

A Private Road

Peng Jiang

College of Architecture, Georgia Institute of Technology, Atlanta, United States
peng.jiang@arch.gatech.edu

John Peponis

College of Architecture, Georgia Institute of Technology, Atlanta, United States
john.peponis@coa.gatech.edu

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Abstract

Intense urban development occurring on a very large urban block in the Buckhead area of Atlanta is documented over a period of more than 50 years, including the creation of internal privately owned circulation roads. The pattern of growth, while common in contemporary US urbanism, is sharply opposed to the more familiar traditional process of development where buildings occupy parcels accessible from pre-existing public streets. The process documented here leads to the creation of hybrid social space, privately owned, and structured according to a sui generis large scale organic pattern of aggregation. Some underlying problems intrinsic to the condition under investigation are briefly discussed, ranging from traffic mitigation to the relationship between public streets, public transportation infrastructure, private roads and the intelligibility of contemporary urban space.

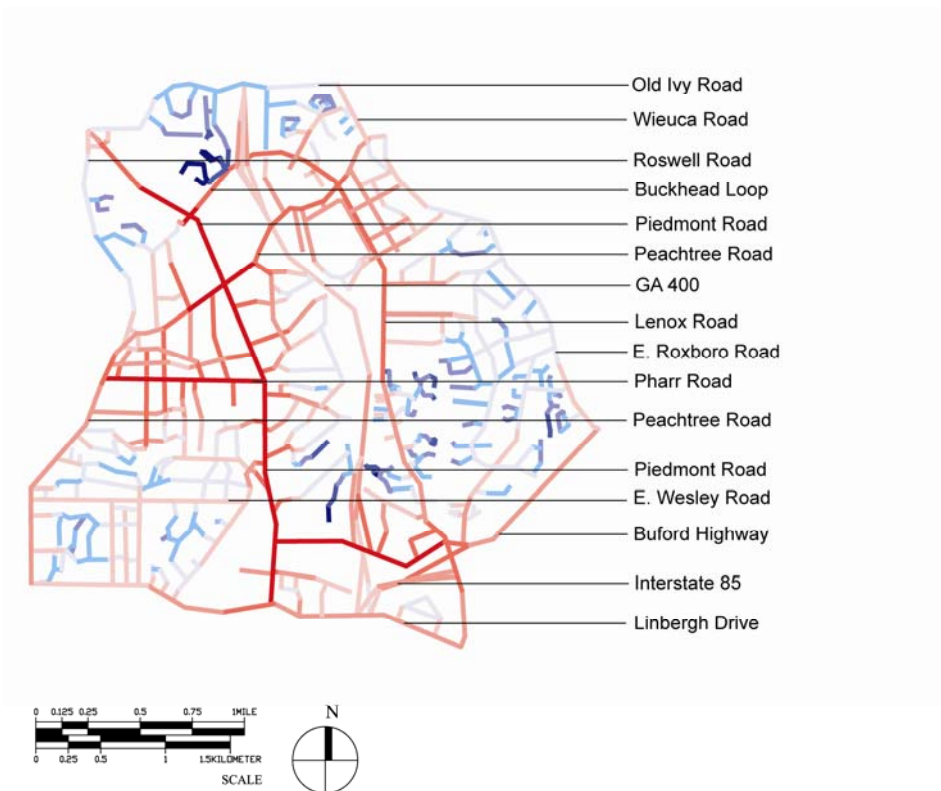
1. Introduction : Tower Place Block

In this paper, "Tower Place block" refers to the 65.18 acres (26.38 hectares) urban block in Buckhead, Atlanta, presently surrounded by Peachtree Road, Piedmont Rd, The Buckhead Loop and freeway Georgia 400 — Figure 1a. The block is smaller than its historic antecedent of 94.21 acres (38.13 hectares), which was surrounded by Peachtree Road, Piedmont Rd, Ivy Rd and Stratford Road. Georgia 400 (Turner MacDonald Parkway) has cut away a part of the original block it in 1993. Tower Place block has experienced very significant, and more recently very accelerated, growth. The current (2008) building area on the block is estimated at 6,873,655.00 sq ft (638,583.45 sq m), representing an aggregate floor area ratio of 2.421. Based on available data, the total building area for 1951 was 191,480.00 sq ft (17,789.07 sq m) representing an aggregate floor area ratio of 0.047. Thus the current development density is more than 51 times greater than the density in 1951. The spatial logic of this accelerated pattern of growth is the topic for the rest of the paper. In this introduction, we outline some of the parameters that characterize the block from an urban point of view.

