2009). This paper follows the argument that instead of claiming the importance of one axis over another, the volumetric perspective emphasises how vertical and horizontal layers co-exist and construct the space (Graham & Hewitt, 2013). The horizontal regime is yet, if ever, to come to an end. Instead, it mutates and facilitates the birth of a volumetric landscape encompassing the creation of massive architectural projects, flyovers, skyscrapers, or transportation tunnels facilitated through cadastral maps used in urban planning and zoning regulation.

Vertical sprawl has also been associated with escalating segregation between the elites and the majority, the verticalised “wealth” and horizontal “commons” in the city (Bertaud, 2011; Hou, 2012; Graham & Hewitt, 2013). The extraction of subterranean, surficial and supra-surface enclaves is almost always subjected to a process of accumulation by elites imbricated with neoliberal experimentation of housing privatisation and speculation in

propelling capital growth in cities (Shin, 2011; Graham, 2015). Scholars have researched how air rights have been used as a market device and policy instrument in advancing (sub)urban financialisation through multiple discourses of housing backlogs or land value capture (Jose, 2017; Chen, 2020). Liang et al. (2020) term this the “space grab” in comparing this process with (horizontal) land grabs, considering air right privatisation and the planning gain mechanism, which is rendered possible in current entrepreneurial norms.

Scholars have widely researched urban entrepreneurialism since the work of Harvey (1989), introducing the shift in governance from managerialism to entrepreneurialism to seek inter-urban competition that manifests in urban projects. Entrepreneurialism emerges in deregulation, tax reduction and privatisation (Peck et al., 2009) enacted by the government, coined by Jessop (Jessop, 1997) as “policy entrepreneurs”. With deregulation and discretionary practices, the role of urban planning has been questioned, as scholars witness it shift from an integrated to partial perspective, from urban-wide to urban projects, which instead of mediating comprehensive sectors, tends to facilitate the neoliberal ambitions of accumulation (Graham, 2000; Sager, 2011).

3. Constructing volumetric space in Jakarta

The rise of real-estate projects such as shopping malls and superblocks has marked the development of Jakarta since the early 1990s (Herlambang et al., 2019). Senayan City pioneered a large-scale project in Jakarta as the first superblock development operated in Jakarta in 2006. Beforehand, in 2004, Jakarta had its first rapid-transit bus system or TransJakarta, and, in the same year, Governor Sutiyoso announced the beginning of monorail construction. Both transportation policies were argued to trigger large-scale projects in Jakarta, although the monorail construction was halted midway in 2014 and left many half-done pillars as traces. During 2006–10, large developers were racing to build superblocks, and ten new superblocks rose accounting for a total of 1.3 million sq. m of land and more than 5 million sq. m of space (author’s analysis).

In 2013, when Joko Widodo served as Governor of Jakarta, he officially announced the MRT construction plan to link South–North Jakarta and West–East Jakarta. The MRT was not a novelty as it had been introduced in Fauzi Bowo’s gubernatorial reign. In 2015, the monorail’s halfway pillars were planned to become the Light Rail Transit (LRT) pillar that would connect Jakarta with its suburbs (Bogor, Depok, Bekasi). Simultaneously, the local government revised the RDTR-PZ document to accommodate the mass transit plan. In the meantime, the TransJakarta bus route also increased to 12 regular routes and 16 special routes that reach the strategic parts of Jakarta. Again, new projects including offices, apartments, shopping malls, hotels and superblocks were built or planned in the vacant land in the surrounding transit areas. Many mega projects were developed in the downtown and in the sub downtown (West Jakarta, North Jakarta and South Jakarta) with the same characteristic – supported by good accessibility (close to a TransJakarta bus stop or an MRT or LRT station). Today, it is estimated that more than 1.6 million sq. m of land and more than 6.0 million sq. m of floor space of superblocks are scattered across almost the entire city, including in the new reclamation land in the north of Jakarta (Herlambang et al., 2019).

With less availability but higher prices of land in Jakarta’s city centre, land acquisition by developers, especially after the 1990s, shifted from freeing up lands to optimising the volume of the project by increasing its floor space, marking a transformation from “land grab” to “space grab” (Liang et al., 2020). However, capital accumulation operates by maximising ample dimensions of space – area, height, depth or volume – and the intensive dimension of activities. The increasing intensity is demonstrated in the development of superblocks with multiple functions, including housing, entertainment, shopping, office, hotel, hospital, food and beverage, senior home, university, schools, convention centre, gallery, chapel, resort club, and more – all these equipped with technology, design and spectacles to facilitate the circulation of capital. Lippo Group, for instance, as one of the major players in superblock development, has promoted “Millennium Village”, with 18 uses in one superblock, up to “Orange County”, with 32 uses in one. Pramanti and Oldfield (2015) recorded that, despite its inad-

equate infrastructure, the number of skyscrapers in Jakarta has dramatically increased from only eight towers in 1990 to more than 100 buildings taller than 100 m. Not only is this number foreseen to increase to 162 by 2020, but Jakarta will also have two mega-tall buildings of more than 600 m tall, of which, one – Signature Tower (638 m) – will be in the top five of the world's highest buildings at its time of completion.