Peachtree and Piedmont Roads are among the best known spines of Atlanta. Their intersection in Buckhead occurs 0.76 of a mile to the North-East of the traditional heart of Buckhead (intersection of Peachtree, Roswell, West Paces Ferry and East Paces Ferry Roads) and about the same distance to the South-West of two of the largest upscale shopping malls in the South East (Lenox Square and Phipps Plaza with a total of 2,271,000 sq ft (210,982 sq m). In short, one of the street corners that define Tower Place Block is central to Buckhead and a key node for Atlanta as a whole.



(a)



(b)

Figure 1

(a) Buckhead Boundary Map in 1993, showing the location of Tower Place Block
 Source: Buckhead Guidebook, Buckhead Coalition, 2007
 (b) Axial Map of Buckhead in 2008, showing the integration core

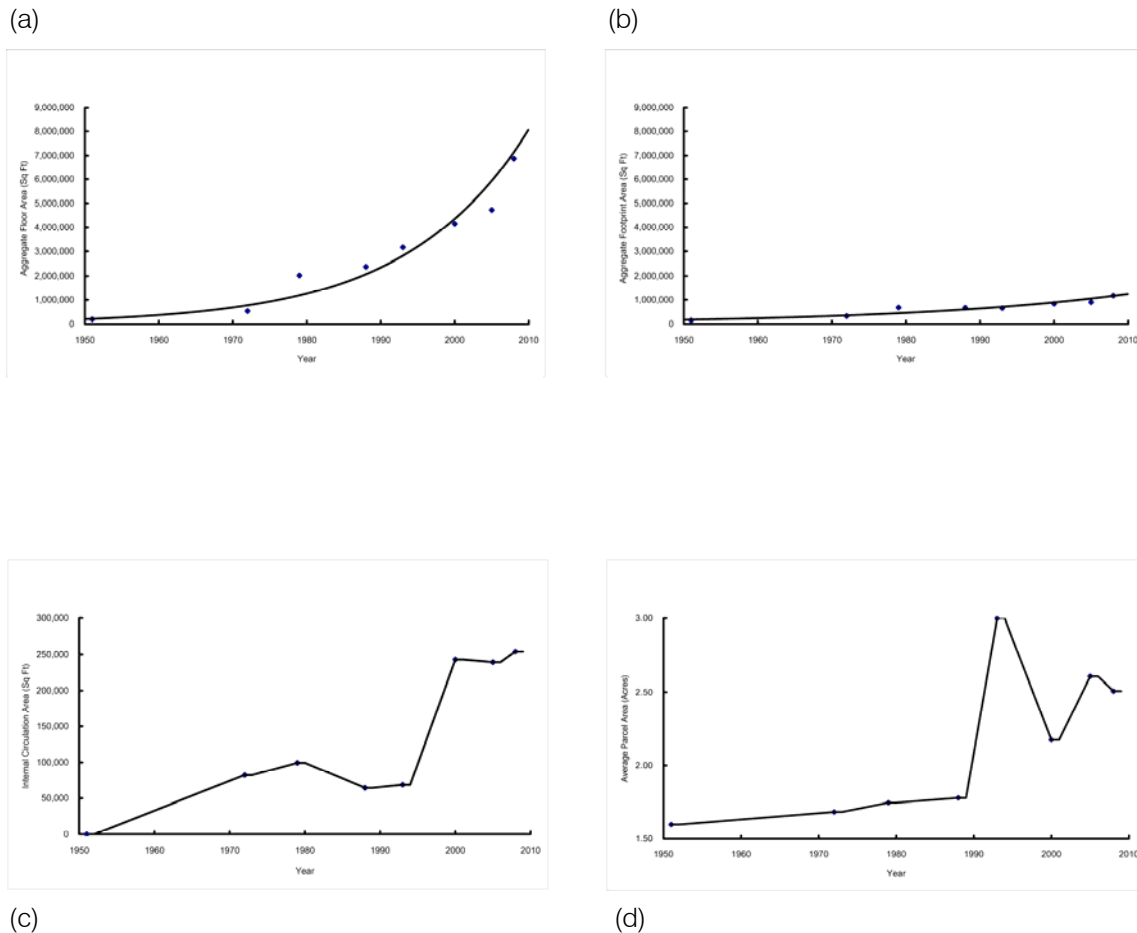


Figure 2

- (a) Aggregate Floor Area Growth in Tower Place Block from 1951 to 2008
- (b) Aggregate Footprint Area Growth in Tower Place Block from 1951 to 2008
- (c) Internal Circulation Area Growth in Tower Place Block from 1951 to 2008
- (d) Average Parcel Area Growth in Tower Place Block from 1951 to 2008

The size of the Tower Place block is quite large, even in the context of Atlanta. Downtown Atlanta has 58.47 blocks per sq kl (approximate average block size 1.71 hectares) but Dunwoody and Buckhead — two of the Edge Cities of the Atlanta Metropolitan Region according to Garreau (1991) — have only 7.98 and 10.19 respectively (approximate average block size 12.53 and 9.81 hectares respectively) (Peponis, Allen, Haynie et al, 2007). In the context of North Buckhead, however, the block is by no means exceptional in size.

It is, however, exceptionally well connected. Georgia 400 links the affluent areas in North Atlanta to Downtown. It branches off interstate 85. At the Buckhead exit, the Buckhead Loop takes traffic to Peachtree Road and to Lenox Roads. Tower Place block has a direct connection to the Buckhead loop. Thus, it benefits from global as well as local connectivity. From a syntactic point of view, the most integrated street segments at the perimeter of the block, within a two mile radius, remain Peachtree and Piedmont Roads, even though their Integration value has oscillated over time. As the street system of Buckhead has evolved, the integration core of the area has become better distributed. From the point of view of Tower Place block, the implication is that there currently are fairly direct and intelligible connections spreading out into surrounding areas, especially to the South, South West and South-East — Figure 1b. At a global scale, Georgia 400 provides a rapid link to Downtown, less than 8 miles to the South, as well as to Dunwoody and Perimeter center, about 7 miles to the North. In addition to these vehicular connections, Tower Place block benefits from the Buckhead MARTA transit station, situated at the intersection of Peachtree Road and Georgia 400—the

North-Western branch of MARTA runs along the median of Georgia 400. This creates a potential for enhanced pedestrian traffic, a quite distinctive condition by Atlanta standards, although by no means unique given the recent tendency to intensely develop areas serviced by MARTA.

In subsequent sections we will discuss: First the subdivision of land into parcels, the units of property that are developed; second, the building footprints; third the system of internal circulation. In doing so we follow the conventions of historical-morphological studies. A fourth section discusses a limited study of movement patterns.

2. Parcels

The evolution of land subdivision is shown on Figure 3, based on the Realty Atlas, Fulton County, Georgia, by First American Real Estate Solutions as well as the Sanborn maps held at the Georgia Tech Library. The analysis of the maps reveals several trends. Average parcel size has increased from 1.60 in 1951 to 2.51 acres in 2008. The compactness of parcel shape has increased: the ratio of the perimeter of the parcel over the perimeter of a circle of the same area changed from 1.468 in 1951 to 1.348 in 2008. Larger more compact parcels provide greater flexibility for placing large buildings. However, as parcels became more compact, the ability to maintain frontage on any of the surrounding streets in the context of a deep block was proportionally decreased. As we will show later, some parcels have come to rely exclusively on internal roads for access. Indeed, while all parcels had perimeter frontage in 1951 only 53.85% have such frontage in 2008.

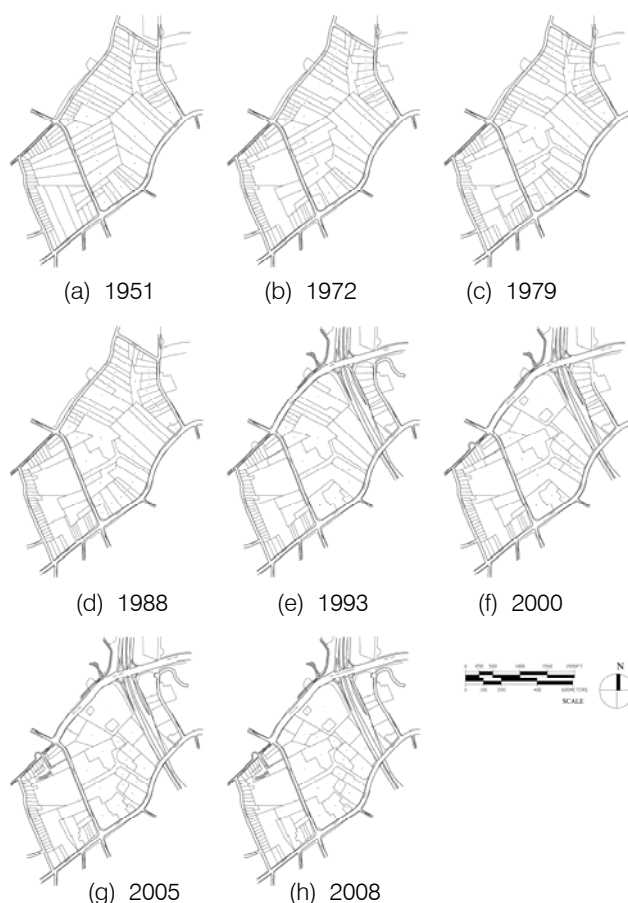


Figure 3

Parcels in tower place block (East of Piedmont Rd) and adjoining block (West of Piedmont Rd) from 1951 to 2008

Tracking the negotiation of rights of way and the agreements between land owners to allow access to parcels is not easy. On occasion, we found discrepancies between the records of parcel boundaries kept at Fulton County and the records submitted to the City of Atlanta's Building Office

as part of the Building Permit application process. It is clear, however, that the transformation of property lines is associated with a complex negotiation of rights of way and access. This process is an aspect of the peculiar form of negotiated organic growth that has occurred.