In this research, the increasing density and transportation service are positioned under the umbrella of FAU, where developers of plots in a certain radius from the transit point are allowed for an extension of floor space as an exchange of public infrastructure (see Fig. 1). The evolution of Jakarta's regulation related to FAU can be construed in two different phases. First, we suggest that the *regulatory uplift approach* was introduced before 2000, where the emphasis was given to density regulation. The first period was signified by how the FAU proposal had to comply with planning standards and improve the surrounding neighbourhood's quality. However, the first phase exhibits looseness of control and monitoring of FAU projects, as a result of negotiations between local governments and developers being informal. Secondly, we see the turn to

the *facilitatory uplift* regime (from 2000 to today) where spatial planning collides with the state's development acceleration regime in the capital city. Later in the second phase, we also witness how FAU is rendered legal through the FAU compensation policy mobilised as an entrepreneurial motive of local and state government.

3.1. Phase 1: Regulatory uplift/density regulation

The first regulation to allow FAU in Jakarta was in 1975 (Gubernatorial Regulation 4/1975), when much attention was paid to developing standards such as the coherence between blocks, buildings, building setbacks and height, so an FAU permit would not be approved without limit. The regulation emphasised the volume criteria (such as how it fits the surrounding skyline), locational and accessibility characteristics, and technical obstructions for flight safety or communication network. The same was also the case in 1994 (Gubernatorial Regulation 678/1994) when the city's expansion became uncontrollable and limited land supply became a discourse; thus, urban density had to be reg-

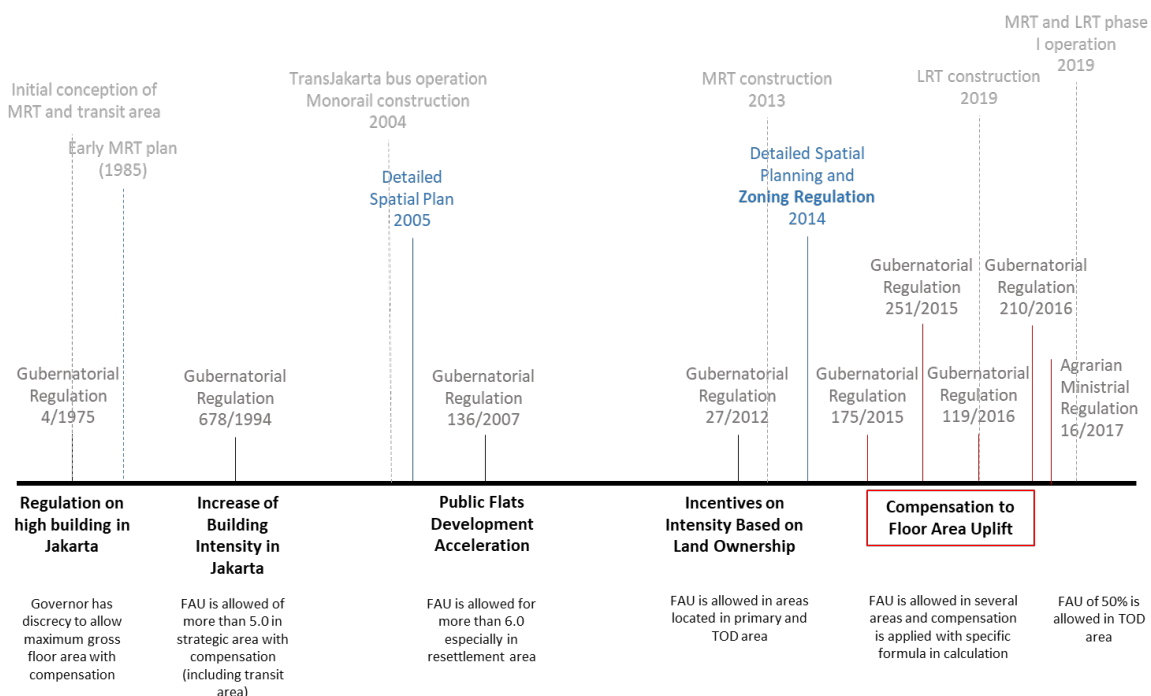


Fig. 1. Policy shift in building density, parallel with public transportation construction in Jakarta
Source: authors

ulated and facilitated. Both of these policies allow the Governor's discretionary act to stipulate FAU with specific compensation. Even later, in Gubernatorial Regulation 678/1994, FAU is allowed even to exceed 5.0 in areas where: (1) the site belonged to a strategic area with superblock development concept, (2) the site is passed by the mass transportation system, (3) the site includes infrastructure and utility development, and (4) the site has low-density or high-density buildings but is designated as part of the urban renewal programme. In return, buildings owners have to provide and improve public infrastructure around the proposed site, including but not limited to road network improvement, traffic betterment, flood mitigation and waste management to increase the quality of the surrounding neighbourhood and to minimise the impact of the high-rise building. Compensation, in this case, was mandatory, but there was no formula or mechanism for delivering it. Therefore, informal agreement between local government and private developers occurred in deciding the compensation.

3.2. Phase 2: Facilitatory uplift/compensation regulation

In contrast to the first phase, the second phase of FAU regulation emphasises the planning gain, but

less-so the local impact on the surrounding neighbourhood. After 2000, the problem of housing backlog in the urban area was widely discussed in planning. With the aim of mass housing development to fulfil the housing backlog, in Gubernatorial Regulation 27/2012 on Public Flat Development Acceleration, FAU up to 6.0 can be permitted to develop rental flats (Rusuna) following a national programme initiated by Jusuf Kalla – 1000 Tower. This policy was followed by the development of Apartemen Kalibata City, a large vertical housing complex of 18 towers with 21 floors in each tower in Kalibata (see Kusno, 2012).

Before issuing the FAU compensation policy in Jakarta, the stipulation of FAR was evident and “formalised” in the detailed planning from 2005 to 2014. The periodic revision of RDTR-PZ, whatever its potential to accommodate the city's future dynamics, has been manipulated as a way to adjust planning limitations to accommodate capital accumulation. Even after density deregulation in RDTR-PZ, DKI Jakarta Governor still has the discretion to uplift the FAR through FAU compensation policy to allow a private investor to extend floor space area. As an example, we illustrate the map of the Sudirman–Thamrin axis in Fig. 2 below. The Sudirman–Thamrin axis is a central business district where the majority of international corporate offices are



Fig. 2. Floor Area Ratio (FAR) in the detailed spatial plan (RDTR-PZ) of 2005 (left) and 2014 (right)
Source: authors

located. In this area, FAR was planned around 5.0, but then it was adjusted to 7.0–9.0 in the RDTR-PZ 2014 along with the plan to develop mass transit infrastructures.

Although the ideas of extracting land value from infrastructure has often been mentioned since the first phase, phase 2 is signified by the issuance of policies on FAU compensation and mega-infrastructure development in the city, such as the MRT and LRT lines, which also become the rationale for allowing FAU. Gubernatorial Regulation 27/2012 introduced the allowance of FAU around mass-transit points – known as Transit-Oriented Development (TOD) areas. Likewise, it acts as an instrument to incentivise landowners to contribute to public infrastructure development, mainly those whose lands are in the primary and secondary urban centre and urban infrastructure networks. Compared to the previous regulation, requirements relating to technicality and the high-rise building's compatibility with its surroundings are fewer; it is even more

opaque about the categories and location of the compensated infrastructure.

The most recent policies on FAU were issued in 2016 – after being revised three times in two years. The four policies on FAU compensation heavily emphasised the kinds, calculations and mechanisms of delivery for public infrastructure as FAU compensation. Technical suitability and environmental and traffic impact of FAU were mere documents to be submitted for the FAU proposal, but the impact is not accounted for in the levied compensation. The current policy on FAU compensation is more decentralised, as it strengthens the role of the Integrated Permit Office (BPTSP) as the initial door for FAU application. It also emphasises the coordination between agencies under the Regional Spatial Planning Coordinating Board (BKPRD) in monitoring and evaluating the development, rather than only giving the mandate to the Governor.

The FAU compensation policy delineates areas where FAUs are permitted with indexes multiplied