3. Buildings

Building footprints are shown in Figure 4. The total floor area for 1951 was 191,480.00 sq ft (17,789.07 sq m) — 0.047 FAR. Buildings were almost entirely residential, with one school and one church. In 1972 the total floor area has increased to 529,980.00 sq ft (49,236.75 sq m) representing 0.129 FAR. By that time commercial premises had developed along Peachtree. However, the critical step in the block's development is shown in the 1979 map. By that time the developer Charles Ackerman had built the first major mixed use development in the area, working with architect Kempt Mooney, then with Stevens and Wilkinson. While Ackerman's property had better frontage on Piedmont Rd, the decision was taken to provide the development with a Peachtree Rd address. This necessitated the creation of an internal street "Tower Place Drive", linking Peachtree to Piedmont via the areas closer to the center of the block. Perusal of various plans shows that the exact alignment of "Tower Place Drive" has shifted with changes in building and site design. Thanks to the creation of the internal road, the main high rise 29 storey office building (originally designed for 50 floors) could be placed deep into the site, with low rise constructions (retail, leisure) creating commercial frontage on Piedmont and a medium rise hotel situated on the portion of Tower Place Drive leading to Peachtree. Thus, the 1979 map tells the story of a radical discontinuity: the block shifted from edge to internally oriented development; as a consequence, internal circulation roads started to effectively fragment its integrity; the process is associated with the advent of high volume investments. In 1979 the total building area jumped to 2,022,266 sq ft (187,874.66 sq m) with 0.493 FAR. The tower or Tower Place accounts for about 610,000 sq ft or 30% of the total area.

While the 1988 and 1993 maps show the addition or replacement of buildings on the perimeter of the site, both on Peachtree and on Piedmont Rd, the 2000 and 2008 maps show significant development in the interior of the block, following the precedent set by the original Tower Place development. Grandview Tower and One Buckhead Loop, for example, both major buildings, are only accessible from internal circulation roads. Such internal development was motivated in part by the advent of the Buckhead Loop in 1993 which provided additional access paths from what used to be the back of the block. But, this process of internal development, enabled by the creation of additional internal circulation routes, is associated by a deeper change in the spatial logic.

In the familiar process represented by the maps for 1951 and 1972, buildings are built on parcels which front public streets. The network of public streets functions as the constitutional framework for private investment. They are the stable long term order within which the city evolves. They provide a sense of shared orientation, an address. The break with this tradition, documented in the 1979 map, initiates a different logic. Roads are now building as a consequence of the design of particular buildings, or rather as a consequence of particular investment decisions. The question of whether or not these roads can function as a framework for future changes is not asked, at least not overtly. On the ground, circulation emerges as a by product of the presence of buildings rather than buildings getting built along pre-existing streets. As fundamentally, urban circulation and movement become dissociated from the public realm. The confusion of addresses provides one tell-tale of these deeper changes in spatial logic: The original 29 storey Tower of Tower place is referenced both as 100 Tower Place and as 3342 Peachtree Rd. The "internal private address" is more precise, but the "public address" survives even as it can no longer help to discriminate between specific destinations within the corporate realm.

Internal development, however, does not detract from the continuing importance of the Peachtree-Piedmont Rd intersection, which remains an important urban node. In 1972, 68% of the total floor area was concentrated along Peachtree, near this intersection. The percentage dropped to 37% with the addition of large built volumes in the interior of the block. The volume of very recent development at this intersection has raised the percentage to 49.5% in 2008. Thus, in the period under consideration, Tower Place block has oscillated between two poles of development, internal

and peripheral. By implication, it has exemplified both ends of the spectrum regarding the deeper spatial logic of development discussed above.