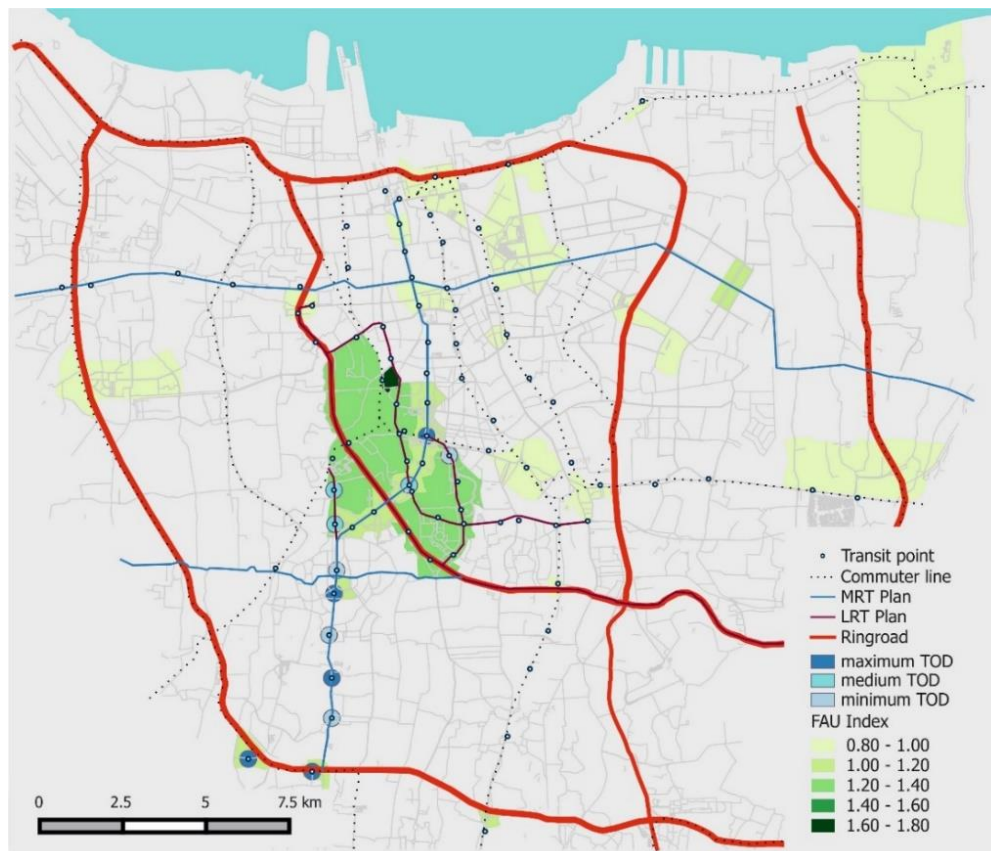


Fig. 3. Map of land plots applicable for FAU in Jakarta
Source: Gubernatorial Regulation 175/2015, remade by authors

in the formula, thus determining how much a developer will pay in a particular location. Illustrated in Fig. 3 below is a map of land plots allowable for FAU in Jakarta, ranging from index 0.8 for areas in the east and primary west centre and north Jakarta, and up to 1.80 in central areas such as Tanah Abang. The index is used to (dis)incentivise development in Jakarta and encourage development in Jakarta's sub-centres where the index is low. However, when this map is overlaid on a major transit plan, it shows that the area allocated for FAU does not necessarily show how densification is aimed to be around the transit system. Many of the permitted FAU locations are disconnected from the TOD plan.

With the formalisation of FAU in RDTR-PZ 2014, a new policy was introduced in 2015 to allow further uplift with compensation. We illustrated in Fig. 4 the case of Mulia Tower, whose proposal for FAU was granted in 2016, to show how multiple FAU permits have been granted to urban projects. In detailed planning from 2005, the initial FAR limit for Mulia Tower was 5.0, and with a land of 5,880 sq. m its gross floor area (GFA) amounted to 29,400 sq. m. In RDTR-PZ 2014, it was increased to 6.5, and its GFA amounted to 38,220 sq. m. In 2015, the FAU proposal was granted for FAR of 10.349, and its GFA increased to 60,852.12 sq. m. A parking area of less than 50% of the GFA is not calculated in the FAR; thus, the GFA can increase up to 78,852.12 sq. m if it is included. With the FAU being permitted, the Mulia Tower developer has to de-

velop two towers of 540 units of Rusuna in Daan Mogot and 2,158 sq. m of children-friendly public space (RPTRA) in Daan Mogot Rusunawa area – which is 20 km away from the site where uplift was permitted. Rusunawa Daan Mogot was developed to relocate people living in the bank of Kali Apuran and Mookervart to make way for the normalisation of those waterways.

The dislocation of public benefit away from the site where the FAU permit was granted may also cause deterioration in the second layer of the urban blocks and spatial segregation between surrounding neighbourhoods behind high-rise buildings. From groundwater extraction, parking and traffic in the local lane caused by an upsurge of activity and intensity in the primary road, FAU should ideally contribute to the impact it may have locally to the surrounding neighbourhood, including *kampung* and street vendors producing food for company employees.

In many cities, the FAU allowance has been used to maximise space efficiency in terms of use and value in urban areas and is made for planning gain purposes. Chicago, New York, Auckland, Singapore and Perth allow FAU ranging from 0.5 to 4.0, while Sydney and Melbourne do not limit FAU. In all cities, FAU requires compensation for the public in heritage conservation and community infrastructures provision, including public schools, cycling facilities, libraries and other strategic land use (Helen Day Urbanism, 2016). In Jakarta, the governance of

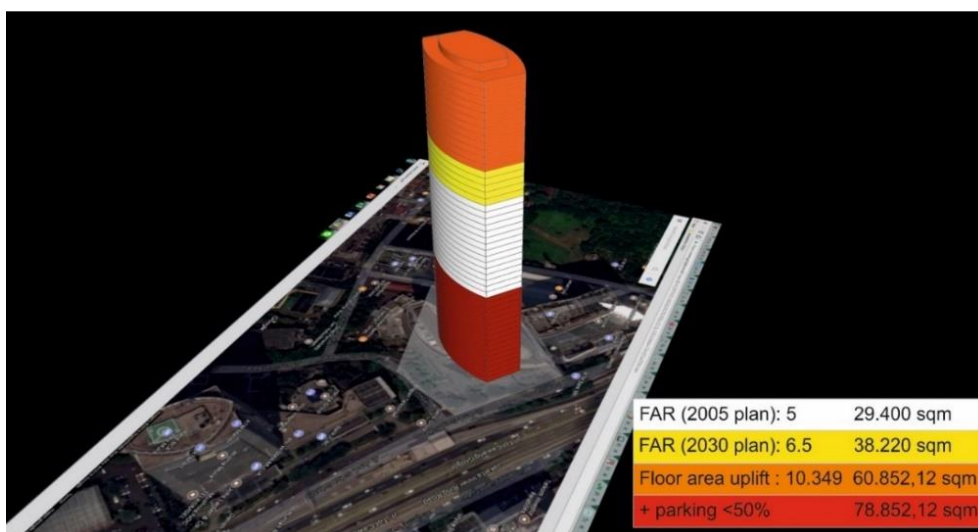


Fig. 4. Floor Area Uplift (FAU) simulation for Mulia Tower 2
Source: authors

FAU policy involves a narrative of valuation of what is considered valuable and not valuable in terms of land use, location and compensation. As transit-oriented development (TOD) became a buzzword in Jakarta's planning following mega infrastructures such as MRT, LRT and high-speed train, FAU started to be praised as a panacea for transparent governance mechanisms in development gain. The success of FAU as an innovative urban project funding mechanism is celebrated especially after years of obscure legality and under-the-table transaction between local government and private sectors.

With only four years of Gubernatorial tenure, mega infrastructure development becomes impossible without non-budgetary funds, including the one gained from FAU compensation. Aligned with the development acceleration imposed by the state, FAU becomes the technology of entrepreneurial urbanism to stipulate "certainty" in terms of the legal basis for the expansion of multiscale capital investment. Following Jessop (2003), "the shortening of policy-development cycles, fast-tracking decision making, rapid program rollout, continuing policy experimentation, institutional and policy Darwinism, and relentless revision of guidelines and benchmark" have been central in this entrepreneurial regime. Nonetheless, despite being considered a transparent mechanism for urban development project funding, FAU has become an adjustable experiment in investors' favour, as indicated by the quickly altered compensation policy to floor-area uplift in only two years.

However, this is not only a case of local government accelerating development; it also intersects with the attention of the state in increasing and gaining the value of land with improved accessibility as reflected in the issuance of Agrarian Ministerial Regulation 16/2017 on Transit-Oriented Development. The policy clearly shows the rescaling of the state's interest in urban (even neighbourhood-scale) projects and the state's interests in real-estate project development to foster investment. The Ministerial Regulation facilitates land monetisation through a FAR increase of a maximum of 50% in the surrounding transit area.

The making of volumetric space in Jakarta is also reflected in the alteration of texts and languages in density policy in 2015–2016, which emphasises "compensation" to the detriment of density

guidelines by private developers. The latest four policies, in general, categorise space in value indexes as which one is more valuable (and thus, has more potential and is more "expensive" in compensation payment) than the others. Zoning here becomes a tool that enables segregation and re-arrangement of the population according to land use, population distribution and density, hence justifying densification on one side and resettlement on the other. Compensations are calculated using a formula set involving the proposed FAR uplift, the index, and taxable assessed value of land, and they are agreed in forms of public infrastructures with equal values. The compensation is decided between agencies in local government based on their assessment of infrastructure priority. Unlike the previous policies on building intensity, none of these four policies consider the limitation to the FAU and its compatibility with the surrounding neighbourhood as contended by a government officer in an interview:³ "The sky is the limit." DKI Jakarta government will allow FAU if private developers agree on the amount of compensation. This seemingly uncontrolled extension of floor space therefore gained critiques for risking the flow and networks of mobility, water supply and ground pressure in the city.

4. Discussion

Through policy analysis and mapping, we suggested how FAU in Jakarta is continuously produced through entrepreneurial motives embedded in building and urban planning documents. This did not occur in the city only, however; the development of high-rise buildings also occurred in the peripheral areas in the form of low-cost flats as compensation for FAU.