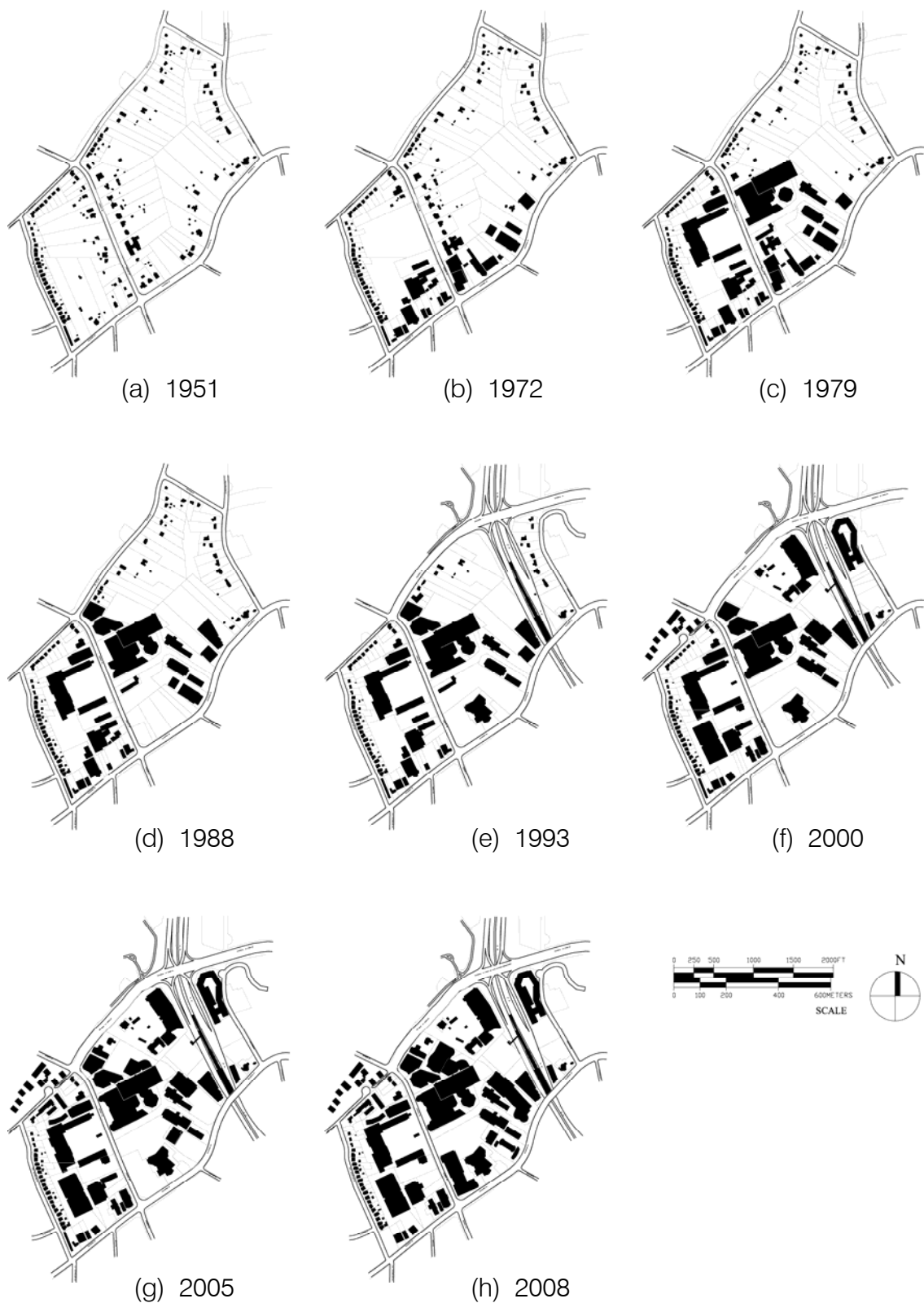


Figure 4

Building Footprints in Tower Place Block (East of Piedmont Rd) and Adjoining Block (West of Piedmont Rd) from 1951 to 2008

4. Internal roads

Originally, the block was only accessible from its perimeter. Currently the block is traversed by multiple circulation spaces. The total surface devoted to primary and secondary circulation is 254,257.00 sq ft (23,621.25 sq m) or 8.95% of the block area. The clearly demarcated primary internal roads take up 196,249.00 sq ft (18,232.13 sq m), or 6.91% of the block area. When the internal private roads and circulation spaces are taken into account, the block fragments into 6 sub-blocks. The process of evolution is shown in Figure 5. Two things can be observed. First, the emergence, by 2000, of a traversing route linking Peachtree Rd to Buckhead Loop, and branching to Piedmont; this was an extension of the original Tower Place Drive. Second, the more intense fragmentation of the block near the Peachtree-Piedmont intersection, which acts as a pole of attraction for additional frontage.