"This is the most profitable way," said the previous Governor Basuki as he notified that at least 1,300 units of rental flats would be raised to provide housing for low-income people. Under the discourse of flood-free Jakarta, Governor Basuki has been arguing for the construction of rental flats to re-settle evictees – the majority of whom are poor – who used to occupy riverside areas. After a series of coercive evictions, the re-locating of evictees into rental flats units has been based on the numerical approach to the number of available units and

evictees regardless of people's socio-economic networks, which resulted in the loss of livelihood for many people. As part of the "vertical turn", the practice of disciplining and formalising the urban poor into rental flats outside of the city becomes the only rationale and order for housing the poor. The very logic is the unequal land market, where the urban poor must share their land because they cannot afford it. This is as contended by Amin & Thrift about the lives of a city, that cities become "[...] machines that legislate who and what lives and who and what dies, and *who and what lives in what form*" (Amin & Thrift, 2016, emphasis added). Therefore, zoning regulation and FAU policy have become tools to manage and control population, not only the "haves" as they are benefitted from the value rise of property with floorspace addition, but also the "have-nots", through the provision of the rental flats compensation mechanism.

Although affordable housing provision with inclusionary zoning as compensation for a density bonus is not new in the vocabulary of urban management, the provision of rental flats in Jakarta regarding FAU compensation is a different case. Inclusionary zoning stipulates affordable housing be provided in or nearby the plot where the density bonus is allowed to enable the occupiers of affordable units to live in an area with high rents or prices (Monk & Crook, 2016). Instead of ordering affordable housing development for the urban poor in the city centre to create an equitable opportunity, rental flats for the poor are located far from the city in Jakarta. Two rental flats, Daan Mogot and Cengkareng Barat rental flats, are developed through the FAU mechanism, and they are located 20 km west and north-west of the city centre. Evictees occupy both rental flats from, among others, Pluit Lake, Mookervart drain, and Apuran drain – waterways and water bodies. The rivers and lakes were "normalised" from kampung settlement to support flood-free and sustainable Jakarta propaganda to mask the state's failure to address housing needs for most people (Padawangi & Douglass, 2015; Leitner & Sheppard, 2018). Despite its branding as green buildings, the provision of Rusunawa in Daan Mogot is not without problems. There have been complaints about water quality, transportation accessibility, and the inability of renters to pay (which amounts to 1.3 billion Rupiah as of Febru-

ary 2019) due to hardship in locating jobs in the new place (Azhari, 2019).

Compared to the development of rental flats for the evictees and the negligence to the surrounding environment of permitted FAU site, the elevated Semanggi cloverleaf funded by FAU gain will reduce traffic congestion, and the traffic congestion resembles the new image of urban Jakarta. This resonates with Harris's (2018) argument on Mumbai's flyovers fabricated to escape the inertia and unruliness of the horizontal urban realm and ultimately make way for the utopia of modern cities. The elevated Semanggi cloverleaf, too, according to the contractor company, utilised one of the most advanced bridge construction technologies as Jakarta hosted the Asian Games 2018 (Mardiana, 2017); likewise, its initial construction phase in 1961 to welcome the Asian Games 1962. The new elevated Semanggi cloverleaf is expected to create more accessibility, thus adding more value to its surrounding area, which is nowadays dominated by supermalls, offices and high-end apartments.

The politics of volumetric space in Jakarta has therefore expanded from the logic of maximising the city's land value to the creation of the order to human, traffic, technology and capital flow in the city under the discourse of the modern city. The compensation discourse creates an order of exclusion and inclusion – of who or what should remain and gain benefits in the city and who should be pushed away from the city. The "elite takeover of the sky", borrowing the terminology from Graham (2015), exists in the city centre. In the outer centre, the massive scale of rental flats lacking accessibility is developed as compensation for the urban poor. The FAU compensation policy hence entails an order of *locating and dislocating* the benefits of value gain; it produces more and more contested volumetric space for the city: unlimited skyscrapers, deteriorated rental flats and a multi-layered flyover to facilitate the mobility of private vehicles.

5. Conclusions

This article raises the question of what logic underpins the discourse of volumetric urbanism in Jakarta and its implications. This article discussed FAU policy and suggested the variability of the ration-

ality and technologies that produce the narrative and order of volumetric urbanism. FAU becomes a central debate raised after the scarcity of land in urban areas. Hence, adding floor space becomes the only rationality to upscale projects, particularly in a 600- m radius around mass -transit points. First, it argues on the neoliberal logic that creates an enigma of enforcing zoning ordinance while making an exception to de-regulate it to facilitate the creation and accumulation of value. While urban policy first emphasized managing density and its environmental quality, latter regulation tends to “exploitate” the ability to extract value from space accumulation without maintaining the quality of density and its integration to the surrounding area. Second, FAU is argued to be a mode of capital accumulation by public and private institutions in financing entrepreneurial urbanism and the pride of good governance and transparency. As a planning gain mechanism, it imposes “punitive” action on private sectors in the forms of compensation in infrastructure and housing, which are also delivered according to the logic of the land market. The rationality of locating and dislocating “public benefits” is steered by the motive of value creation, which categorizes what infrastructure is to be constructed, where, how, and for whom, instead of distributing planning gain equally. The contestation of volumetric space in Jakarta lies on the paradox of discretionary/regulatory or accumulation/redistribution, which further reinforces the reproduction of inequality in urban areas.