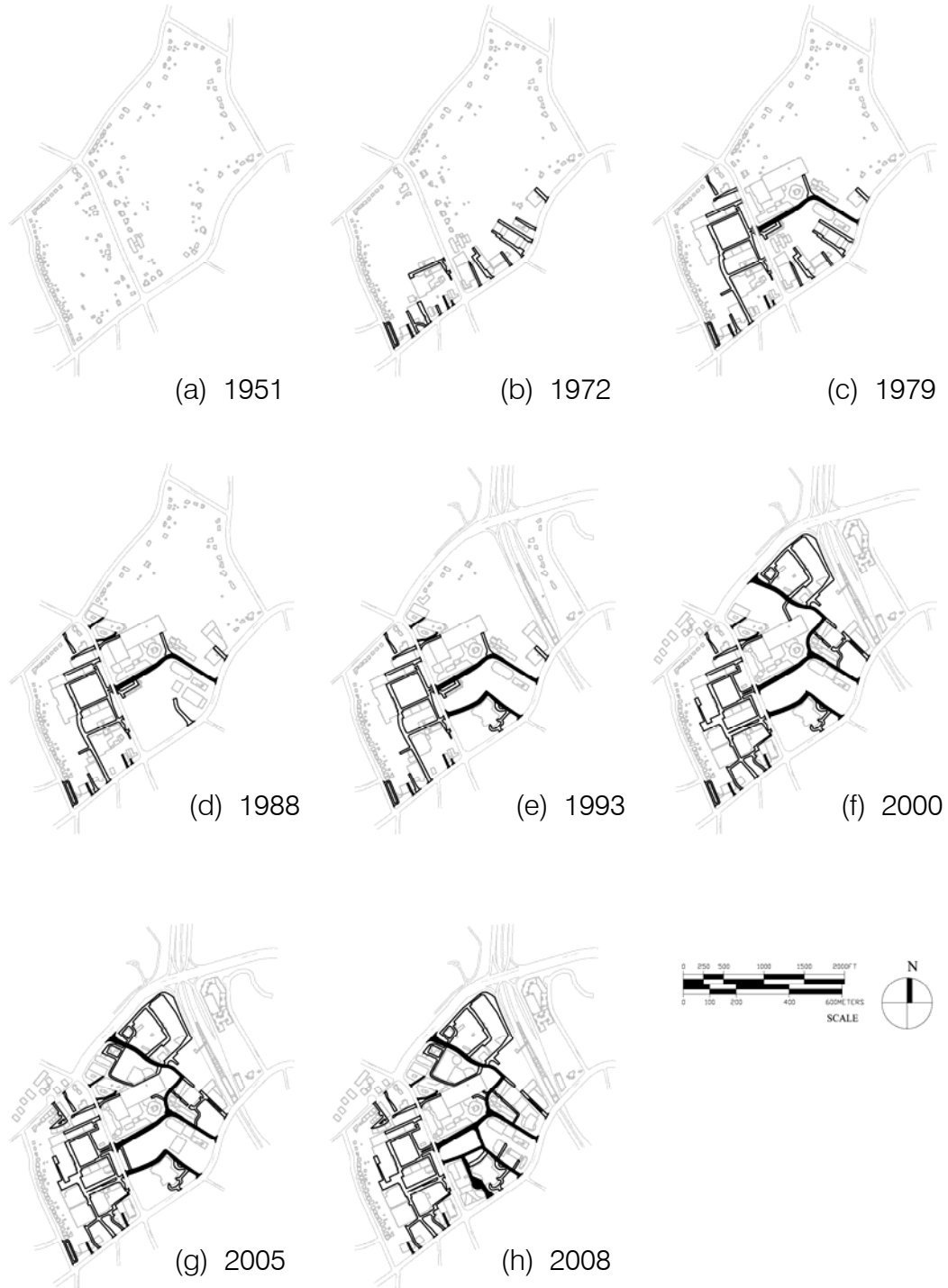


Figure 5

Internal Circulation Systems in Tower Place Block (East of Piedmont Rd) and Adjoining Block (West of Piedmont Rd) from 1951 to 2008; Note: Primary Internal Roads are hatched in the drawings.

When we analyze the internal circulation system as part of the surrounding area, the syntactic integration of the location is such that internal streets appear among the most accessible lines of the axial map—Figure 6a. When the block is analyzed as an independent system we see that internal streets whether in their 1979 condition or the current, are not among the strongest integrators. At best, only the streets leading in from the periphery are integrated. In other words, as an independent system, the block is spatially introverted — Figure 6b. This comes as no surprise, given that the internal circulation evolved without a plan, with individual connections made without anticipating future additional connections. The analysis meets intuition and points to a crucial ambiguity: location within the global urban system places the entire block on the integration core of the surrounding area. The local configuration of circulation, however, is centrifugal; it connects the interior to the perimeter, without encouraging traversal. A deeper ambiguity lurks therein: The global order surrounding the site is public, and makes the site eminently accessible; the local order inside the site is private, and intended to take advantage of accessibility towards specific ends.

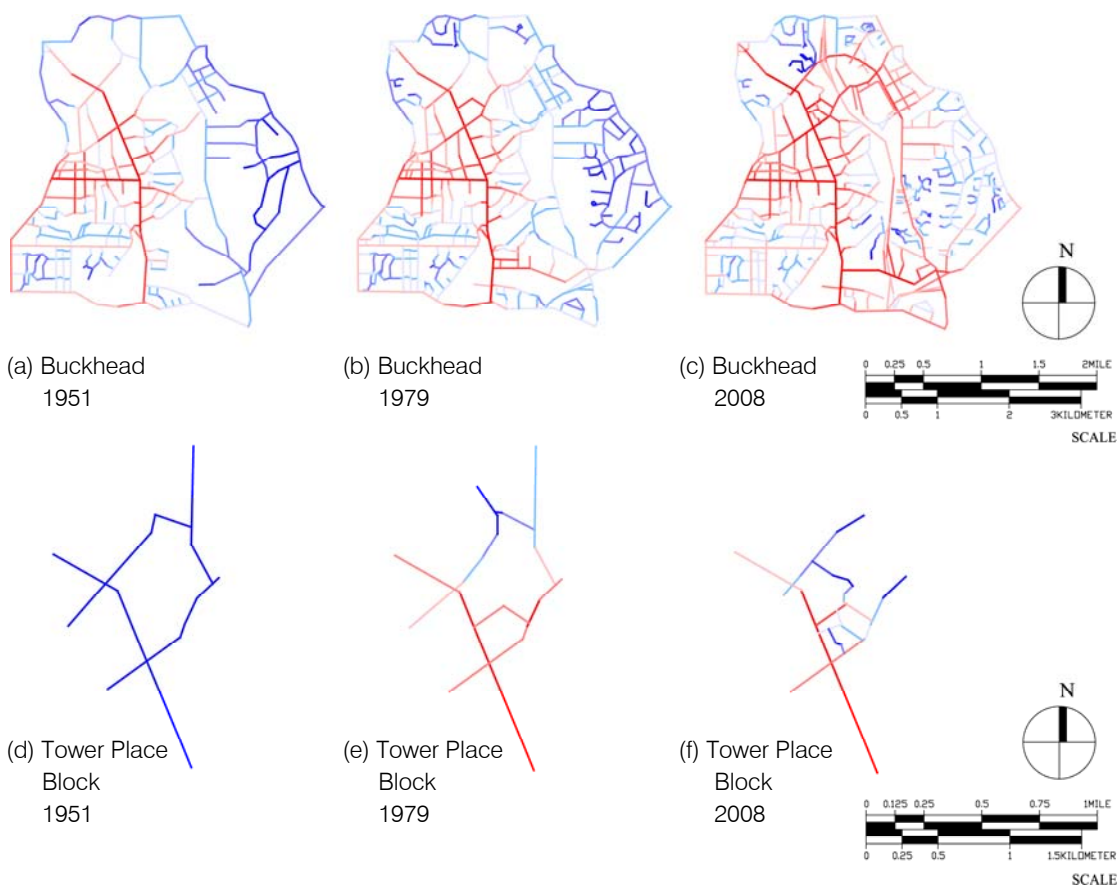


Figure 6

Integration maps of Buckhead and Tower Place Block at different times

These tensions come out in a rather significant practice. A security gate is situated half way along Tower Place Drive. It comes down to block through-traffic at 7:00am — 9:30am and 4:30pm — 6:30pm on weekdays. The most likely explanation is that the developers want to eliminate through traffic during rush hours, when the Buckhead Loop, Peachtree and Piedmont are most congested and when drivers familiar with the area might look for shortcuts. The degree of congestion of public roads however is associated with rather fundamental questions regarding urban growth. We will at least identify some of these questions in the last section.

5. Movement

A limited study of movement patterns was undertaken to quantify the degree to which densities vary in the perimeter and the interior of the block. A sample of 12 gates was observed 24 times for a total duration of 60 minutes for weekdays and 60 minutes for weekends. On weekdays perimeter street vehicle counts ranged between 2817 and 1987, and internal streets counts ranged between 651 and 119 vehicles. This difference provides a measure of the pressure upon internal circulation that is objectively exercised by surrounding traffic volumes. Pedestrian counts led to a different picture. Perimeter street counts ranged from 307 to 33 people while internal streets ranged from 183 to 43. In other words, pedestrian movement is more evenly distributed between perimeter and interior spaces. On the weekend, perimeter street vehicular volumes ranged from 2484 to 1490 vehicles while internal streets volumes ranged from 502 to 55. Pedestrian volumes ranged from 253 to 6 on peripheral streets and from 101 to 27 on internal streets. In other words the structure of movement over weekends is not much different from the structure of movement over weekdays. Due to the combined effect of development density, the presence of a MARTA station and the mix of land uses, Tower Place block supports a rather distributed pattern of pedestrian movement which is weaker towards the Buckhead loop edge and stronger at the Peachtree edge and in the interior of the block. As it invites pedestrians in, the interior of the block seems threatened from the volume of surrounding traffic, even as the volume of development has been so dependent on accessibility. Aggregate count values are provided in Figure 7.