Notes

1. Floor Area Ratio (FAR) is a measurement of density and bulk that demonstrates the total gross floor area ratio to the plot size. It varies from one city to another with usually different specifications for calculating parking space, balcony area, semi-public space, etc.
2. *Rencana Detail Tata Ruang* (RDTR) or detailed spatial planning documents and zoning regulations of DKI Jakarta were issued in 2014. Zoning regulation in this planning document also entails a possibility of bonus zoning in ‘a’-coded zones. In 2005, this doc-

ument is called *Rencana Rinci Tata Ruang Wilayah Kecamatan* (RRTRWK).

3. Interview with the head and staff of the Integrated Permit Office (BPTSP) in 2016

Acknowledgements

The authors are grateful for insights from discussions with Helga Leitner and Eric Sheppard. We also thank Lucia Indah Pramanti for the 3D simulation and calculation. The earlier version of this paper was presented in the Volumetric Urbanism workshop at The University of Sheffield, May 2017.

References

- Adey, P.** (2010). Vertical Security in the Megacity: Legibility, Mobility, and Aerial Politics. *Theory, Culture & Society*, 27(6): 51–67. DOI: <https://doi.org/10.1177/0263276410380943>.
- Amin, A. & Thrift, N.** (2016). *Seeing Like a City*. Polity.
- Azhari, J.** (2019). Tunggakan Penghuni Rusunawa Pesakih Capai 1,3 Miliar. Available at: <https://megapolitan.kompas.com/read/2019/03/22/16484731/tunggakan-penghuni-rusunawa-pesakih-capai-rp-13-miliar> (Accessed: 10 August 2020).
- Bertaud, A.** (2011). Mumbai FAR/FSI conundrum' Available at: <http://alain-bertaud.com>. (Accessed: 10 August 2020).
- Chen, H.Y.** (2020). Cashing in on the sky: financialization and urban air rights in the Taipei Metropolitan Area. *Regional Studies*, 54(2): 198–208. DOI: <https://doi.org/10.1080/00343404.2019.1599104>.
- Crook, T., Henneberry, J. and Whitehead, C.** (2016). Introduction, In: Crook, T., Henneberry, J. and Whitehead, C. (eds) *Planning gain: providing infrastructure & affordable housing*. Oxford : Wiley Blac.
- Elden, S.** (2013). Secure the volume: Vertical geopolitics and the depth of power. *Political Geography*, 34: 35–51. DOI: <https://doi.org/10.1016/j.polgeo.2012.12.009>.
- Flyvberg, B.** (2014). What You Should Know About Megaprojects and Why: An Overview. *Project Management Journal*, 45(2): 6–19. DOI: <https://doi.org/10.1002/pmj.21409>.
- Graham, S.** (2000). Constructing premium network spaces: Reflections on infrastructure networks and contemporary urban development. *International Journal of Urban and Regional Research*, 24(1): 183–200. DOI: <https://doi.org/10.1111/1468-2427.00242>.
- Graham, S.** (2015). Luxified skies: How vertical urban housing became an elite preserve. *City*, 19(5): 618–645. DOI: <https://doi.org/10.1080/13604813.2015.1071113>.