(a) Weekday Movement Count

(b) Weekend Movement Count

Figure 7

Aggregate Movement Counts for Tower Place Block

V: Vehicle P: Pedestrian

6. Discussion

Siksna (1997, 1998) has previously observed that large blocks tend to fragment as they get developed, so as to optimize access as well as frontage. Hillier (1999) has talked about how the "intensification" of the urban grid, that is the creation of a denser, well connected pattern of streets, is associated with the emergence of centers or urban activity, development and liveliness. To a large extent, the morphological history described here is a case study within the terms of reference set by these authors, but with important caveats. We emphasize the distinction of public and

private streets. And, perhaps more importantly, we emphasize the distinction between opposite paths of development: buildings positioned with respect to streets versus streets arising to access buildings and adjusted according to the disposition of buildings. In this sense we call attention to alternative regulatory-constitutional frameworks, alternative evolutionary paths, that can be associated with the processes studied by Siksna and Hillier.

Our study, however, also points to a deeper question, namely the relationship between local and global orders in urban growth. We can look at this relationship in different ways. First, from the point of view of spatial relationships: Tower Place block benefits from high levels of global accessibility at different scales; the local order of circulation evolves to take advantage of this. Second, from the point of view of investment: global accessibility results from significant public investments, in streets, in freeways and in transit systems; local circulation is privately funded and arranged according to private interests. What are the consequences of the articulation of global and local orders? Our study is still being developed, but we can offer some preliminary discussion. The first issue to consider is urban intelligibility. Georgia 400 is a freeway, a space of pure movement with no interface potential. Coming into Tower Place Block from the Buckhead Loop one experiences a deep sense of disjunction, as is typical in similar cases everywhere: a dense local space is entered, without any initial awareness of the surroundings in which it is situated. The manner in which private streets are laid out, without regard to future extensions outside the block, exacerbates this sense of disjunction between global access and local arrangement. In other words, the rift between local and global orders, as experienced from the side of the Buckhead Loop, generates questions pertaining to intelligibility and cognition. Is the urban fabric to be understood in terms of continuity and differentiation or in terms of disjunction?

The second issue to consider is the impact of such patterns of development on public streets. Peachtree and Piedmont Streets have been significantly widened over the period covered by our study, to deal with increased traffic, a condition only further reinforced by the advent of Georgia 400 and the Buckhead loop. As these streets became more oriented towards traffic, their interface potential has gradually been eroded. Only recently has the Peachtree Corridor project led to improvements along Peachtree, both the creation of a median and the creation of generous sidewalks aimed at encouraging pedestrian movement and interface potential. In short, the relationship between global and local orders raises a tension as to whether public space can function as social space and as an interface of public and private behaviors or whether it will be reduced to a space of movement with all interface potential absorbed into private social spaces. To say the least, not only does private development, such as illustrated in our case study, take advantage of public infrastructure, it also necessitates additional public expenditures to enable public streets to function as more than movement channels.

The third issue to consider is the manner in which history and regulatory frameworks impact urban growth. The very large blocks of Buckhead evolved when the area was still a sparsely inhabited residential suburb — indeed the population density in contemporary Buckhead is only 14.46 people per hectare (Peponis, Allen, French et al, 2007). Given these blocks, the pattern of contemporary development has proceeded according to prevailing zoning ordinances and subdivision regulations. The net effect of these regulations is that growth is not associated with the creation of an appropriate street framework that balances global and local requirements and makes connections without detriment to the differentiation of urban areas by character and function. Thus, the present regulatory framework exacerbates some of the tensions identified above, because it operates on the basis of a very sparse pre-existing street system.

Further study is needed to give these issues proper consideration. Our working hypothesis, however, is rather simple. Tower Place block illustrates a critical dilemma: is contemporary urban growth oriented towards the creation of the city as a collective artifact supported by a framework of public spaces and public streets or is it oriented towards the creation of disjoint realms connected by public transportation infrastructure? Over its recent history, Tower Block has pursued both paths of growth to varying degrees and for varying reasons. Thus, it becomes emblematic of some larger questions that are confronted in contemporary Atlanta.

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