- Graham, S. & Hewitt, L.** (2013). Getting off the ground: On the politics of urban verticality. *Progress in Human Geography*, 37(1): 72–92. DOI: <https://doi.org/10.1177/0309132512443147>.
- Harris, A.** (2015). Vertical urbanisms: Opening up geographies of the three-dimensional city. *Progress in Human Geography*, 39(5): 601–620. DOI: <https://doi.org/10.1177/0309132514554323>.
- Harris, A.** (2018). Engineering Formality: Flyover and Skywalk Construction in Mumbai. *International Journal of Urban and Regional Research*, 42(2): 295–314. DOI: <https://doi.org/10.1111/1468-2427.12525>.
- Harvey, D.** (1989). From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism. *Geografiska Annaler. Series B, Human Geography*, 71(1): 3. DOI: <https://doi.org/10.1080/04353684.1989.11879583>.
- Helen Day Urbanism** (2016). Comparative Planning Controls Report.
- Herlambang, S., Leitner, H., Liong, J.T., Sheppard, E & Anguelov, D.** (2019). Jakarta's great land transformation: Hybrid neoliberalization and informality. *Urban Studies*, 56(4): 627–648. DOI: <https://doi.org/10.1177/0042098018756556>.
- Hewitt, L. & Graham, S.** (2015). Vertical cities: Representations of urban verticality in 20th-century science fiction literature. *Urban Studies*, 52(5): 923–937. DOI: <https://doi.org/10.1177/0042098014529345>.
- Hou, J.** (2012). Vertical urbanism, horizontal urbanity: Notes from east Asian cities. *The Emerging Asian City: Concomitant Urbanities and Urbanisms*, 234–243. DOI: <https://doi.org/10.4324/9780203094655>.
- Jackson, M. & della Dora, V.** (2009). “Dreams so big only the sea can hold them”: Man-made islands as anxious spaces, cultural icons, and travelling visions. *Environment and Planning A*, 41(9): 2086–2104. DOI: <https://doi.org/10.1068/a41237>.
- Jessop, B.** (1997). The Entrepreneurial City: Re-Imaging Localities, Redesigning Economic Governance, or Restructuring Capital? In: Jewson, Nick & MacGregor, S. (ed.) *Transforming Cities: New Spatial Divisions and Social Transformation*, 28–41, Routledge.
- Jose, G.** (2017). Hawa khaana in Vasai Virar: Urban housing and the commodification of airspace in Mumbai's periphery. *City*, 21(5): 632–640. DOI: <https://doi.org/10.1080/13604813.2017.1374779>.
- Klauser, F. & Pedrozo, S.** (2015). Power and space in the drone age: A literature review and politico-geographical research agenda. *Geographica Helvetica*, 70(4): 285–293. DOI: <https://doi.org/10.5194/gh-70-285-2015>.
- Kusno, A.** (2012). Housing the Margin: Perumahan Rakyat and the Future Urban Form of Jakarta. *Indonesia*, 94: 23–56.
- Leitner, H. & Sheppard, E.** (2018). From Kampung to Condos? Contested accumulations through displacement in Jakarta. *Environment and Planning A*, 50(2): 437–456. DOI: <https://doi.org/10.1177/0308518X17709279>.
- Liong, J., Leitner, H., Sheppard, E., Herlambang, S. & Astuti, W.** (2020). Space grabs: colonizing the vertical city. *International Journal of Urban and Regional Research*, 44(6): 1072–1082. DOI: <https://doi.org/10.1111/1468-2427.12949>.
- Mardiana, C.** (2017). Disebut Kampung, Ini Kecanggihan Jembatan Susun Semangi. Available at: <https://finance.detik.com/berita-ekonomi-bisnis/d-3584802/disebut-kampung-ini-kecanggihan-konstruksi-simpang-susun-semangi> (Accessed: 17 March 2022).
- Monk, S. & Crook, T.** (2016). International Experience. In: Crook, T., Henneberry, J., and Whitehead, C. (eds) *Planning gain: providing infrastructure & affordable housing*, 227–268, Wiley Blac. Oxford.
- McNeill, D.** (2019). Volumetric urbanism: The production and extraction of Singaporean territory. *Environment and Planning A*, 51(4): 849–868. DOI: <https://doi.org/10.1177/0308518X19830699>.
- Padawangi, R. & Douglass, M.** (2015). Water, water everywhere: Toward participatory solutions to chronic urban flooding in Jakarta. *Pacific Affairs*, 88(3). DOI: <https://doi.org/10.5509/2015883517>.
- Peck, J., Theodore, N. & Brenner, N.** (2009). Neoliberal Urbanism: Models, Moments, Mutations. *SAIS Review of International Affairs*, 29(1): 49–66.
- Pemerintah Provinsi DKI Jakarta** (2019). Audited Financial Report (Laporan Keuangan Pemerintah Daerah).
- Pramanti, L. & Oldfield, P.** (2015). Tall Building Planning Strategy and Governance What Can Jakarta Learn from Other Cities?, presented in 3rd Annual Conference in Architecture and Civil Engineering (AVE 2015).
- Sager, T.** (2011). Neo-liberal urban planning policies: A literature survey 1990–2010. *Progress in Planning*, 76(4): 147–199. DOI: <https://doi.org/10.1016/j.progress.2011.09.001>.
- Shatkin, G.** (2016). The real estate turn in policy and planning: Land monetization and the political economy of peri-urbanization in Asia. *Cities*, 53: 141–149. DOI: <https://doi.org/10.1016/j.cities.2015.11.015>.
- Shatkin, G.** (2019). Financial sector actors, the state, and the rescaling of Jakarta's extended urban region. *Land Use Policy*, 112: 104–159. DOI: <https://doi.org/10.1016/j.landusepol.2019.104159>.
- Shin, H.-B.** (2011). Vertical accumulation and accelerated urbanism: the East Asian experience. In: Gandy, M. (ed.) *Urban Constellations*. JOVIS Verlag, 48–53.
- Urban Redevelopment Authority** (2020). Gross Floor Area Handbook.

